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
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	nOY1816446096
District RP	1RP-5090
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Armstrong Energy Corporation	OGRID
Contact Name Ron Hillman	Contact Telephone 505-625-2222
Contact email rhillman@aecnm.com	Incident # nOY1816446096
Contact mailing address PO Box 1973, Roswell, NM 88202	

Location of Release Source

Latitude 32.622519 Longitude -103.475553
(NAD 83 in decimal degrees to 5 decimal places)

Site Name West Pearl Queen	Site Type Abandoned
Date Release Discovered unknown	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
B	32	19S	35E	Lea

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)

☒ Crude Oil	Volume Released (bbls) unknown	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) unknown	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release unkown		

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Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? No, this was a historical spill that was acquired by Armstrong.	

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: Ronald D. Hillman Title: Vice President

Signature: Ronald D Hillman Date: 02/09/2022

email: rhillman@aecnm.com Telephone: 505-625-2222

OCD Only

Received by: Date:

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State of New Mexico
Oil Conservation Division

Incident ID	nOY1816446096
District RP	1RP-5090
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Application ID	

Site Assessment/Characterization

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?	>51 <100 (ft bgs)
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 ½-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.

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State of New Mexico
Oil Conservation Division

Incident ID	nOY1816446096
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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: Ronald D. Hillman Title: Vice President

Signature: Ronald D Hillman Date: 02/09/2022

email: rhillman@aecnm.com Telephone:505-625-2222

OCD Only

Received by: Date:

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State of New Mexico
Oil Conservation Division

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Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the 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: Ronald D. Hillman Title: Vice President

Signature: Ronald D Hillman Date: 02/09/2022

email: rhillman@aecnm.com Telephone: 505-625-2222

OCD Only

Received by: Chad Hensley Date: 03/18/2022

☐ Approved ☒ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: Chad Hensley Date: 03/18/2022

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State of New Mexico
Oil Conservation Division

Incident ID	nOY1816446096
District RP	1RP-5090
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: Ronald D. Hillman Title: Vice President

Signature: Ronald D Hillman Date: 02/09/2022

email: rhillman@aecnm.com Telephone: 505-625-2222

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:

HRL COMPLIANCE SOLUTIONS
P.O. Box 1708 • Artesia, NM 88211
www.hrlcomp.com

February 8, 2022

Mr. Kyle Alpers
Mr. Ron Hillman
Armstrong Energy Corporation
P.O. Box 1973
Roswell, New Mexico 88202
Via email: kalpers@aecnm.com
rhillman@aecnm.com

Subject: **Site Characterization and Remediation Plan**
West Pearl Queen Injection Site
Incident # nOY1816446096
Lea County, New Mexico

Dear Mr. Alpers and Mr. Hillman:

HRL Compliance Solutions, Inc. (HRL) is pleased to submit this characterization report and remediation plan for the West Pearl Queen Injection facility (Site). The Site is located at latitude 32.62257 and longitude -103.475628 in Lea County, New Mexico (Figure 1).

Site Background

Armstrong Energy Corporation (Armstrong) acquired the West Pearl Queen Injection Site (Site) from Chevron. The Site had one building that was originally used as a compressor station and subsequently converted to a pump station for a waterflood facility. A sump was in the floor of the building (Attachment A, Photographs). Additionally, an emergency pit was located north of the pump station.

In March 2017, an email was sent from the New Mexico State Lands Office (SLO) to Chevron listing several concerns at the Site. In 2018, HRL was retained by Armstrong to conduct site characterization activities and prepare a remediation plan for two areas of concern at the Site: the sump and the pit. A Release Notification and Corrective Action Form (Form C-141) was submitted to the New Mexico Oil Conservation Division (NMOCD) on June 12, 2018 (Attachment B). Activities completed in June 2018 included demolition of the old pump station building, excavation of approximately 2,660 cubic yards of impacted soil, which included the building debris. The impacted soil and building debris were transported and disposed of at a properly permitted disposal facility.

Confirmation soil samples collected from the floor and sidewalls of the sump excavation indicated that chloride concentrations ranged from 128 milligrams per kilogram (mg/kg) to 10,800 mg/kg, and total petroleum hydrocarbons (TPH) concentrations ranged from non-detect to 575 mg/kg. Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were all non-detect.

During excavation activities in the former pit (June 2018), petroleum impacted soil was observed at depths up to 20 feet below ground surface (bgs) on the west and southwest sidewalls of the pit. Water was not

observed at that depth at that time. Additionally, during the June 2018 excavation activities, a water line was struck by equipment and broken. This resulted in the pit filling with water. The water was immediately pumped from the pit and hauled off site for disposal. The pit remained dry during the rest of the excavation activities in June 2018.

Based on the soil analytical data from the sump excavation and the observations from the excavation at the pit, a site characterization and remediation plan were submitted to the NMOCD on October 31, 2018. This report recommended closure of the sump area and requested deferral of remediation for the remainder of the Site. On January 15, 2019, the deferral request was denied by NMOCD, indicating that the entire Site would need to be characterized because partial closures were not allowed.

On March 4, 2020, HRL submitted a scope of work (SOW) and cost estimate to Armstrong to conduct additional excavation at the sump, collect confirmation soil samples from the sump in accordance with 19.15.29.12 NMAC, and complete site characterization activities at the pit by drilling a series of soil borings and groundwater monitoring wells.

On February 3, 2022 the OCD requested an additional C-141 (incident # nOY1816446096) to be submitted via the OCD portal for review and comment.

Site Characterization

To evaluate the progress of remediation, the depth to groundwater at the Site is used to select applicable closure criteria specified in 19.15.29.12 NMAC. Based on research conducted in 2018, the depth to groundwater was anticipated to be greater than 100 feet (Attachment C, Atkins Engineering Associates, September 2018).

In February 2020, HRL mobilized to the Site with Armstrong to discuss proposed site characterization activities. At this time, the excavated area at the pit was filled with water (Attachment A, Photographs). The water from the 2018 water line break was removed from the pit in June. HRL retained Kelley Oilfield Services to pump this water from the pit excavation and transport it off site for disposal. On March 13, 2020, 360 barrels of water were pumped from the pit and disposed of at the Burns Xpress AirPath AEM State #1 SWD (Attachment D, Water Disposal Tickets).

In March 2020, HRL mobilized to the Site to conduct additional excavation activities at the sump and in April 2020, HRL drilled a series of soil borings near the pit.

<u>Sump Soil Excavation and Sampling</u>

On March 18, 2020 through March 20, 2020, four large concrete pylons were removed from the sump, which revealed additional potentially impacted soil in the sump excavation. An additional 660 yards of impacted soil was excavated and transported off site for disposal at the R360 Halfway Facility (Attachment E, Soil Disposal Manifests). Following excavation activities, confirmation soil samples were collected from the sidewalls and bottom of the excavation in accordance with procedures found in 19.15.29.12 NMAC

(Figures 2 and 3). The samples were immediately placed on ice and kept under strict chain of custody protocol prior to submission to Xenco Laboratories in Carlsbad, New Mexico for analysis of:

- Chloride by United States Environmental Protection agency (US EPA) Method 300.0
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B
- Total petroleum hydrocarbons (TPH) – gasoline range organics (GRO), diesel range organics (DRO), and oil range organics (ORO) by US EPA Method 8015M

Based on the analytical results, an additional 10 yards of soil was excavated from the floor of the excavation near grid quadrant F5 and F6. Two additional confirmation soil samples (F5R and F6R) were collected; results indicated the GRO+DRO and TPH results were below the closure criteria (Attachment F and Table 1).

Pit Soil

On April 8, 2020, HRL mobilized to the Site with a CME 550 drilling rig to characterize the pit area (Figure 4 and Attachment G, Soil Boring Logs). 17 soil borings (SB2 through SB18) were advanced in the pit area and one additional soil boring (SB1) was drilled to evaluate soils below the floor of the sump excavation. Additionally, SB6 was drilled at the north end of the pit to a depth of ten feet; however, no impacts were detected in the soil; therefore, this boring was abandoned, and no samples were collected for laboratory analysis. Water was encountered in several borings at approximately 10 feet to 18 feet below ground surface (bgs).

Two soil samples were collected from each boring and placed in laboratory supplied jars and kept on ice under strict chain of custody protocol. Samples selected for analysis were the sample with the highest impacts as measured by field techniques (typically a photoionization detector (PID) and the sample from the bottom of the boring. Samples were submitted to Xenco Laboratories in Carlsbad, New Mexico for analysis of (Attachment H and Table 2):

- Chloride by US EPA method 300.0
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B
- Total petroleum hydrocarbons (TPH) – gasoline range organics (GRO), diesel range organics (DRO), and oil range organics (ORO) by US EPA Method 8015M

Based on visual and olfactory observations, in addition to field screening results with a PID, petroleum impacted soil was encountered in SB5 from the ground surface to approximately two feet bgs. In SB7, which was drilled near the western edge of the former pit, petroleum impacted soil was encountered at depths from the bottom of the pit excavation to approximately 14 feet bgs. Since SB7 was drilled in the footprint of the excavation in the pit, the current ground surface at SB7 is approximately eight feet lower than undisturbed ground surface. Therefore, petroleum impacted soil extends to approximately 22 feet below undisturbed ground surface near the pit. In SB11, slight petroleum impacts in soil were observed from 10 to 12 feet bgs. Significant petroleum impacted soil was encountered from ground surface to approximately 10 feet bgs in SB12 and SB17; which were located west of the former pit on undisturbed

ground surface. Soil from approximately five feet to nine feet bgs in SB12 and SB17 was saturated with petroleum.

Water

The latitude and longitude of each soil boring was determined using a Trimble GeoXT global positioning system (GPS) (Table 3). Due to previous excavation activities at the Site, the ground surface was undulating. Therefore, Atkins surveyed the ground surface at each soil boring and the top of casing for each monitoring well in November 2020 (Table 3).

Six of the soil borings (SB2, SB4, SB5, SB7, SB13, and SB14) were converted to permanent monitoring wells and one soil boring (SB17) was converted into a temporary monitoring well. Permanent monitoring wells were completed with two-inch polyvinyl chloride (PVC) factory slotted casing and blank casing (Attachment F, Soil Boring Logs). Clean silica sand was placed in the annular space to two feet above the top of the screen and bentonite chips were placed in the annular space to ground surface. The monitoring wells were developed by removing three to five casing volumes of water or until the well purged dry with a bailer.

On April 16, 2020, the depth to water and total depth of the wells were measured prior to purging (Table 3). The wells were purged, up to three casing volumes, or until the well started to bail dry, then sampled. Samples were immediately placed on ice in a cooler under strict chain of custody protocol and delivered to Xenco Laboratories of Carlsbad, New Mexico for analysis of (Attachment I and Table 4):

- Chloride by US EPA method 300.0
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B
- Total petroleum hydrocarbons (TPH) – gasoline range organics (GRO), diesel range organics (DRO), and oil range organics (ORO) by US EPA Method 8015M
- Specific conductance by Standard Method (SM)2410B
- pH by SM4500-H

New Mexico Administrative Code (NMAC) Site Characterization Criteria

Title 19, Chapter 15, Part 29, Section 11 of the New Mexico Administrative Code (NMAC) provides requirements for release characterization once the free liquids and recoverable materials have been removed from the Site.

Depth to water

While water was encountered during drilling in April 2020 at the Site; the source, permanence, and extent of this water is undefined at this time. Possible sources include precipitation ponding in the excavation at the Site or a water line break in June of 2018 at the Site. Based on the 2018 report prepared by Atkins, depth to groundwater in the immediate vicinity of the Site, is greater than 100 feet bgs (Atkins, September 2018). Depth to water measurements collected in July 2020 and October 2020 indicate the water levels in the monitoring wells continues to decline (Table 5). Between April 2020 and October 2020, the water

has declined by 1.24 feet to 6.25 feet, indicating that the source of the water may have been artificially introduced and is not shallow perched groundwater.

Wellhead Protection Area

There are no sources of water, including springs, wells, or other sources of fresh water, within one-half mile of the release (Figure 1).

Distance to Nearest Significant Watercourse

A significant watercourse is defined as "…a watercourse with a defined bed and bank either named or identified by a dashed blue line on a USGS 7.5-minute quadrangle map or the next lower order tributary with a defined bed and bank" (19.15.17.7 NMAC) (Figure 1). There are no significant watercourses within one-half mile of the lateral extents of the release.

Additional Site Characterization Criteria

The following is additional information related to characterization of the Site.

Site Characterization	Response/Discussion
What is the shallowest depth to groundwater beneath the area affected by the release?	Anticipated to be greater than 50 feet
Did the release impact groundwater or surface water?	No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or other significant watercourse?	No
Are the lateral extents of the release within 200 feet of a lakebed, sinkhole, or playa lake?	No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital institution, or church?	No
Are the lateral extents of the release within 500 feet of a spring or private, domestic fresh water well used by less than five households for domestic or stock watering purposes?	No
Are the lateral extents of the release within 1,000 feet of any fresh water well or spring?	No
Are the lateral extents of the release within any incorporated municipal boundaries?	No
Are the lateral extents of the release within a defined municipal fresh water well field?	No
Are the lateral extents of the release within 300 feet of a wetland?	No

Site Characterization	Response/Discussion
Are the lateral extents of the release overlying a subsurface mine?	No
Are the lateral extents of the release overlying an unstable area such as karst geology?	The Site is in an area of low potential for karst topography
Are the lateral extents of the release within the 100-year floodplain?	No
Did the release impact areas not on an exploration, development, production, or storage site?	No

Closure Criteria

Based on the NMAC Site Characterization Criteria, HRL recommends the following NMOCD closure criteria for the release:

Depth to Groundwater	Parameter	Closure Criteria in milligrams per kilogram (mg/kg)
>51 and <100 feet below ground surface	Chloride	10,000 mg/kg or natural background, whichever is greater
	Total Petroleum Hydrocarbons (TPH) *(Gasoline Range Organics + Diesel Range Organics + Oil Range Organics)*	2,500 mg/kg
	GRO + DRO	1,000 mg/kg
	Benzene	10 mg/kg
	Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX)	50 mg/kg

Laboratory Results

Sump Soil

Based on evaluation of the analytical results from the sump excavation floor confirmation soil samples, it appears that any remaining soil impacts are below the applicable standard.

Pit Soil

Soil sample results indicate that soil near SB5 has TPH impacts above applicable closure criteria from ground surface to depths of less than five feet bgs. Soil in the vicinity of SB7 has TPH impacts above applicable closure criteria to depths of approximately 14 feet below current ground surface in the area. Soil in the vicinity of SB12 and SB17 is impacted by TPH above applicable closure criteria from ground surface to a depth of approximately 10 feet below ground surface.

Chloride concentrations in the shallower, coarser-grained soils were below 600 mg/kg; however, several soil samples from the deeper, red to purple colored clay layer were above 600 mg/kg. No soil samples exceeded 10,000 mg/kg. Because the chloride concentrations in the shallower soils were less than the deeper soils; it is likely the chloride concentrations in the deeper soils are naturally occurring. Refer to Figure 4 for sample results.

Water

The water present in the monitoring wells was sampled and results in SB7 indicated a benzene concentration of 0.0202 milligrams per Liter (mg/L), which exceeds the standard for benzene in groundwater of 0.005 mg/L. Benzene, toluene, ethylbenzene and xylenes (BTEX) was not detected above the laboratory reporting limits in the remaining groundwater samples (Figure 5).

Remediation Plan

In order to confirm the source and depth to groundwater, HRL drilled an additional four groundwater monitoring wells not exceeding 55 feet at distances of approximately 150 feet to 400 feet from the edges of the former pit to evaluate the aerial distribution of groundwater as noted above. The wells were surveyed for latitude, longitude, and elevation above mean sea level; the survey will be tied into the existing monitoring well network. Additionally, to evaluate the permanence and water levels, HRL recommended quarterly monitoring of all water wells (existing and proposed) for a period of four consecutive quarters. After evaluation of the data, HRL recommends that the pit be remediated to the standards listed above in the closure criteria.

Removal of the impacted soil around SB12 and SB17 is proposed as part of the remediation; however, actual remediation activities for this area will be scheduled for a later time based on the water level results from the four additional monitoring wells.

Scope and Limitations

The scope of HRL's services consists of performing site characterization and preparation of this site characterization report and remediation plan. All work has been performed in accordance with generally accepted professional environmental consulting practices for oil and gas releases in the Permian Basin.

Conclusions and Recommendations

The four additional monitoring wells were drilled utilizing air rotary drilling methods. Boring logs from each location indicated that the holes were dry to a depth of 50 feet. Saturated soil conditions were encountered at depths below 52 feet. In early September 2021 a round of water levels was collected from each piezometer. Water levels ranged from 21 to 24 feet. With only a five-foot section of screen this indicates that the water bearing soil below 50 feet is semi confined resulting in water levels that are higher than where water is located. It is Armstrong's opinion that the higher water levels observed, due to semi confined conditions, shouldn't result in a more stringent cleanup standard. Therefore, Armstrong would

request that the cleanup standard utilized for water levels greater than 50 feet be implemented for the additional remediation that will still be required at the site.

We appreciate the opportunity to work with Armstrong on this project. If you have any questions or concerns, please do not hesitate to contact me at (970) 243-3271 or via email at mmumby@hrlcomp.com.

Sincerely,

HRL Compliance Solutions, Inc.

Mark E. Mumby, RPG

Figures:

Figure 1: Site Location
Figure 2: Sump Footprint Confirmation Sample Locations
Figure 3: Sump Sidewall Confirmation Sample Locations
Figure 4: Soil Boring Locations
Figure 5: Groundwater Results

Tables:

Table 1: Sump Confirmatory Soil Results
Table 2: Soil Boring Results
Table 3: Groundwater Sample Results

Attachments:

Attachment A: Photographs
Attachment B: NMOCD Form C-141
Attachment C: Sump Soil Disposal Manifests
Attachment D: Sump Confirmatory Soil Sample Laboratory Reports
Attachment E: Soil Boring Logs
Attachment F: Soil Boring Analytical Laboratory Reports
Attachment G: Groundwater Sample Analytical Laboratory Reports

Figures

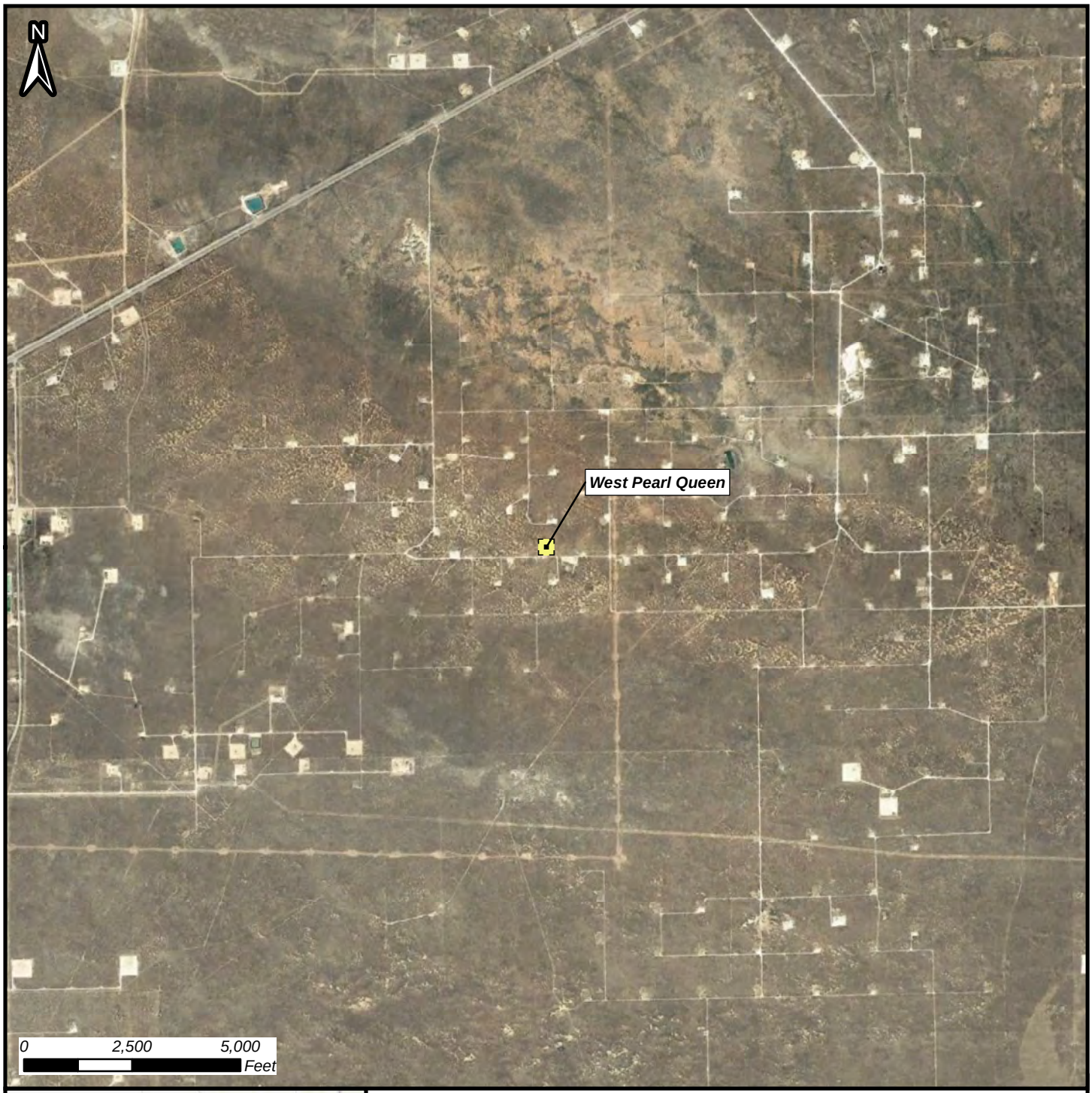


Figure 1: Site Location Map

West Pearl Queen

32.622755707, -103.475610089
Section 32, Township 19 South, Range 35 East

NOTES / COMMENTS:

Mapped Features

Facility Location

DISCLAIMER: This representation and the Geographic Information System (GIS) used to create it are designed as a source of reference and not intended to replace official records and/or legal surveys. HRL assumes no responsibility for any risks, dangers, or liabilities that may result from its use and makes no guarantees as to the quality or accuracy of the underlying data.

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 6/19/2020

T:\CLIENTS\ARMSTRONG ENERGY CORPORATION\2020\West Pearl Queen\Maps\West Pearl Queen Site Location Map 061920.mxd

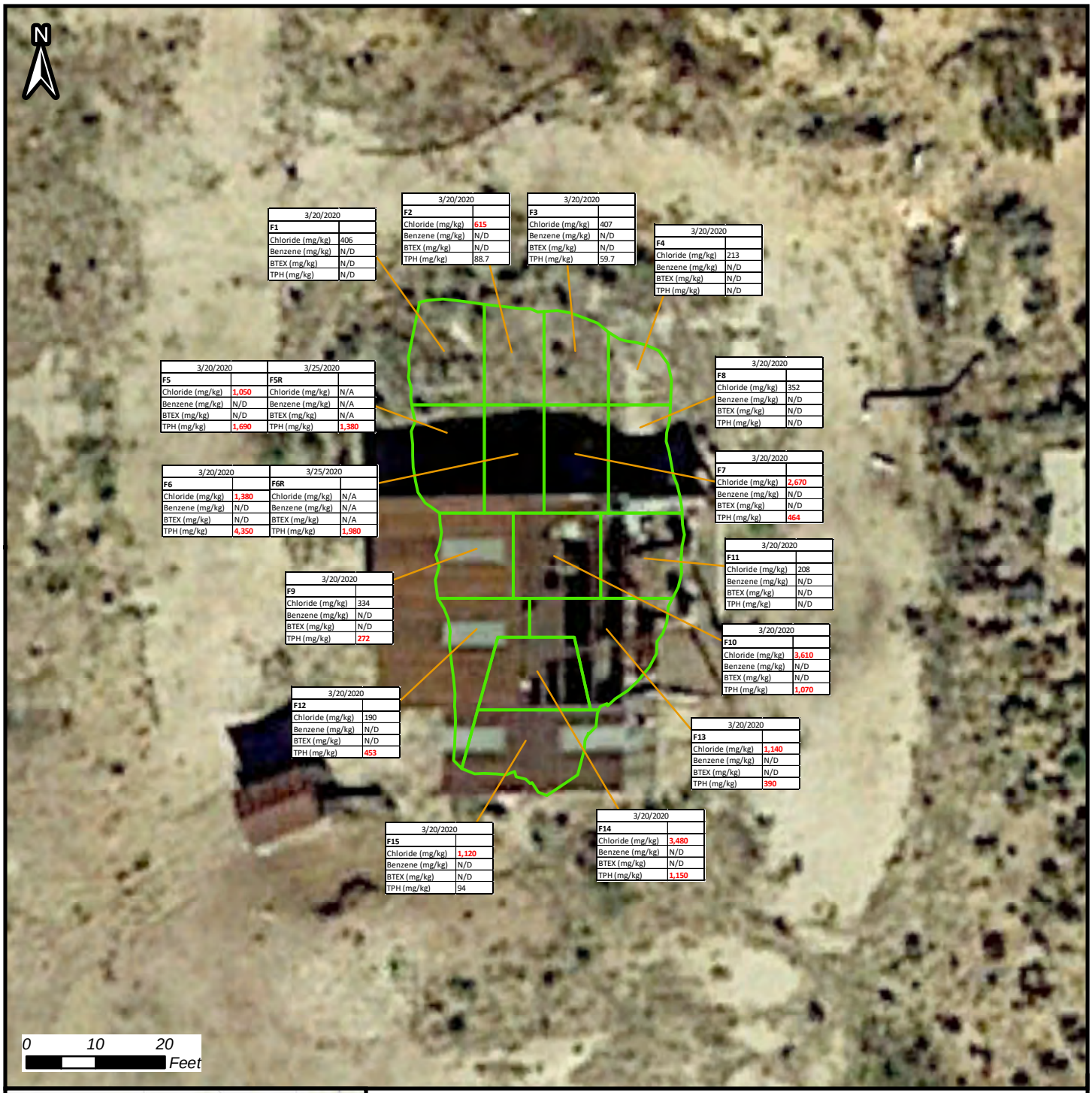


Figure 2: Sump Footprint Confirmation Sample Location Map

West Pearl Queen

32.622755707, -103.475610089
Section 32, Township 19 South, Range 35 East

NOTES / COMMENTS:

The final sump excavation is approximately 2,123 square feet.

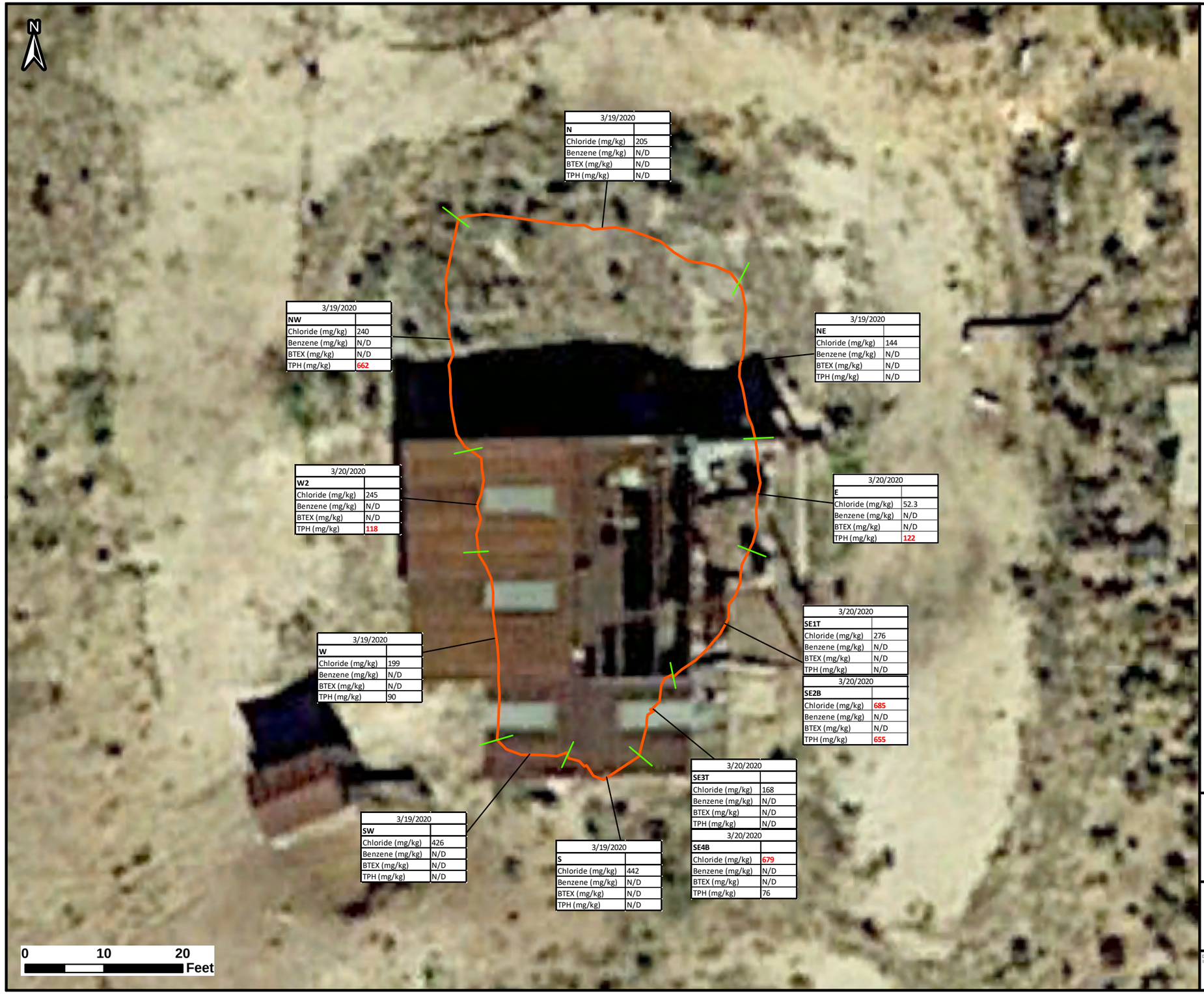
Mapped Features

Approximate Sample Block

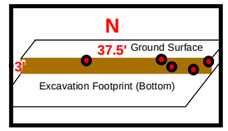
HRL COMPLIANCE SOLUTIONS

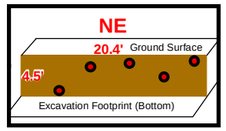
Author: A. Asay
Revision: 0
Date: 8/13/2020

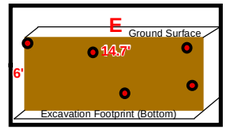
T:\CLIENTS\ARMSTRONG ENERGY CORPORATION\2020\West Pearl Queen\Maps\West Pearl Queen Footprint Confirmation Sample Map 081320.mxd

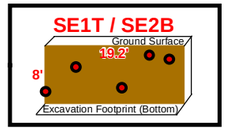


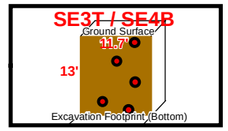
Composite Sample Diagrams

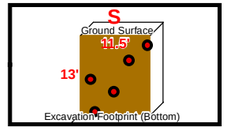


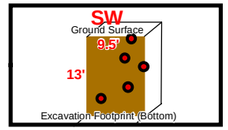


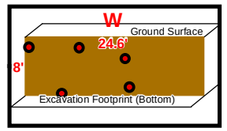


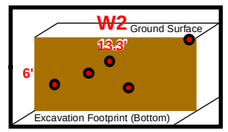












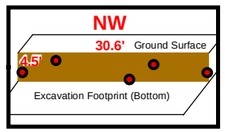


Figure 3: Sump Confirmation Sample Diagrams

West Pearl Queen

32.622755707, -103.475610089

Section 32, Township 19 South, Range 35 East

Mapped Features

- Sidewall Sample Location
- Sump Excavation Area

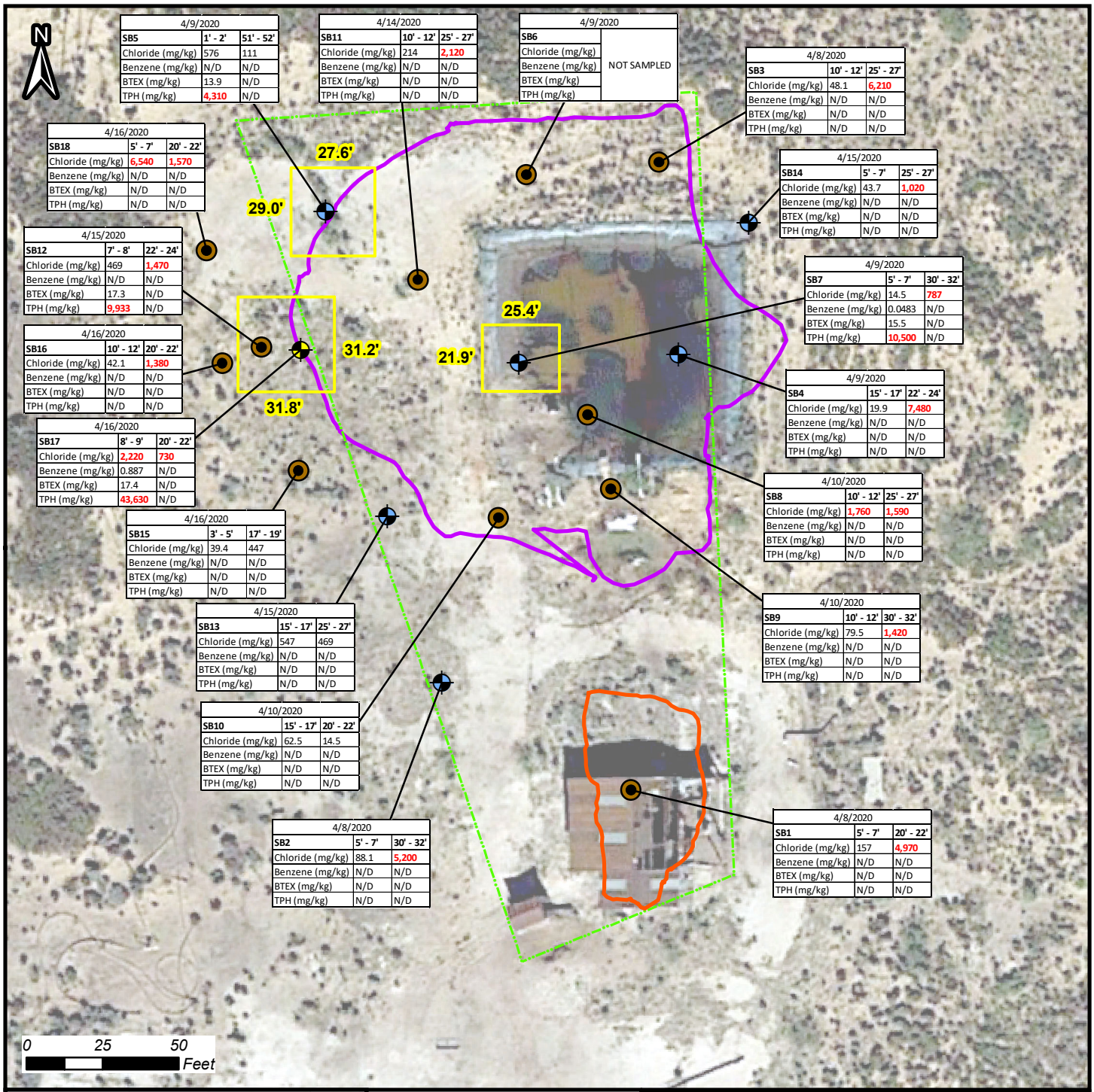
HRL COMPLIANCE SOLUTIONS

Author: A. Asay

Revision: 0

Date: 8/13/2020

T:\CLIENTS\ARMSTRONG ENERGY CORPORATION\2020\West Pearl Queen\Maps\West Pearl Queen Sidewall Confirmation Sample Diagrams 081320.mxd



4/9/2020		
SB5	1' - 2'	51' - 52'
Chloride (mg/kg)	576	111
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	13.9	N/D
TPH (mg/kg)	4,310	N/D

4/14/2020		
SB11	10' - 12'	25' - 27'
Chloride (mg/kg)	214	2,120
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/9/2020	
SB6	
Chloride (mg/kg)	NOT SAMPLED
Benzene (mg/kg)	
BTEX (mg/kg)	
TPH (mg/kg)	

4/8/2020		
SB3	10' - 12'	25' - 27'
Chloride (mg/kg)	48.1	6,210
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/16/2020		
SB18	5' - 7'	20' - 22'
Chloride (mg/kg)	6,540	1,570
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/15/2020		
SB14	5' - 7'	25' - 27'
Chloride (mg/kg)	43.7	1,020
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/15/2020		
SB12	7' - 8'	22' - 24'
Chloride (mg/kg)	469	1,470
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	17.3	N/D
TPH (mg/kg)	9,933	N/D

4/9/2020		
SB7	5' - 7'	30' - 32'
Chloride (mg/kg)	14.5	787
Benzene (mg/kg)	0.0483	N/D
BTEX (mg/kg)	15.5	N/D
TPH (mg/kg)	10,500	N/D

4/16/2020		
SB16	10' - 12'	20' - 22'
Chloride (mg/kg)	42.1	1,380
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/9/2020		
SB4	15' - 17'	22' - 24'
Chloride (mg/kg)	19.9	7,480
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/16/2020		
SB17	8' - 9'	20' - 22'
Chloride (mg/kg)	2,220	730
Benzene (mg/kg)	0.887	N/D
BTEX (mg/kg)	17.4	N/D
TPH (mg/kg)	43,630	N/D

4/10/2020		
SB8	10' - 12'	25' - 27'
Chloride (mg/kg)	1,760	1,590
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/16/2020		
SB15	3' - 5'	17' - 19'
Chloride (mg/kg)	39.4	447
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/10/2020		
SB9	10' - 12'	30' - 32'
Chloride (mg/kg)	79.5	1,420
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/15/2020		
SB13	15' - 17'	25' - 27'
Chloride (mg/kg)	547	469
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/10/2020		
SB10	15' - 17'	20' - 22'
Chloride (mg/kg)	62.5	14.5
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/8/2020		
SB2	5' - 7'	30' - 32'
Chloride (mg/kg)	88.1	5,200
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

4/8/2020		
SB1	5' - 7'	20' - 22'
Chloride (mg/kg)	157	4,970
Benzene (mg/kg)	N/D	N/D
BTEX (mg/kg)	N/D	N/D
TPH (mg/kg)	N/D	N/D

Mapped Features

- Soil Boring Location
- Temporary Groundwater Monitoring Well
- Groundwater Monitoring Well
- Pit Excavation Area
- Sump Excavation Area
- Perimeter Fencing

Figure 4: Final Soil Borings Map

West Pearl Queen

32.622755707, -103.475610089
Section 32, Township 19 South, Range 35 East

Notes / Comments:

The final sump excavation covers an extent of roughly 2,123 square feet. The final pit excavation covers an area of approximately 17,176 square feet.

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 10/15/2021

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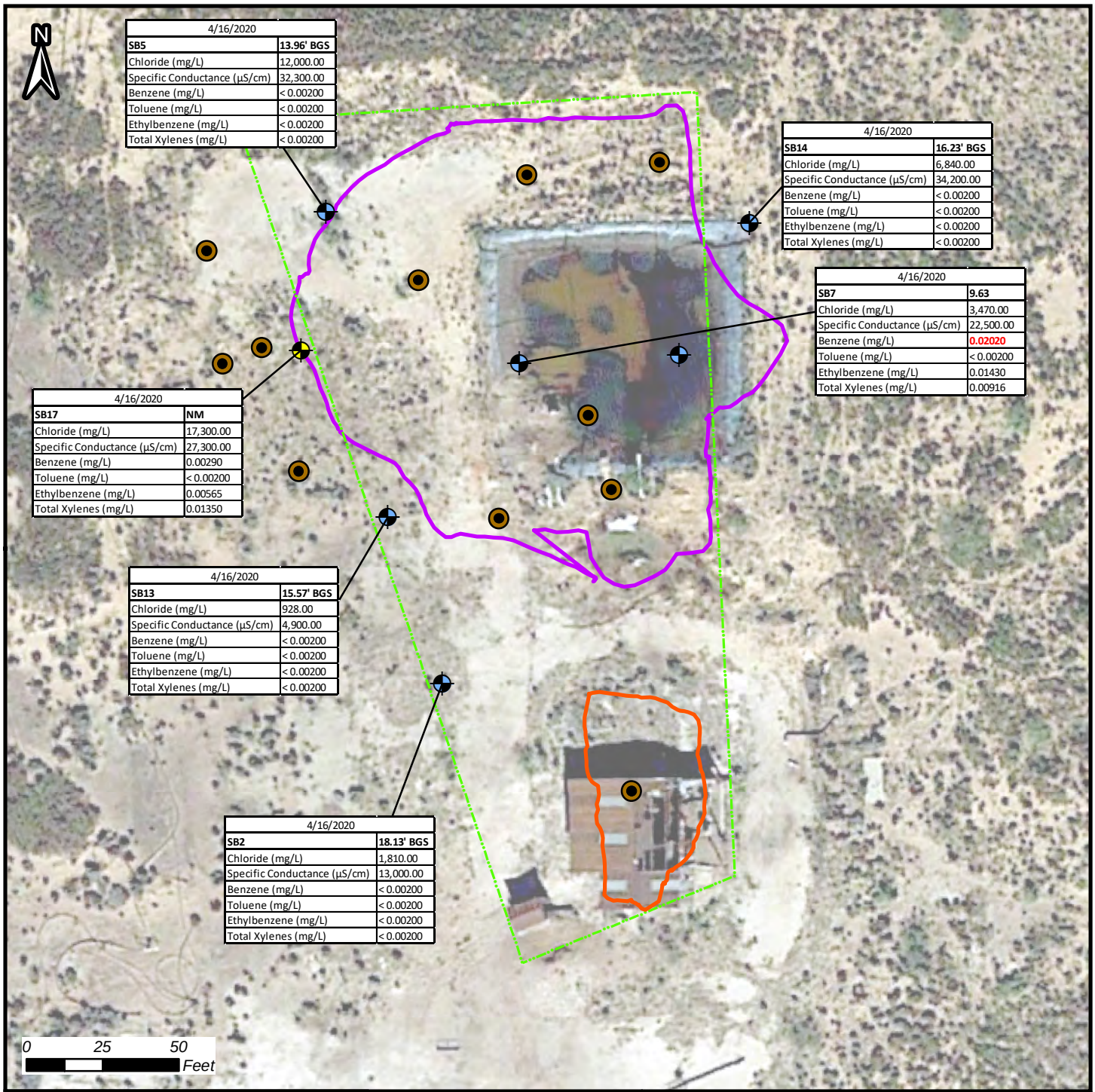

Mapped Features

- Soil Boring Location
- Temporary Groundwater Monitoring Well
- Groundwater Monitoring Well
- Pit Excavation Area
- Sump Excavation Area
- Perimeter Fencing

Figure 5: Groundwater Results Map

West Pearl Queen

32.622755707, -103.475610089
Section 32, Township 19 South, Range 35 East

Notes / Comments:

The final sump excavation covers an extent of roughly 2,123 square feet. The final pit excavation covers an area of approximately 17,176 square feet.

HRL COMPLIANCE SOLUTIONS

Author: A. Asay
Revision: 0
Date: 8/13/2020

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Tables

HRL COMPLIANCE SOLUTIONS

Table 1
Soil Sample Results
Armstrong Energy Corporation
Sump Excavation
West Pearl Queen Injection Site
Lea County, New Mexico

Sample ID	Sample Date	Chloride	Benzene	BTEX	TPH
		Values are in milligrams per kilogram (mg/kg)			
NMOCD Closure Criteria (Groundwater less than 50 feet) *		600	10	50	100
NE	3/19/2020	144	ND	ND	ND
SW	3/19/2020	426	ND	ND	ND
N	3/19/2020	205	ND	ND	ND
S	3/19/2020	442	ND	ND	ND
NW	3/19/2020	240	ND	ND	**662**
W	3/19/2020	199	ND	ND	90
SE1T	3/20/2020	276	ND	ND	ND
SE2B	3/20/2020	**685**	ND	ND	**655**
SE3T	3/20/2020	168	ND	ND	ND
SE4B	3/20/2020	**679**	ND	ND	76
W2	3/20/2020	245	ND	ND	**118**
E	3/20/2020	52.3	ND	ND	**122**
F1	3/20/2020	406	ND	ND	ND
F2	3/20/2020	**615**	ND	ND	88.7
F3	3/20/2020	407	ND	ND	59.7
F4	3/20/2020	213	ND	ND	ND
F5	3/20/2020	**1,050**	ND	ND	**1,690**
F6	3/20/2020	**1,380**	ND	ND	**4,350**
F7	3/20/2020	**2,670**	ND	ND	**464**
F8	3/20/2020	352	ND	ND	ND
F9	3/20/2020	334	ND	ND	**272**
F10	3/20/2020	**3,610**	ND	ND	**1,070**
F11	3/20/2020	208	ND	ND	ND
F12	3/20/2020	190	ND	ND	**453**
F13	3/20/2020	**1,140**	ND	ND	**390**
F14	3/20/2020	**3,480**	ND	ND	**1,150**
F15	3/20/2020	**1,120**	ND	ND	94
F5R	3/25/2020	NA	NA	NA	**1,380**
F6R	3/25/2020	NA	NA	NA	**1,980**

Notes:

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, Total Xylenes

TPH: Total Petroleum Hydrocarbons

Bold results exceed closure criteria

NA: Not Analyzed

* Closure Criteria specified in 19.15.29.12 NMAC

HRL COMPLIANCE SOLUTIONS

Table 2
Soil Boring Sample Results
Armstrong Energy Corporation
West Pearl Queen Injection Site
Lea County, New Mexico

Sample ID	Depth (feet)	Sample Date	Chloride	Benzene	BTEX	TPH
			Values are in milligrams per kilogram (mg/kg)			
NMOCD Closure Criteria (Groundwater Less than 50 feet) *			600	10	50	100
SB1-5-7	5 - 7	4/8/2020	157	ND	ND	ND
SB1-20-22	20-22	4/8/2020	**4,970**	ND	ND	ND
SB2-5-7	5 - 7	4/8/2020	88.1	ND	ND	ND
SB2-30-32	30 - 32	4/8/2020	**5,200**	ND	ND	ND
SB3-10-12	10 - 12	4/8/2020	48.1	ND	ND	ND
SB3-25-27	25 - 27	4/8/2020	**6,210**	ND	ND	ND
SB4-15-17	15 - 17	4/9/2020	19.9	ND	ND	ND
SB4-22-24	22 - 24	4/9/2020	**7,480**	ND	ND	ND
SB5-1-2	1 - 2	4/9/2020	576	ND	13.9	**4,310**
SB5-51-52	51 - 52	4/9/2020	111	ND	ND	ND
SB7-5-7	5 - 7	4/9/2020	14.5	0.0483	15.5	**10,500**
SB7-30-32	30 - 32	4/9/2020	**787**	ND	ND	ND
SB8-10-12	10 - 12	4/10/2020	**1,760**	ND	ND	ND
SB8-25-27	25 - 27	4/10/2020	**1,590**	ND	ND	ND
SB9-10-12	10 - 12	4/10/2020	79.5	ND	ND	ND
SB9-30-32	30 - 32	4/10/2020	**1,420**	ND	ND	ND
SB10-15-17	15 - 17	4/10/2020	62.5	ND	ND	ND
SB10-20-22	20 - 22	4/10/2020	14.5	ND	ND	ND
SB11-10-12	10 - 12	4/14/2020	214	ND	ND	ND
SB11-25-27	25 - 27	4/14/2020	**2,120**	ND	ND	ND
SB12-7-8	7 - 8	4/15/2020	469	ND	17.3	**9,933**
SB12-22-24	22 - 24	4/15/2020	**1,470**	ND	ND	ND
SB13-15-17	15 - 17	4/15/2020	547	ND	ND	ND
SB13-25-27	25 - 27	4/15/2020	469	ND	ND	ND
SB14-5-7	5 - 7	4/15/2020	43.7	ND	ND	ND
SB14-25-27	25 - 27	4/15/2020	**1,020**	ND	ND	ND
SB15-3-5	3 - 5	4/16/2020	39.4	ND	ND	ND
SB15-17-19	17 - 19	4/16/2020	447	ND	ND	ND
SB16-10-12	10 - 12	4/16/2020	42.1	ND	ND	ND
SB16-20-22	20 - 22	4/16/2020	**1,380**	ND	ND	ND
SB17-8-9	8 - 9	4/16/2020	**2,220**	0.887	17.4	**43,630**
SB17-20-22	20 - 22	4/16/2020	**730**	ND	ND	ND
SB18-5-7	5 - 7	4/16/2020	**6,540**	ND	ND	ND
SB18-20-22	20 - 22	4/16/2020	**1,570**	ND	ND	ND

Notes:

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, Total Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

TPH: Total Petroleum Hydrocarbons

Bold results exceed closure criteria

* Closure Criteria specified in 19.15.29.12 NMAC

HRL COMPLIANCE SOLUTIONS

Table 3
Groundwater Sample Results
Armstrong Energy Corporation
West Pearl Queen Injection Site
Lea County, New Mexico

Sample ID	DTW (feet bgs)	Sample Date	Chloride	Specific Conductance	Benzene	Toluene	Ethylbenzene	Total Xylenes
			Values are in milligrams per Liter (mg/L)					
Standard (20.6.2.3103 NMAC)			None	None	0.005	1	0.7	0.62
SB14	16.23	4/16/2020	6,840	34,200	<0.002	<0.00200	<0.00200	<0.00200
SB13	15.57	4/16/2020	928	4,900	<0.002	<0.00200	<0.00200	<0.00200
SB2	18.13	4/16/2020	1,810	13,000	<0.002	<0.00200	<0.00200	<0.00200
SB17*	NM	4/16/2020	17,300	27,300	0.0029	<0.00200	0.00565	0.0135
SB5	13.96	4/16/2020	12,000	32,300	<0.002	<0.00200	<0.00200	<0.00200
SB7	9.63	4/16/2020	3,470	22,500	**0.0202**	<0.00200	0.0143	0.00916

Notes:

Bold results exceed standards for groundwater (20.6.2.3103 NMAC)

Attachment A

Photographs

The site, view to the south, pit in the foreground and former sump area in the square metal building. Date of photo unknown.

The site, view to the southeast, pit in the foreground and former sump area to the far right. Date of photo unknown.

Former Pit, view to the northwest, April 2018

Former Pit, view to the north, April 2018

Interior of former sump, April 2018

Interior of former sump, April 2018

Interior of former sump, April 2018

Interior of former sump after building removed, June 2018

View of former sump area; view to the east; April 2019

Excavating the former sump, view to the northeast June 2018

Former sump excavation, June 2018

Former sump excavation, June 2018

Former sump excavation, June 2018

Excavating former pit, June 2018

Excavating former pit, June 2018

Former sump, view to the north; February 2020

Former pit, view to the northwest, February 2020

Additional excavation in former sump, view to northeast, March 2020

Additional excavation in former sump, view of southern wall to the west, March 2020

Additional excavation in former sump, view of southern wall to the west, March 2020

Additional excavation in former sump, view of southern and eastern wall to the east, March 2020

Additional excavation in former sump, view to the north, March 2020

Breaking apart large pieces of concrete, March 2020

Southeast corner of the sump excavation March 2020

East sidewall of the excavation, March 2020

North wall and floor of the excavation March 2020

West wall and south wall of the excavation, view to the southwest March 2020

Drilling SB1 in former sump pit, view to the northeast April 2020

Drilling around the former pit April 2020

Drilling SB13, view to the southwest from bottom of the former pit April 2020

Oil-impacted soil in core from SB17 at 7.5 feet to 8 feet
April 2020

Attachment B

NMOCD Form C-141

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
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	1RP-5090
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Armstrong Energy Corporation	OGRID
Contact Name Kyle Alpers	Contact Telephone 575-623-2999
Contact email kalpers@aecnm.com	Incident # *(assigned by OCD)*
Contact mailing address PO Box 1973, Roswell NM 88202	

Location of Release Source

Latitude 32.622519 Longitude -103.475553
(NAD 83 in decimal degrees to 5 decimal places)

Site Name West Pearl Queen	Site Type abandoned
Date Release Discovered unknown	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
B	32	19S	35E	Lea

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)

☒ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5090
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Unknown amount of fluid released, most likely more than 25 bbls released
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? No, this was a historical spill that was acquired by Armstrong	

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: Ronald D Hillman_____ Title: Vice President_____

Signature: _____ Date: 6/12/2018_____

email: rhillman@aecnm.com_____ Telephone: 505-625-2222_____

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	1RP-5090
Facility ID	
Application ID	

Site Assessment/Characterization

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?	>100 (ft bgs)
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 ½-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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5090
Facility ID	
Application ID	

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: Jennifer Knowlton Title: Regional Manager – Permian

Signature: Jennifer Knowlton Date: 10/31/2018

email: jknowlton@hrlcomp.com Telephone: 505-238-3588

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5090
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the 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: Jennifer Knowlton Title: Regional Manager – Permian

Signature: Jennifer Knowlton Date: 10/31/2018

email: jknowlton@hrlcomp.com Telephone: 505-238-3588

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

Incident ID	
District RP	1RP-5090
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: _____

email: _____ Telephone: _____

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: _____

Attachment C

Sump Soil Disposal Manifests

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Jube Linn
Phone No. (972) 903-8747

GENERATOR

NO. 451664

Operator No.
Operators Name Armstrong Energy Corp.
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Inj
County Lea County, NM
API No. 999908
Rig Name & No.
AFE/PO No. Walk in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)			
Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	X	Truck Washout (exempt waste)			
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID 20 Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf of Jube Linn (PRINT) AUTHORIZED AGENTS NAME | 3-20-20 DATE | Jube Linn SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Phone No. (505) 947-9139

Driver's Name
Print Name
Phone No.
Truck No. DT-03

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE | DRIVER'S SIGNATURE | DELIVERY DATE | DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP IN: OUT:

RECEIVING AREA Name/No.

Site Name/Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) | DATE | TITLE | SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 451665

Operator No.
Operators Name Armstrong Energy Corp.
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Inj
County Lea County, NM
API No. 999908
Rig Name & No.
AFE/PO No. Work in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)			
E&P Contaminated Soil	X				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID 20 Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-20-20 DATE — Julie L SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Aztec, NM
Phone No. (505) 947-9139

Driver's Name Tyrone Jr
Print Name Tyrone Sr
Phone No. (505)-419-4352
Truck No. 2502

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

3-20-2020 SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

TRUCK TIME STAMP

IN: OUT:

DISPOSAL FACILITY

Site Name/Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

RECEIVING AREA

Name/No.

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 451666

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Inj.
County Lea County, NM
API No. 9999080
Rig Name & No.
AFE/PO No. Walk-in Bol

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)			
Oil Based Muds	NON-INJECTABLE WATERS		INJECTABLE WATERS
Oil Based Cuttings	Washout Water (Non-Injectable)		Washout Water (Injectable)
Water Based Muds	Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)
Water Based Cuttings	Produced Water (Non-Injectable)		Produced Water (Injectable)
Produced Formation Solids	Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)
Tank Bottoms	INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)
E&P Contaminated Soil X	Truck Washout (exempt waste)		
Gas Plant Waste			

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID 20 Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf Julie Linn — (PRINT) AUTHORIZED AGENTS NAME
3-20-20 — DATE
Julie L — SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Az Tec, NM
Phone No. (505) 947-9139

Driver's Name
Print Name Ronnie Yarbrough
Phone No. 505 716-0294
Truck No. DT-03

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP
IN: OUT:

RECEIVING AREA
Name/No. 50/53

Site Name/Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE 3/20/20 — TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 451667

Operator No.
Operators Name Armstrong Energy Corp.
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Inj.
County Lea County, NM
API No. 999908
Rig Name & No.
AFE/PO No. Walk in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	X	Truck Washout (exempt waste)			
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID 30 Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-20-20 DATE — SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Phone No. (505) 947-9139

Driver's Name
Print Name Tyson Jim
Phone No. (505) 419-4352
Truck No. 0102 - PUP-01

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

3-20-2020 SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

TRUCK TIME STAMP
IN: OUT:

DISPOSAL FACILITY

RECEIVING AREA
Name/No.

Site Name/Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 451668

Operator No.
Operators Name Armstrong Energy Corp
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Unit
County Lea County, NM
API No. 9999 08
Rig Name & No.
AFE/PO No. Walk in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)			
E&P Contaminated Soil	X				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY 20 B - BARRELS L - LIQUID Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf Julie Linn — (PRINT) AUTHORIZED AGENTS NAME
3-20-20 — DATE
Julie — SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Aztec, NM
Phone No. (505) 947-9139

Driver's Name
Print Name Ronnie Y
Phone No. 505-716-0294
Truck No. DT-13

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

TRUCK TIME STAMP
IN: OUT:

DISPOSAL FACILITY

RECEIVING AREA
Name/No.

Site Name/ Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449647

Operator No.
Operators Name Armstrong Energy Corp
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Injection
County Lea NM
API No. 49908
Rig Name & No.
AFE/PO No. Walk-In Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

	NON-INJECTABLE WATERS	INJECTABLE WATERS
Oil Based Muds	Washout Water (Non-Injectable)	Washout Water (Injectable)
Oil Based Cuttings	Completion Fluid/Flow back (Non-Injectable)	Completion Fluid/Flow back (Injectable)
Water Based Muds	Produced Water (Non-Injectable)	Produced Water (Injectable)
Water Based Cuttings	Gathering Line Water/Waste (Non-Injectable)	Gathering Line Water/Waste (Injectable)
Produced Formation Solids	INTERNAL USE ONLY	OTHER EXEMPT WASTES (type and generation process of the waste)
Tank Bottoms	Truck Washout (exempt waste)	
E&P Contaminated Soil X		
Gas Plant Waste		

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID (20) Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

onbehalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-18-2020 DATE — Julie L SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Phone No. (505) 947-9139

Driver's Name X
Print Name
Phone No. X (505) 716-1019
Truck No. X 407

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP
IN: OUT:

RECEIVING AREA
Name/No.

Site Name/Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO
If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (920) 903-8747

GENERATOR

NO. 449648

Operator No.
Operators Name Armstrong Energy Corp
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Injection
County Lea NM
API No. 99908
Rig Name & No.
AFE/PO No. Walk-in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	X	Truck Washout (exempt waste)			
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY	B - BARRELS	L - LIQUID	20 Y - YARDS	E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

Julie Linn — (PRINT) AUTHORIZED AGENTS NAME
3-18-2020 — DATE
SIGNATURE

TRANSPORTER

Transporter's Name Kelley oilfield Services
Address
Phone No. (505) 947-9139

Driver's Name X Rennie Yazzie
Print Name X
Phone No. X 505-776-0294
Truck No. X DT-03

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP
IN: OUT:

RECEIVING AREA
Name/No. 50/51

Site Name/ Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST
(PLEASE PRINT)

Company Man Contact Information
Name: Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449649

Operator No.:
Operators Name: Armstrong Energy Corp.
Address:
City, State, Zip:
Phone No.:

Permit/RRC No.:
Lease/Well Name & No.: West Pearl Queen Injection
County: Lea NM
API No.: 99908
Rig Name & No.:
AFE/PO No.: Walk in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)			
E&P Contaminated Soil	X				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other ______ *please select from ***Non-Exempt Waste List*** on back

QUANTITY B - BARRELS L - LIQUID (20 Y - YARDS) E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-18-2020 DATE — Julie L SIGNATURE

TRANSPORTER

Transporter's Name: Kelley Oilfield Services
Address:
Phone No.: (505) 947-9139

Driver's Name: X Rigo [illegible]
Print Name:
Phone No.: X (505) 716-1914
Truck No.: X FF 07

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP
IN: ______ OUT: ______

RECEIVING AREA
Name/No. [illegible]

Site Name/Permit No.: Halfway Facility / NM1-006
Phone No.: 575-393-1079
Address: 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO
If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

		BS&W (%)	
BS&W/BBLS Received			
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. 970 903 3947

GENERATOR

NO. 449650

Operator No.
Operators Name Armstrong Energy Corp
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Injection
County Lea NM
API No. 99999
Rig Name & No.
AFE/PO No. Walk-in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS	INJECTABLE WATERS
Oil Based Cuttings		Washout Water (Non-Injectable)	Washout Water (Injectable)
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)	Completion Fluid/Flow back (Injectable)
Water Based Cuttings		Produced Water (Non-Injectable)	Produced Water (Injectable)
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)	Gathering Line Water/Waste (Injectable)
Tank Bottoms		INTERNAL USE ONLY	OTHER EXEMPT WASTES (type and generation process of the waste)
E&P Contaminated Soil	X	Truck Washout (exempt waste)	
Gas Plant Waste			

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID 20 Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-18-2020 DATE — Julie SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Phone No. (505) 947-9139

Driver's Name
Print Name Ronnie Vargas
Phone No. 505-726-0294
Truck No. DT-03

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

TRUCK TIME STAMP IN: OUT:

DISPOSAL FACILITY

RECEIVING AREA Name/No. 50/51

Site Name/Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NM — 3/18 — ACCEPTED — SIGNATURE

NAME (PRINT) DATE TITLE SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST
(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449651

Operator No.
Operators Name Armstrong Energy Corp
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Injection
County Eddy NM
API No. 999908
Rig Name & No.
AFE/PO No. Work in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	X	Truck Washout (exempt waste)			
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID (20) Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

onbehalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-18-2020 DATE — Julie Linn SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Aztec, NM
Phone No. (505) 947-9139

Driver's Name X Rigo Silva
Print Name
Phone No. (505) 716-1919
Truck No. X #07

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — 3/18/2020 DELIVERY DATE — DRIVER'S SIGNATURE

TRUCK TIME STAMP
IN: OUT:

DISPOSAL FACILITY

RECEIVING AREA
Name/No. 40151

Site Name/Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — 3/18 DATE — AGT TITLE — SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449652

Operator No.
Operators Name Armstrong Energy Corp.
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Inject.
County Lea county, NM
API No. 9999 08
Rig Name & No.
AFE/PO No. Walk-in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)			
Oil Based Muds	NON-INJECTABLE WATERS		INJECTABLE WATERS
Oil Based Cuttings	Washout Water (Non-Injectable)		Washout Water (Injectable)
Water Based Muds	Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)
Water Based Cuttings	Produced Water (Non-Injectable)		Produced Water (Injectable)
Produced Formation Solids	Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)
Tank Bottoms	INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)
E&P Contaminated Soil X	Truck Washout (exempt waste)		
Gas Plant Waste			

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY 2 B - BARRELS L - LIQUID Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf of Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-18-2020 DATE — Julie L SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Phone No. Aztec, NM (505) 947-9139

Driver's Name
Print Name Ronnie Vazzie
Phone No. 505-216-0294
Truck No. DT-03

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP IN: OUT:

RECEIVING AREA Name/No.

Site Name/Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449653

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Injection
County Lea County, NM
API No. 9999 08
Rig Name & No.
AFE/PO No. Walk-in bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS	INJECTABLE WATERS
Oil Based Cuttings		Washout Water (Non-Injectable)	Washout Water (Injectable)
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)	Completion Fluid/Flow back (Injectable)
Water Based Cuttings		Produced Water (Non-Injectable)	Produced Water (Injectable)
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)	Gathering Line Water/Waste (Injectable)
Tank Bottoms		INTERNAL USE ONLY	OTHER EXEMPT WASTES (type and generation process of the waste)
E&P Contaminated Soil	X	Truck Washout (exempt waste)	
Gas Plant Waste			

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY 20 B - BARRELS L - LIQUID Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-18-2020 DATE — SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Aztec, NM
Phone No. (505) 947-9139

Driver's Name
Print Name
Phone No.
Truck No. #02

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — 3-19-2020 DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP IN: OUT:

RECEIVING AREA Name/No.

Site Name/Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

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NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449654

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Injection
County Lea County, NM
API No. 999908
Rig Name & No.
AFE/PO No. Walk in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)			
Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	X	Truck Washout (exempt waste)			
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY 2 B - BARRELS L - LIQUID Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf of Julie Linn — (PRINT) AUTHORIZED AGENTS NAME
3-18-2020 — DATE
Julie — SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Aztec, NM
Phone No. (505) 947-9139

Driver's Name X Ronnie Mann
Print Name X Ronnie Mann
Phone No. X 505-716-2294
Truck No. X DT 03

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

TRUCK TIME STAMP
IN: OUT:

DISPOSAL FACILITY

RECEIVING AREA
Name/No.

Site Name/ Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449655

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Injection
County Lea County, NM
API No. 299908
Rig Name & No.
AFE/PO No. Walk in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	X	Truck Washout (exempt waste)			
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY 20 B - BARRELS L - LIQUID Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-18-2020 DATE — SIGNATURE

TRANSPORTER

Transporter's Name Kelly Oilfield Services
Address
Phone No. Aztec, NM (505) 947-9139

Driver's Name X
Print Name X
Phone No. X
Truck No. X

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — 3-19-2020 DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP IN: OUT:

RECEIVING AREA Name/No.

Site Name/Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO
If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449656

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No. Lease/Well
Name & No. West Pearl Queen Ingram
County Lea County, NM
API No. 30-025-49990 8
Rig Name & No.
AFE/PO No. Walk in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)			
Oil Based Muds	NON-INJECTABLE WATERS		INJECTABLE WATERS
Oil Based Cuttings	Washout Water (Non-Injectable)		Washout Water (Injectable)
Water Based Muds	Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)
Water Based Cuttings	Produced Water (Non-Injectable)		Produced Water (Injectable)
Produced Formation Solids	Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)
Tank Bottoms	INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)
E&P Contaminated Soil X	Truck Washout (exempt waste)		
Gas Plant Waste			

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY	B - BARRELS	L - LIQUID	Y - YARDS	E - EACH
			2	

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

On Behalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-18-2020 DATE — Julie L SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Phone No. AZTEC, NM (505) 947-9139

Driver's Name
Print Name Ronnie Yazzie
Phone No. 505-216-0244
Truck No. DT 03

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP
IN: OUT:

RECEIVING AREA
Name/No. 4151

Site Name/ Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO — If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED — If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449657

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Injection
County Lea County, NM
API No. 999908
Rig Name & No.
AFE/PO No. Walk-in Bd

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)			
E&P Contaminated Soil	X				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back*

QUANTITY B - BARRELS L - LIQUID 20 Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

On behalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — DATE — Julie C SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Phone No. (505) 947-9139

Driver's Name X Tyrone Jim
Print Name X Tyrone Jim
Phone No. X 505-414-4352
Truck No. X DT02 / PUP01

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

3-14-2020 SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP IN: OUT:

RECEIVING AREA Name/No. 5051

Site Name/Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Lynn
Phone No. (970) 903-8747

GENERATOR

NO. 449658

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Inj
County Eddy County, NM
API No. 9999 08
Rig Name & No.
AFE/PO No. Walk-in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	X	Truck Washout (exempt waste)			
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back*

QUANTITY 2 B - BARRELS L - LIQUID Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf Julie Lynn (PRINT) AUTHORIZED AGENTS NAME — 3-19-2020 DATE — Julie C SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Phone No. Aztec, NM (505) 947-9139

Driver's Name [illegible]
Print Name [illegible]
Phone No. [illegible]
Truck No. [illegible]

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — 3-19-2020 DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP IN: OUT:

RECEIVING AREA Name/No. 5051

Site Name/Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO — If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

[illegible] NAME (PRINT) — 3/19 DATE — [illegible] TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST
(PLEASE PRINT)

Company Man Contact Information
Name: Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449659

Operator No.:
Operators Name: Armstrong Energy
Address:
City, State, Zip:
Phone No.:

Permit/RRC No.:
Lease/Well Name & No.: West Pearl Queen Injection
County: Lea County, NM
API No.: 999908
Rig Name & No.:
AFE/PO No.: Walk in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)			
E&P Contaminated Soil	X				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other ______ *please select from **Non-Exempt Waste List** on back

QUANTITY — B - BARRELS — L - LIQUID — 20 Y - YARDS — E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrates the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

On behalf Julie Linn — 3-19-2020 — [signature]
(PRINT) AUTHORIZED AGENTS NAME — DATE — SIGNATURE

TRANSPORTER

Transporter's Name: Kelley Oilfield Services
Address: Aztec, NM
Phone No.: (505) 947-9139

Driver's Name: K R...
Print Name: R...
Phone No.: (505) 716-1919
Truck No.:

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE: — DRIVER'S SIGNATURE: [signature] 3/19 — DELIVERY DATE: 3-19-2020 — DRIVER'S SIGNATURE: [signature]

TRUCK TIME STAMP
IN: ______ OUT: ______

DISPOSAL FACILITY

RECEIVING AREA
Name/No. 5015

Site Name/Permit No.: Halfway Facility / NM1-006
Address: 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No.: 575-393-1079

NORM READINGS TAKEN? (Circle One) YES **NO** — If YES, was reading > 50 micro roentgens? (circle one) YES **NO**

PASS THE PAINT FILTER TEST? (Circle One) **YES** NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why? ______

NAME (PRINT) — DATE: 3/19 — TITLE — SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449660

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Injection
County Lea County, NM
API No. 30-025-99990 8
Rig Name & No.
AFE/PO No. Walk in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	X	Truck Washout (exempt waste)			
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back*

QUANTITY	B - BARRELS	L - LIQUID	Y - YARDS	E - EACH
			20	

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf of Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-19-2020 DATE — SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
(Aztec, NM
Phone No. (505) 947-9139

Driver's Name X
Print Name X
Phone No. X
Truck No. X

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — 3/19/2020 DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP
IN: OUT:

RECEIVING AREA
Name/No.

Site Name/ Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — 3/19/2020 DATE — TITLE — SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449661

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Injection
County Lea County, NM
API No. 99908
Rig Name & No.
AFE/PO No. Walk-in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	X	Truck Washout (exempt waste)			
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY	B - BARRELS	L - LIQUID	20	Y - YARDS	E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

On behalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-19-2020 DATE — Julie SIGNATURE

TRANSPORTER

Transporter's Name Kelly Oilfield Services
Address
Phone No. Aztec, NM (505) 947-9139

Driver's Name
Print Name Ramiro Hazzie
Phone No. 505-716-8294
Truck No. DT 03

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

TRUCK TIME STAMP IN: OUT:

DISPOSAL FACILITY

RECEIVING AREA Name/No.

Site Name/Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO — If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-3747

GENERATOR

NO. 449662

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Injection
County Lea County, NM
API No. 999908
Rig Name & No.
AFE/PO No. Walk in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)			
E&P Contaminated Soil	X				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back*

QUANTITY B - BARRELS L - LIQUID 20 Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-19-2020 DATE — SIGNATURE

TRANSPORTER

Transporter's Name Kelley oilfield Services
Address
Phone No. Aztec NM (505) 947-9139

Driver's Name X Tyson Q
Print Name X Tyson Q
Phone No. X
Truck No. X

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

3-19-20 SHIPMENT DATE — TQ DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP
IN: OUT:

RECEIVING AREA
Name/No. 151

Site Name/ Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — 3-19 DATE — TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 449663

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen / Potter
County Eddy, NM
API No. 999908
Rig Name & No.
AFE/PO No. Walk in Bd

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	X	Truck Washout (exempt waste)			
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID 20 Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf Julie Linn (PRINT) AUTHORIZED AGENTS NAME — 3-19-2020 DATE — Julie L SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Phone No. Aztec, NM (505) 947-9139

Driver's Name
Print Name
Phone No.
Truck No.

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP IN: OUT:

RECEIVING AREA Name/No. 5057

Site Name/Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO — If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — 3-19 DATE — Hobbs TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name
Phone No.

GENERATOR

NO. 449664

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Unit
County Lea County, NM
API No. 777703
Rig Name & No.
AFE/PO No. Walk in Pit

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)			
E&P Contaminated Soil	✓				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other ________ *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID 20 Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

Thomas Martinez — 3-21-20 — [signature]
(PRINT) AUTHORIZED AGENTS NAME — DATE — SIGNATURE

TRANSPORTER

Transporter's Name Kelly Oil Field Services
Address Aztec NM
Phone No. 505 947 9139

Driver's Name
Print Name
Phone No.
Truck No.

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

TRUCK TIME STAMP
IN: ______ OUT: ______

DISPOSAL FACILITY

RECEIVING AREA
Name/No.

Site Name/Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO — If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

		BS&W (%)	
BS&W/BBLS Received			
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name
Phone No.

GENERATOR

NO. 451656

Operator No.
Operators Name
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No.
County
API No.
Rig Name & No.
AFE/PO No.

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds	NON-INJECTABLE WATERS	INJECTABLE WATERS
Oil Based Cuttings	Washout Water (Non-Injectable)	Washout Water (Injectable)
Water Based Muds	Completion Fluid/Flow back (Non-Injectable)	Completion Fluid/Flow back (Injectable)
Water Based Cuttings	Produced Water (Non-Injectable)	Produced Water (Injectable)
Produced Formation Solids	Gathering Line Water/Waste (Non-Injectable)	Gathering Line Water/Waste (Injectable)
Tank Bottoms	INTERNAL USE ONLY	OTHER EXEMPT WASTES (type and generation process of the waste)
E&P Contaminated Soil X	Truck Washout (exempt waste)	
Gas Plant Waste		

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

(PRINT) AUTHORIZED AGENTS NAME DATE SIGNATURE

TRANSPORTER

Transporter's Name
Address
Phone No.

Driver's Name
Print Name
Phone No.
Truck No.

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE DRIVER'S SIGNATURE DELIVERY DATE DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP
IN: OUT:

RECEIVING AREA
Name/No.

Site Name/ Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO
If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) DATE TITLE SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information

Name

Phone No.

GENERATOR

NO. 451657

Operator No.

Operators Name Anadarko Energy

Address

City, State, Zip

Phone No.

Permit/RRC No.

Lease/Well Name & No.

County Lea County, NM

API No.

Rig Name & No.

AFE/PO No.

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)			
E&P Contaminated Soil	X				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount

All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID Y - YARDS 20 E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☐ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

(PRINT) AUTHORIZED AGENTS NAME | 3-19-20 DATE | SIGNATURE

TRANSPORTER

Transporter's Name Kelly Oilfield Serv.

Address

Hobbs, NM

Phone No. (575) 947-7179

Driver's Name Tyrone Jim

Print Name Tyrone Jim

Phone No. 505-419-4352

Truck No. PT02

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

3-19-2020 SHIPMENT DATE | DRIVER'S SIGNATURE | DELIVERY DATE | DRIVER'S SIGNATURE

TRUCK TIME STAMP

IN: OUT:

DISPOSAL FACILITY

RECEIVING AREA

Name/No. 30157

Site Name/Permit No. Halfway Facility / NM1-006

Phone No. 575-393-1079

Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO

If YES, was reading > 50 micro roentgens? (circle one) YES NO

PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) | 3-19 DATE | TITLE | SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-1747

GENERATOR

NO. 451661

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Injection
County Lea County, NM
API No. 299708
Rig Name & No.
AFE/PO No. Work in Bd

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Cuttings		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Cuttings		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Tank Bottoms		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
E&P Contaminated Soil	X	Truck Washout (exempt waste)			
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY	B - BARRELS	L - LIQUID	Y - YARDS	E - EACH
			2	

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

on behalf Julie Linn — (PRINT) AUTHORIZED AGENTS NAME
3-19-2020 — DATE
Julie Linn — SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Phone No. (575) 947-9139

Driver's Name
Print Name Tyrone Jim
Phone No. 505-419-4252
Truck No. DD2-PU201

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

3-19-2020 — SHIPMENT DATE
Tyrone Jim — DRIVER'S SIGNATURE
DELIVERY DATE
DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP
IN: OUT:

RECEIVING AREA
Name/No.

Site Name/Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO
If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

C-138 White - R360 ORIGINAL Yellow - TRANSPORTER COPY Pink - GENERATOR SITE COPY Gold - RETURN TO GENERATOR Version 1

R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Linn
Phone No. (970) 903-8747

GENERATOR

NO. 451662

Operator No.
Operators Name Armstrong Energy
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Inj.
County Lea County, NM
API No. 99910 8
Rig Name & No.
AFE/PO No. Walk in Bd

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

		NON-INJECTABLE WATERS		INJECTABLE WATERS	
Oil Based Muds		Washout Water (Non-Injectable)		Washout Water (Injectable)	
Oil Based Cuttings		Completion Fluid/Flow back (Non-Injectable)		Completion Fluid/Flow back (Injectable)	
Water Based Muds		Produced Water (Non-Injectable)		Produced Water (Injectable)	
Water Based Cuttings		Gathering Line Water/Waste (Non-Injectable)		Gathering Line Water/Waste (Injectable)	
Produced Formation Solids		INTERNAL USE ONLY		OTHER EXEMPT WASTES (type and generation process of the waste)	
Tank Bottoms		Truck Washout (exempt waste)			
E&P Contaminated Soil	X				
Gas Plant Waste					

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other ______ *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID 20 Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

Julie Linn — (PRINT) AUTHORIZED AGENTS NAME
3-19-2020 — DATE
[signature] — SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address Aztec, NM
Phone No. (505) 947-9139

Driver's Name [signature]
Print Name [illegible]
Phone No. 505 516 6204
Truck No. 07-02

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

SHIPMENT DATE — DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

TRUCK TIME STAMP
IN: ______ OUT: ______

DISPOSAL FACILITY

RECEIVING AREA
Name/No. 6C/21

Site Name/Permit No. Halfway Facility / NM1-006
Phone No. 575-393-1079
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220

NORM READINGS TAKEN? (Circle One) YES NO
If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

		BS&W (%)
BS&W/BBLS Received		
Free Water		
Total Received		

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

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R360 ENVIRONMENTAL SOLUTIONS

NEW MEXICO NON-HAZARDOUS OILFIELD WASTE MANIFEST

(PLEASE PRINT)

Company Man Contact Information
Name Julie Cinn
Phone No. (970) 903-8747

GENERATOR

NO. 451663

Operator No.
Operators Name Armstrong Energy Corp
Address
City, State, Zip
Phone No.

Permit/RRC No.
Lease/Well Name & No. West Pearl Queen Inj
County Lea County, NM
API No. 999908
Rig Name & No.
AFE/PO No. Walk in Bid

EXEMPT E&P Waste/Service Identification and Amount (place volume next to waste type in barrels or cubic yards)

Oil Based Muds		NON-INJECTABLE WATERS	INJECTABLE WATERS
Oil Based Cuttings		Washout Water (Non-Injectable)	Washout Water (Injectable)
Water Based Muds		Completion Fluid/Flow back (Non-Injectable)	Completion Fluid/Flow back (Injectable)
Water Based Cuttings		Produced Water (Non-Injectable)	Produced Water (Injectable)
Produced Formation Solids		Gathering Line Water/Waste (Non-Injectable)	Gathering Line Water/Waste (Injectable)
Tank Bottoms		INTERNAL USE ONLY	OTHER EXEMPT WASTES (type and generation process of the waste)
E&P Contaminated Soil	X	Truck Washout (exempt waste)	
Gas Plant Waste			

WASTE GENERATION PROCESS: ☐ DRILLING ☐ COMPLETION ☐ PRODUCTION ☐ GATHERING LINES

NON-EXEMPT E&P Waste/Service Identification and Amount
All non-exempt E&P waste must be analysed and be below the threshold limits for toxicity (TCLP), Ignitability, Corrosivity and Reactivity.

Non-Exempt Other *please select from **Non-Exempt Waste List** on back

QUANTITY B - BARRELS L - LIQUID 20 Y - YARDS E - EACH

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste load is (Check the appropriate classification)

☒ RCRA EXEMPT: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste (R360 Accepts certifications on a per load basis only)

☐ RCRA NON-EXEMPT: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined by 40 CFR, part 261, subpart D, as amended. The following documentation demonstrating the waste as non-hazardous is attached. (Check the appropriate items as provided)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Other (Provide Description Below)

☐ EMERGENCY NON-OILFEILD: Emergency non-hazradous, non-oilfeild waste that has been ordered by the Department of Public Safety (the order, documentation of non-hazardous waste determination and a desciption of the waste must accompany this form)

Operator Julie Cinn (PRINT) AUTHORIZED AGENTS NAME — 3-20-20 DATE — SIGNATURE

TRANSPORTER

Transporter's Name Kelley Oilfield Services
Address
Aztec NM
Phone No. (505) 947-9139

Driver's Name
Print Name X Tyson Jim / Tyson Jim
Phone No. X (505) 419-4352
Truck No. X DT02 / PUP 01

I hereby certify that the above named material(s) was/were picked up at the Generator's site listed above and delivered without incident to the disposal facility listed below.

3-20-2020 SHIPMENT DATE — Tyson DRIVER'S SIGNATURE — DELIVERY DATE — DRIVER'S SIGNATURE

DISPOSAL FACILITY

TRUCK TIME STAMP
IN: OUT:

RECEIVING AREA
Name/No.

Site Name/ Permit No. Halfway Facility / NM1-006
Address 6601 Hobbs Hwy US 62/180 Mile Marker 66 Carlsbad, NM 88220
Phone No. 575-393-1079

NORM READINGS TAKEN? (Circle One) YES NO
If YES, was reading > 50 micro roentgens? (circle one) YES NO
PASS THE PAINT FILTER TEST? (Circle One) YES NO

TANK BOTTOMS

	Feet	Inches
1st Gauge		
2nd Gauge		
Received		

BS&W/BBLS Received		BS&W (%)	
Free Water			
Total Received			

I hereby certify that the above load material has been (circle one): ACCEPTED DENIED If denied, why?

NAME (PRINT) — DATE — TITLE — SIGNATURE

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Attachment D

Sump Confirmatory Soil Sample Laboratory Reports

Certificate of Analysis Summary 656336

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen Inj

Project Id:

Contact: Julie Linn

Project Location: Lea County, NM

Date Received in Lab: Thu 03.19.2020 16:53

Report Date: 03.23.2020 14:25

Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	656336-001		656336-002		656336-003		656336-004		656336-005		656336-006	
	Field Id:	NE		SW		N		S		NW		W	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	03.19.2020 15:02		03.19.2020 15:06		03.19.2020 15:10		03.19.2020 15:17		03.19.2020 15:20		03.19.2020 15:24	
BTEX by EPA 8021B	***Extracted:***	03.19.2020 18:00		03.19.2020 18:00		03.19.2020 18:00		03.19.2020 18:00		03.19.2020 18:00		03.19.2020 18:00	
	Analyzed:	03.20.2020 05:00		03.20.2020 05:20		03.20.2020 05:41		03.20.2020 06:01		03.20.2020 06:22		03.20.2020 06:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
Toluene		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
Ethylbenzene		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
m,p-Xylenes		<0.00402	0.00402	<0.00404	0.00404	<0.00399	0.00399	<0.00401	0.00401	<0.00402	0.00402	<0.00396	0.00396
o-Xylene		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
Total Xylenes		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
Total BTEX		<0.00201	0.00201	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00198	0.00198
Chloride by EPA 300	***Extracted:***	03.19.2020 18:42		03.19.2020 18:42		03.19.2020 18:42		03.19.2020 18:42		03.19.2020 18:42		03.19.2020 18:42	
	Analyzed:	03.19.2020 21:41		03.19.2020 21:47		03.19.2020 21:53		03.19.2020 21:59		03.19.2020 22:18		03.19.2020 22:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		144	9.98	426	10.1	205	10.0	442	9.94	240	9.98	199	10.1
TPH By SW8015 Mod	***Extracted:***	03.19.2020 17:30		03.19.2020 17:30		03.19.2020 17:30		03.19.2020 17:30		03.19.2020 17:30		03.19.2020 17:30	
	Analyzed:	03.20.2020 11:19		03.20.2020 04:01		03.20.2020 04:21		03.20.2020 04:41		03.20.2020 11:19		03.20.2020 04:21	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.9	49.9	<50.2	50.2	<50.2	50.2	<49.8	49.8	<49.8	49.8
Diesel Range Organics (DRO)		<49.9	49.9	<49.9	49.9	<50.2	50.2	<50.2	50.2	528	49.8	90.0	49.8
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.9	49.9	<50.2	50.2	<50.2	50.2	134	49.8	<49.8	49.8
Total TPH		<49.9	49.9	<49.9	49.9	<50.2	50.2	<50.2	50.2	662	49.8	90.0	49.8

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Analytical Report 656336

for

HRL Compliance Solutions

Project Manager: Julie Linn

West Pearl Queen Inj

03.23.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

03.23.2020

Project Manager: **Julie Linn**
HRL Compliance Solutions
112 6th St.
Artesia, NM 88210

Reference: XENCO Report No(s): **656336**
West Pearl Queen Inj
Project Address: Lea County, NM

Julie Linn:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 656336. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 656336 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Erica Morales
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
NE	S	03.19.2020 15:02		656336-001
SW	S	03.19.2020 15:06		656336-002
N	S	03.19.2020 15:10		656336-003
S	S	03.19.2020 15:17		656336-004
NW	S	03.19.2020 15:20		656336-005
W	S	03.19.2020 15:24		656336-006

CASE NARRATIVE

Client Name: HRL Compliance Solutions

Project Name: West Pearl Queen Inj

Project ID:
Work Order Number(s): *656336*

Report Date: *03.23.2020*
Date Received: *03.19.2020*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3120335 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id:	**NE**	Matrix:	Soil	Date Received:	03.19.2020 16:53
Lab Sample Id:	656336-001	Date Collected:	03.19.2020 15:02		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.2020 18:42	Basis:	Wet Weight
Seq Number:	3120338				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**144**	9.98	mg/kg	03.19.2020 21:41		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.2020 17:30	Basis:	Wet Weight
Seq Number:	3120403				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.2020 11:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.20.2020 11:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.20.2020 11:19	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.20.2020 11:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	03.20.2020 11:19	
o-Terphenyl	84-15-1	102	%	70-135	03.20.2020 11:19	

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id:	**NE**	Matrix:	Soil	Date Received:	03.19.2020 16:53
Lab Sample Id:	656336-001	Date Collected:	03.19.2020 15:02		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.2020 18:00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.20.2020 05:00	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.20.2020 05:00	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.20.2020 05:00	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.20.2020 05:00	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.20.2020 05:00	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.20.2020 05:00	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.20.2020 05:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	03.20.2020 05:00	
1,4-Difluorobenzene	540-36-3	109	%	70-130	03.20.2020 05:00	

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id:	**SW**	Matrix:	Soil	Date Received:	03.19.2020 16:53
Lab Sample Id:	656336-002	Date Collected:	03.19.2020 15:06		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.2020 18:42	Basis:	Wet Weight
Seq Number:	3120338				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**426**	10.1	mg/kg	03.19.2020 21:47		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.2020 17:30	Basis:	Wet Weight
Seq Number:	3120403				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.2020 04:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.20.2020 04:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.20.2020 04:01	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.20.2020 04:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	03.20.2020 04:01	
o-Terphenyl	84-15-1	114	%	70-135	03.20.2020 04:01	

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id:	**SW**	Matrix:	Soil	Date Received:	03.19.2020 16:53
Lab Sample Id:	656336-002	Date Collected:	03.19.2020 15:06		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.2020 18:00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.20.2020 05:20	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.20.2020 05:20	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.20.2020 05:20	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	03.20.2020 05:20	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.20.2020 05:20	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.20.2020 05:20	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.20.2020 05:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	03.20.2020 05:20	
1,4-Difluorobenzene	540-36-3	109	%	70-130	03.20.2020 05:20	

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id: **N** Matrix: Soil Date Received:03.19.2020 16:53

Lab Sample Id: 656336-003 Date Collected: 03.19.2020 15:10

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 03.19.2020 18:42 Basis: Wet Weight

Seq Number: 3120338

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**205**	10.0	mg/kg	03.19.2020 21:53		1

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 03.19.2020 17:30 Basis: Wet Weight

Seq Number: 3120403

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	03.20.2020 04:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	03.20.2020 04:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	03.20.2020 04:21	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	03.20.2020 04:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	03.20.2020 04:21	
o-Terphenyl	84-15-1	110	%	70-135	03.20.2020 04:21	

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id:	**N**	Matrix:	Soil	Date Received:	03.19.2020 16:53
Lab Sample Id:	656336-003	Date Collected:	03.19.2020 15:10		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.2020 18:00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.2020 05:41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.20.2020 05:41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.2020 05:41	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.20.2020 05:41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.2020 05:41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.2020 05:41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.20.2020 05:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	03.20.2020 05:41	
1,4-Difluorobenzene	540-36-3	107	%	70-130	03.20.2020 05:41	

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id:	S	Matrix:	Soil	Date Received:	03.19.2020 16:53
Lab Sample Id:	656336-004	Date Collected:	03.19.2020 15:17		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.2020 18:42	Basis:	Wet Weight
Seq Number:	3120338				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**442**	9.94	mg/kg	03.19.2020 21:59		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.2020 17:30	Basis:	Wet Weight
Seq Number:	3120403				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	03.20.2020 04:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	03.20.2020 04:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	03.20.2020 04:41	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	03.20.2020 04:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	03.20.2020 04:41	
o-Terphenyl	84-15-1	115	%	70-135	03.20.2020 04:41	

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id:	S	Matrix:	Soil	Date Received:	03.19.2020 16:53
Lab Sample Id:	656336-004	Date Collected:	03.19.2020 15:17		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.2020 18:00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.2020 06:01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.20.2020 06:01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.2020 06:01	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.20.2020 06:01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.2020 06:01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.2020 06:01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.20.2020 06:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	03.20.2020 06:01	
4-Bromofluorobenzene	460-00-4	95	%	70-130	03.20.2020 06:01	

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id:	**NW**	Matrix:	Soil	Date Received:	03.19.2020 16:53
Lab Sample Id:	656336-005	Date Collected:	03.19.2020 15:20		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.2020 18:42	Basis:	Wet Weight
Seq Number:	3120338				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**240**	9.98	mg/kg	03.19.2020 22:18		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.2020 17:30	Basis:	Wet Weight
Seq Number:	3120406				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	03.20.2020 11:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	**528**	49.8	mg/kg	03.20.2020 11:19		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**134**	49.8	mg/kg	03.20.2020 11:19		1
Total TPH	PHC635	**662**	49.8	mg/kg	03.20.2020 11:19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	03.20.2020 11:19	
o-Terphenyl	84-15-1	113	%	70-135	03.20.2020 11:19	

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id:	**NW**	Matrix:	Soil	Date Received:	03.19.2020 16:53
Lab Sample Id:	656336-005	Date Collected:	03.19.2020 15:20		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.2020 18:00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.20.2020 06:22	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.20.2020 06:22	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.20.2020 06:22	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.20.2020 06:22	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.20.2020 06:22	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.20.2020 06:22	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.20.2020 06:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	03.20.2020 06:22	
1,4-Difluorobenzene	540-36-3	105	%	70-130	03.20.2020 06:22	

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id:	**W**	Matrix:	Soil	Date Received:	03.19.2020 16:53
Lab Sample Id:	656336-006	Date Collected:	03.19.2020 15:24		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.2020 18:42	Basis:	Wet Weight
Seq Number:	3120338				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**199**	10.1	mg/kg	03.19.2020 22:24		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.19.2020 17:30	Basis:	Wet Weight
Seq Number:	3120406				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	03.20.2020 04:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	**90.0**	49.8	mg/kg	03.20.2020 04:21		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	03.20.2020 04:21	U	1
Total TPH	PHC635	**90.0**	49.8	mg/kg	03.20.2020 04:21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	03.20.2020 04:21	
o-Terphenyl	84-15-1	112	%	70-135	03.20.2020 04:21	

Certificate of Analytical Results 656336

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Inj

Sample Id:	**W**	Matrix:	Soil	Date Received:	03.19.2020 16:53
Lab Sample Id:	656336-006	Date Collected:	03.19.2020 15:24		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.19.2020 18:00	Basis:	Wet Weight
Seq Number:	3120335				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.20.2020 06:42	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.20.2020 06:42	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.20.2020 06:42	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	03.20.2020 06:42	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.20.2020 06:42	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.20.2020 06:42	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.20.2020 06:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	03.20.2020 06:42	
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.20.2020 06:42	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 656336

HRL Compliance Solutions

West Pearl Queen Inj

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120338 — Matrix: Solid — Date Prep: 03.19.2020
MB Sample Id: 7699322-1-BLK — LCS Sample Id: 7699322-1-BKS — LCSD Sample Id: 7699322-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	261	104	261	104	90-110	0	20	mg/kg	03.19.2020 21:04	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120338 — Matrix: Soil — Date Prep: 03.19.2020
Parent Sample Id: 656335-010 — MS Sample Id: 656335-010 S — MSD Sample Id: 656335-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	260	200	476	108	476	108	90-110	0	20	mg/kg	03.19.2020 21:23	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120403 — Matrix: Solid — Date Prep: 03.19.2020
MB Sample Id: 7699371-1-BLK — LCS Sample Id: 7699371-1-BKS — LCSD Sample Id: 7699371-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1030	103	959	96	70-135	7	35	mg/kg	03.20.2020 00:59	
Diesel Range Organics (DRO)	<50.0	1000	1140	114	1070	107	70-135	6	35	mg/kg	03.20.2020 00:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		122		118		70-135	%	03.20.2020 00:59
o-Terphenyl	109		128		122		70-135	%	03.20.2020 00:59

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120406 — Matrix: Solid — Date Prep: 03.19.2020
MB Sample Id: 7699373-1-BLK — LCS Sample Id: 7699373-1-BKS — LCSD Sample Id: 7699373-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	936	94	868	87	70-135	8	35	mg/kg	03.20.2020 00:59	
Diesel Range Organics (DRO)	<50.0	1000	1040	104	983	98	70-135	6	35	mg/kg	03.20.2020 00:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	87		111		105		70-135	%	03.20.2020 00:59
o-Terphenyl	95		118		112		70-135	%	03.20.2020 00:59

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120403 — Matrix: Solid — Date Prep: 03.19.2020
MB Sample Id: 7699371-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.20.2020 00:39	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 656336

HRL Compliance Solutions

West Pearl Queen Inj

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120406 — Matrix: Solid — Date Prep: 03.19.2020
MB Sample Id: 7699373-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.20.2020 00:39	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120403 — Matrix: Soil — Date Prep: 03.19.2020
Parent Sample Id: 656335-005 — MS Sample Id: 656335-005 S — MSD Sample Id: 656335-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	882	88	974	98	70-135	10	35	mg/kg	03.20.2020 02:00	
Diesel Range Organics (DRO)	<50.0	999	967	97	1070	107	70-135	10	35	mg/kg	03.20.2020 02:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		121		70-135	%	03.20.2020 02:00
o-Terphenyl	117		126		70-135	%	03.20.2020 02:00

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120406 — Matrix: Soil — Date Prep: 03.19.2020
Parent Sample Id: 656335-003 — MS Sample Id: 656335-003 S — MSD Sample Id: 656335-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	880	88	985	99	70-135	11	35	mg/kg	03.20.2020 02:00	
Diesel Range Organics (DRO)	<50.2	1000	990	99	1080	108	70-135	9	35	mg/kg	03.20.2020 02:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		122		70-135	%	03.20.2020 02:00
o-Terphenyl	116		128		70-135	%	03.20.2020 02:00

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3120335 — Matrix: Solid — Date Prep: 03.19.2020
MB Sample Id: 7699325-1-BLK — LCS Sample Id: 7699325-1-BKS — LCSD Sample Id: 7699325-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.107	107	0.105	105	70-130	2	35	mg/kg	03.19.2020 23:13	
Toluene	<0.00200	0.100	0.103	103	0.101	101	70-130	2	35	mg/kg	03.19.2020 23:13	
Ethylbenzene	<0.00200	0.100	0.0978	98	0.0955	96	71-129	2	35	mg/kg	03.19.2020 23:13	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.197	99	70-135	2	35	mg/kg	03.19.2020 23:13	
o-Xylene	<0.00200	0.100	0.102	102	0.0994	99	71-133	3	35	mg/kg	03.19.2020 23:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		108		70-130	%	03.19.2020 23:13
4-Bromofluorobenzene	93		93		94		70-130	%	03.19.2020 23:13

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 656336

HRL Compliance Solutions

West Pearl Queen Inj

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3120335 Matrix: Soil Date Prep: 03.19.2020

Parent Sample Id: 656335-004 MS Sample Id: 656335-004 S MSD Sample Id: 656335-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.114	114	0.110	110	70-130	4	35	mg/kg	03.19.2020 23:54	
Toluene	<0.00200	0.0998	0.110	110	0.105	105	70-130	5	35	mg/kg	03.19.2020 23:54	
Ethylbenzene	<0.00200	0.0998	0.106	106	0.0998	100	71-129	6	35	mg/kg	03.19.2020 23:54	
m,p-Xylenes	<0.00399	0.200	0.219	110	0.206	104	70-135	6	35	mg/kg	03.19.2020 23:54	
o-Xylene	<0.00200	0.0998	0.109	109	0.103	103	71-133	6	35	mg/kg	03.19.2020 23:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		108		70-130	%	03.19.2020 23:54
4-Bromofluorobenzene	94		94		70-130	%	03.19.2020 23:54

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 456332

Page 1 of 1

Project Manager:	Julie Linn	Bill to: (if different)	
Company Name:	HRL Compliance	Company Name:	
Address:	PO 112 6th St.	Address:	
City, State ZIP:	Artesia, NM	City, State ZIP:	
Phone:	(970) 903 8747	Email:	jlinn@HRLcomp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	West Pearl Queen Inj	Turn Around	
Project Number:		Routine ☐	
Project Location	Lea County, NM	Rush: 48 hr	
Sampler's Name:	J. Linn	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	Yes (No)
Temperature (°C):	11	Thermometer ID	
Received Intact:	(Yes) No	TNM007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	6

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (GRO, DRO, ORO, MRO)		BTEX	Chloride														Sample Comments
	NE	Soil	3-19-20	1502	Comp.	1		X		X	X														
	SW	Soil	3-19-20	1506	Comp.	1		X		X	X														
	N	Soil	3-19-20	1510	Comp.	1		X		X	X														
	S	Soil	3-19-20	1517	Comp.	1		X		X	X														
	NW	Soil	3-19-20	1520	Comp.	1		X		X	X														
	W	Soil	3-19-20	1524	Comp.	1		X		X	X														

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Julie Linn		3-19-20 1653	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: HRL Compliance

Date/ Time Received: 03.19.2020 04.53.00 PM

Work Order #: 656336

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	11	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	Additional cooling process began in lab after receipt and processing of samples. Client was informed of policy.
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 03.19.2020

Checklist reviewed by: Date: 03.19.2020

Certificate of Analysis Summary 656457

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen Injunction

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Fri 03.20.2020 17:48

Report Date: 03.23.2020 14:31

Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	656457-001		656457-002		656457-003		656457-004		656457-005		656457-006	
	Field Id:	F1		F2		F3		F4		F5		F6	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	03.20.2020 12:36		03.20.2020 12:39		03.20.2020 12:43		03.20.2020 12:47		03.20.2020 12:50		03.20.2020 12:56	
BTEX by EPA 8021B	***Extracted:***	03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36	
	Analyzed:	03.20.2020 21:30		03.20.2020 21:50		03.20.2020 22:11		03.20.2020 22:31		03.20.2020 22:52		03.20.2020 23:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00826	0.00826
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00826	0.00826
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00826	0.00826
m,p-Xylenes		<0.00401	0.00401	<0.00398	0.00398	<0.00398	0.00398	<0.00399	0.00399	<0.00400	0.00400	<0.0165	0.0165
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00826	0.00826
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00826	0.00826
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00200	0.00200	<0.00826	0.00826
Chloride by EPA 300	***Extracted:***	** ** ** **		** ** ** **		** ** ** **		** ** ** **		** ** ** **		** ** ** **	
	Analyzed:	03.20.2020 18:19		03.20.2020 18:47		03.20.2020 18:53		03.20.2020 18:59		03.20.2020 19:04		03.20.2020 19:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		406	9.98	615	9.96	407	9.98	213	9.92	1050	9.92	1380	50.1
TPH By SW8015 Mod	***Extracted:***	** ** ** **		** ** ** **		** ** ** **		** ** ** **		** ** ** **		** ** ** **	
	Analyzed:	03.20.2020 20:28		03.20.2020 20:48		03.20.2020 21:08		03.20.2020 21:28		03.20.2020 23:09		03.20.2020 22:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	<50.1	50.1	<49.9	49.9
Diesel Range Organics (DRO)		<49.9	49.9	88.7	50.0	59.7	50.0	<49.9	49.9	1340	50.1	3610	49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.0	50.0	<50.0	50.0	<49.9	49.9	345	50.1	737	49.9
Total TPH		<49.9	49.9	88.7	50.0	59.7	50.0	<49.9	49.9	1690	50.1	4350	49.9

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Certificate of Analysis Summary 656457

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen Injunction

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Fri 03.20.2020 17:48

Report Date: 03.23.2020 14:31

Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	656457-007		656457-008		656457-009		656457-010		656457-011		656457-012	
	Field Id:	F7		F8		F9		F10		F11		F12	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	03.20.2020 13:00		03.20.2020 13:08		03.20.2020 13:12		03.20.2020 13:15		03.20.2020 13:18		03.20.2020 13:22	
BTEX by EPA 8021B	***Extracted:***	03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36	
	Analyzed:	03.20.2020 23:32		03.20.2020 23:53		03.21.2020 01:14		03.21.2020 01:35		03.21.2020 01:55		03.21.2020 02:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00401	0.00401	<0.00403	0.00403	<0.00396	0.00396	<0.00401	0.00401	<0.00398	0.00398	<0.00401	0.00401
o-Xylene		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	0.00514	0.00200	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	0.00514	0.00200	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198	0.00514	0.00200	<0.00199	0.00199	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	** ** ** **		** ** ** **		** ** ** **		** ** ** **		03.20.2020 20:00		03.20.2020 20:00	
	Analyzed:	03.20.2020 19:28		03.20.2020 19:34		03.20.2020 19:39		03.20.2020 19:45		03.20.2020 20:36		03.20.2020 20:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2670	50.4	352	9.94	334	9.88	3610	49.9	208	9.94	190	9.92
TPH By SW8015 Mod	***Extracted:***	** ** ** **		** ** ** **		** ** ** **		03.20.2020 18:00		03.20.2020 18:00		03.20.2020 18:00	
	Analyzed:	03.20.2020 22:08		03.20.2020 21:48		03.20.2020 22:29		03.20.2020 22:29		03.20.2020 20:28		03.20.2020 22:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<49.9	49.9	<50.1	50.1	<50.0	50.0	<50.3	50.3	<50.3	50.3
Diesel Range Organics (DRO)		374	49.8	<49.9	49.9	221	50.1	900	50.0	<50.3	50.3	372	50.3
Motor Oil Range Hydrocarbons (MRO)		89.9	49.8	<49.9	49.9	51.1	50.1	167	50.0	<50.3	50.3	81.4	50.3
Total TPH		464	49.8	<49.9	49.9	272	50.1	1070	50.0	<50.3	50.3	453	50.3

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Certificate of Analysis Summary 656457

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen Injunction

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Fri 03.20.2020 17:48

Report Date: 03.23.2020 14:31

Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	656457-013		656457-014		656457-015		656457-016		656457-017		656457-018	
	Field Id:	F13		F14		F15		SE1T		SE2B		SE3T	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	03.20.2020 13:25		03.20.2020 13:30		03.20.2020 13:34		03.20.2020 13:40		03.20.2020 13:44		03.20.2020 13:49	
BTEX by EPA 8021B	***Extracted:***	03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36		03.20.2020 19:36	
	Analyzed:	03.21.2020 02:36		03.21.2020 02:56		03.21.2020 03:17		03.21.2020 03:37		03.21.2020 03:57		03.21.2020 04:18	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.0667	0.0667	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Toluene		<0.00199	0.00199	<0.0667	0.0667	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		<0.00199	0.00199	<0.0667	0.0667	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		<0.00398	0.00398	<0.133	0.133	<0.00403	0.00403	<0.00398	0.00398	<0.00401	0.00401	<0.00398	0.00398
o-Xylene		<0.00199	0.00199	<0.0667	0.0667	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		<0.00199	0.00199	<0.0667	0.0667	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Total BTEX		<0.00199	0.00199	<0.0667	0.0667	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	03.20.2020 20:00		03.20.2020 20:00		03.20.2020 20:00		03.20.2020 20:00		03.20.2020 20:00		03.20.2020 20:00	
	Analyzed:	03.20.2020 20:19		03.20.2020 20:48		03.20.2020 20:53		03.20.2020 21:10		03.20.2020 21:16		03.20.2020 21:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1140	10.0	3480	50.0	1120	9.98	276	9.96	685	9.87	168	10.0
TPH By SW8015 Mod	***Extracted:***	03.20.2020 18:00		03.20.2020 18:00		03.20.2020 18:00		03.20.2020 18:00		03.20.2020 18:00		03.20.2020 18:00	
	Analyzed:	03.20.2020 21:48		03.20.2020 22:08		03.20.2020 20:48		03.20.2020 21:08		03.20.2020 23:09		03.20.2020 21:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9	<50.1	50.1
Diesel Range Organics (DRO)		334	50.2	1000	49.9	93.8	50.0	<49.9	49.9	562	49.9	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		56.2	50.2	145	49.9	<50.0	50.0	<49.9	49.9	93.3	49.9	<50.1	50.1
Total TPH		390	50.2	1150	49.9	93.8	50.0	<49.9	49.9	655	49.9	<50.1	50.1

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Certificate of Analysis Summary 656457

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen Injunction

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Fri 03.20.2020 17:48

Report Date: 03.23.2020 14:31

Project Manager: Erica Morales

Analysis Requested											
	Lab Id:	656457-019		656457-020		656457-021					
	Field Id:	SE4B		W2		E					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	03.20.2020 13:53		03.20.2020 13:59		03.20.2020 14:03					
BTEX by EPA 8021B	***Extracted:***	03.20.2020 19:00		03.20.2020 19:00		03.20.2020 19:00					
	Analyzed:	03.20.2020 23:51		03.21.2020 00:11		03.21.2020 00:31					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
Toluene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes		<0.00396	0.00396	<0.00400	0.00400	<0.00401	0.00401				
o-Xylene		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
Total Xylenes		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
Total BTEX		<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200				
Chloride by EPA 300	***Extracted:***	03.20.2020 20:00		03.20.2020 20:00		03.20.2020 20:00					
	Analyzed:	03.20.2020 21:27		03.20.2020 21:39		03.20.2020 21:51					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		679	50.4	245	10.0	52.3	10.0				
TPH By SW8015 Mod	***Extracted:***	** ** ** **		** ** ** **		** ** ** **					
	Analyzed:	03.21.2020 06:12		03.21.2020 06:32		03.21.2020 06:52					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.1	50.1	<49.8	49.8				
Diesel Range Organics (DRO)		76.2	49.8	118	50.1	122	49.8				
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.1	50.1	<49.8	49.8				
Total TPH		76.2	49.8	118	50.1	122	49.8				

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Analytical Report 656457

for

HRL Compliance Solutions

Project Manager: Julie Linn

West Pearl Queen Injunction

03.23.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

03.23.2020

Project Manager: **Julie Linn**
HRL Compliance Solutions
112 6th St.
Artesia, NM 88210

Reference: XENCO Report No(s): **656457**
West Pearl Queen Injunction
Project Address:

Julie Linn:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 656457. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 656457 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Erica Morales
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
F1	S	03.20.2020 12:36		656457-001
F2	S	03.20.2020 12:39		656457-002
F3	S	03.20.2020 12:43		656457-003
F4	S	03.20.2020 12:47		656457-004
F5	S	03.20.2020 12:50		656457-005
F6	S	03.20.2020 12:56		656457-006
F7	S	03.20.2020 13:00		656457-007
F8	S	03.20.2020 13:08		656457-008
F9	S	03.20.2020 13:12		656457-009
F10	S	03.20.2020 13:15		656457-010
F11	S	03.20.2020 13:18		656457-011
F12	S	03.20.2020 13:22		656457-012
F13	S	03.20.2020 13:25		656457-013
F14	S	03.20.2020 13:30		656457-014
F15	S	03.20.2020 13:34		656457-015
SE1T	S	03.20.2020 13:40		656457-016
SE2B	S	03.20.2020 13:44		656457-017
SE3T	S	03.20.2020 13:49		656457-018
SE4B	S	03.20.2020 13:53		656457-019
W2	S	03.20.2020 13:59		656457-020
E	S	03.20.2020 14:03		656457-021

CASE NARRATIVE

Client Name: HRL Compliance Solutions

Project Name: West Pearl Queen Injunction

Project ID:
Work Order Number(s): *656457*

Report Date: *03.23.2020*
Date Received: *03.20.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3120549 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3120550 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**F1**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-001	Date Collected:	03.20.2020 12:36		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 16:00	Basis:	Wet Weight
Seq Number:	3120561				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**406**	9.98	mg/kg	03.20.2020 18:19		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 16:50	Basis:	Wet Weight
Seq Number:	3120489				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.2020 20:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.20.2020 20:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.20.2020 20:28	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.20.2020 20:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	03.20.2020 20:28	
o-Terphenyl	84-15-1	122	%	70-135	03.20.2020 20:28	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**F1**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-001	Date Collected:	03.20.2020 12:36		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.2020 21:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.20.2020 21:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.2020 21:30	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.20.2020 21:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.2020 21:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.2020 21:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.20.2020 21:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	03.20.2020 21:30	
1,4-Difluorobenzene	540-36-3	117	%	70-130	03.20.2020 21:30	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**F2**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-002	Date Collected:	03.20.2020 12:39		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 16:00	Basis:	Wet Weight
Seq Number:	3120561				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**615**	9.96	mg/kg	03.20.2020 18:47		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 16:50	Basis:	Wet Weight
Seq Number:	3120489				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.20.2020 20:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**88.7**	50.0	mg/kg	03.20.2020 20:48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.20.2020 20:48	U	1
Total TPH	PHC635	**88.7**	50.0	mg/kg	03.20.2020 20:48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	03.20.2020 20:48	
o-Terphenyl	84-15-1	129	%	70-135	03.20.2020 20:48	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**F2**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-002	Date Collected:	03.20.2020 12:39		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.20.2020 21:50	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.20.2020 21:50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.20.2020 21:50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.20.2020 21:50	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.20.2020 21:50	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.20.2020 21:50	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.20.2020 21:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	03.20.2020 21:50	
1,4-Difluorobenzene	540-36-3	116	%	70-130	03.20.2020 21:50	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**F3**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-003	Date Collected:	03.20.2020 12:43		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 16:00	Basis:	Wet Weight
Seq Number:	3120561				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**407**	9.98	mg/kg	03.20.2020 18:53		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 16:50	Basis:	Wet Weight
Seq Number:	3120489				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.20.2020 21:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	**59.7**	50.0	mg/kg	03.20.2020 21:08		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.20.2020 21:08	U	1
Total TPH	PHC635	**59.7**	50.0	mg/kg	03.20.2020 21:08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	03.20.2020 21:08	
o-Terphenyl	84-15-1	124	%	70-135	03.20.2020 21:08	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**F3**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-003	Date Collected:	03.20.2020 12:43		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.20.2020 22:11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.20.2020 22:11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.20.2020 22:11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.20.2020 22:11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.20.2020 22:11	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.20.2020 22:11	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.20.2020 22:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	03.20.2020 22:11	
1,4-Difluorobenzene	540-36-3	117	%	70-130	03.20.2020 22:11	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**F4**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-004	Date Collected:	03.20.2020 12:47		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 16:00	Basis:	Wet Weight
Seq Number:	3120561				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**213**	9.92	mg/kg	03.20.2020 18:59		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 16:50	Basis:	Wet Weight
Seq Number:	3120489				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.2020 21:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.20.2020 21:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.20.2020 21:28	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.20.2020 21:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	03.20.2020 21:28	
o-Terphenyl	84-15-1	115	%	70-135	03.20.2020 21:28	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**F4**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-004	Date Collected:	03.20.2020 12:47		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.2020 22:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.20.2020 22:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.2020 22:31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.20.2020 22:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.2020 22:31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.2020 22:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.20.2020 22:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	03.20.2020 22:31	
1,4-Difluorobenzene	540-36-3	116	%	70-130	03.20.2020 22:31	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**F5**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-005	Date Collected:	03.20.2020 12:50		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 16:00	Basis:	Wet Weight
Seq Number:	3120561				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1050**	9.92	mg/kg	03.20.2020 19:04		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 16:50	Basis:	Wet Weight
Seq Number:	3120489				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	03.20.2020 23:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1340**	50.1	mg/kg	03.20.2020 23:09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**345**	50.1	mg/kg	03.20.2020 23:09		1
Total TPH	PHC635	**1690**	50.1	mg/kg	03.20.2020 23:09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	03.20.2020 23:09	
o-Terphenyl	84-15-1	127	%	70-135	03.20.2020 23:09	

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West Pearl Queen Injunction

Sample Id:	**F5**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-005	Date Collected:	03.20.2020 12:50		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.2020 22:52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.20.2020 22:52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.2020 22:52	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.20.2020 22:52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.2020 22:52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.2020 22:52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.20.2020 22:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	111	%	70-130	03.20.2020 22:52	
4-Bromofluorobenzene	460-00-4	91	%	70-130	03.20.2020 22:52	

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Sample Id:	**F6**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-006	Date Collected:	03.20.2020 12:56		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 16:00	Basis:	Wet Weight
Seq Number:	3120561				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1380**	50.1	mg/kg	03.20.2020 19:10		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 16:50	Basis:	Wet Weight
Seq Number:	3120489				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.2020 22:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	**3610**	49.9	mg/kg	03.20.2020 22:49		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**737**	49.9	mg/kg	03.20.2020 22:49		1
Total TPH	PHC635	**4350**	49.9	mg/kg	03.20.2020 22:49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	03.20.2020 22:49	
o-Terphenyl	84-15-1	125	%	70-135	03.20.2020 22:49	

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Sample Id:	**F6**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-006	Date Collected:	03.20.2020 12:56		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00826	0.00826	mg/kg	03.20.2020 23:12	U	1
Toluene	108-88-3	<0.00826	0.00826	mg/kg	03.20.2020 23:12	U	1
Ethylbenzene	100-41-4	<0.00826	0.00826	mg/kg	03.20.2020 23:12	U	1
m,p-Xylenes	179601-23-1	<0.0165	0.0165	mg/kg	03.20.2020 23:12	U	1
o-Xylene	95-47-6	<0.00826	0.00826	mg/kg	03.20.2020 23:12	U	1
Total Xylenes	1330-20-7	<0.00826	0.00826	mg/kg	03.20.2020 23:12	U	1
Total BTEX		<0.00826	0.00826	mg/kg	03.20.2020 23:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	70-130	03.20.2020 23:12	
1,4-Difluorobenzene	540-36-3	116	%	70-130	03.20.2020 23:12	

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Sample Id:	**F7**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-007	Date Collected:	03.20.2020 13:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 16:00	Basis:	Wet Weight
Seq Number:	3120561				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2670**	50.4	mg/kg	03.20.2020 19:28		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 16:50	Basis:	Wet Weight
Seq Number:	3120489				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	03.20.2020 22:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	**374**	49.8	mg/kg	03.20.2020 22:08		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**89.9**	49.8	mg/kg	03.20.2020 22:08		1
Total TPH	PHC635	**464**	49.8	mg/kg	03.20.2020 22:08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	03.20.2020 22:08	
o-Terphenyl	84-15-1	127	%	70-135	03.20.2020 22:08	

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West Pearl Queen Injunction

Sample Id:	**F7**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-007	Date Collected:	03.20.2020 13:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.20.2020 23:32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.20.2020 23:32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.20.2020 23:32	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.20.2020 23:32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.20.2020 23:32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.20.2020 23:32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.20.2020 23:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	70-130	03.20.2020 23:32	
4-Bromofluorobenzene	460-00-4	89	%	70-130	03.20.2020 23:32	

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Sample Id:	**F8**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-008	Date Collected:	03.20.2020 13:08		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 16:00	Basis:	Wet Weight
Seq Number:	3120561				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**352**	9.94	mg/kg	03.20.2020 19:34		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 16:50	Basis:	Wet Weight
Seq Number:	3120489				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.2020 21:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.20.2020 21:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.20.2020 21:48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.20.2020 21:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	03.20.2020 21:48	
o-Terphenyl	84-15-1	123	%	70-135	03.20.2020 21:48	

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Sample Id:	**F8**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-008	Date Collected:	03.20.2020 13:08		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.20.2020 23:53	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.20.2020 23:53	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.20.2020 23:53	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.20.2020 23:53	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.20.2020 23:53	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.20.2020 23:53	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.20.2020 23:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	03.20.2020 23:53	
1,4-Difluorobenzene	540-36-3	117	%	70-130	03.20.2020 23:53	

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Sample Id:	**F9**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-009	Date Collected:	03.20.2020 13:12		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 16:00	Basis:	Wet Weight
Seq Number:	3120561				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**334**	9.88	mg/kg	03.20.2020 19:39		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 16:50	Basis:	Wet Weight
Seq Number:	3120489				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	03.20.2020 22:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	**221**	50.1	mg/kg	03.20.2020 22:29		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**51.1**	50.1	mg/kg	03.20.2020 22:29		1
Total TPH	PHC635	**272**	50.1	mg/kg	03.20.2020 22:29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	03.20.2020 22:29	
o-Terphenyl	84-15-1	124	%	70-135	03.20.2020 22:29	

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Sample Id:	**F9**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-009	Date Collected:	03.20.2020 13:12		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.21.2020 01:14	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.21.2020 01:14	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.21.2020 01:14	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	03.21.2020 01:14	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.21.2020 01:14	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.21.2020 01:14	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.21.2020 01:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	70-130	03.21.2020 01:14	
4-Bromofluorobenzene	460-00-4	85	%	70-130	03.21.2020 01:14	

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Sample Id:	**F10**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-010	Date Collected:	03.20.2020 13:15		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 16:00	Basis:	Wet Weight
Seq Number:	3120561				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3610**	49.9	mg/kg	03.20.2020 19:45		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 18:00	Basis:	Wet Weight
Seq Number:	3120544				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.20.2020 22:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	**900**	50.0	mg/kg	03.20.2020 22:29		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**167**	50.0	mg/kg	03.20.2020 22:29		1
Total TPH	PHC635	**1070**	50.0	mg/kg	03.20.2020 22:29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	03.20.2020 22:29	
o-Terphenyl	84-15-1	119	%	70-135	03.20.2020 22:29	

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Sample Id:	**F10**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-010	Date Collected:	03.20.2020 13:15		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.21.2020 01:35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.21.2020 01:35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.21.2020 01:35	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.21.2020 01:35	U	1
o-Xylene	95-47-6	**0.00514**	0.00200	mg/kg	03.21.2020 01:35		1
Total Xylenes	1330-20-7	**0.00514**	0.00200	mg/kg	03.21.2020 01:35		1
Total BTEX		**0.00514**	0.00200	mg/kg	03.21.2020 01:35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	03.21.2020 01:35	
4-Bromofluorobenzene	460-00-4	79	%	70-130	03.21.2020 01:35	

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West Pearl Queen Injunction

Sample Id:	**F11**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-011	Date Collected:	03.20.2020 13:18		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 20:00	Basis:	Wet Weight
Seq Number:	3120576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**208**	9.94	mg/kg	03.20.2020 20:36		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 18:00	Basis:	Wet Weight
Seq Number:	3120544				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	03.20.2020 20:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	03.20.2020 20:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	03.20.2020 20:28	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	03.20.2020 20:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	03.20.2020 20:28	
o-Terphenyl	84-15-1	131	%	70-135	03.20.2020 20:28	

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West Pearl Queen Injunction

Sample Id:	**F11**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-011	Date Collected:	03.20.2020 13:18		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.21.2020 01:55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.21.2020 01:55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.21.2020 01:55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.21.2020 01:55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.21.2020 01:55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.21.2020 01:55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.21.2020 01:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	70-130	03.21.2020 01:55	
4-Bromofluorobenzene	460-00-4	98	%	70-130	03.21.2020 01:55	

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West Pearl Queen Injunction

Sample Id:	**F12**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-012	Date Collected:	03.20.2020 13:22		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 20:00	Basis:	Wet Weight
Seq Number:	3120576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**190**	9.92	mg/kg	03.20.2020 20:42		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 18:00	Basis:	Wet Weight
Seq Number:	3120544				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	03.20.2020 22:49	U	1
Diesel Range Organics (DRO)	C10C28DRO	**372**	50.3	mg/kg	03.20.2020 22:49		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**81.4**	50.3	mg/kg	03.20.2020 22:49		1
Total TPH	PHC635	**453**	50.3	mg/kg	03.20.2020 22:49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	03.20.2020 22:49	
o-Terphenyl	84-15-1	126	%	70-135	03.20.2020 22:49	

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Sample Id:	**F12**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-012	Date Collected:	03.20.2020 13:22		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.21.2020 02:15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.21.2020 02:15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.21.2020 02:15	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.21.2020 02:15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.21.2020 02:15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.21.2020 02:15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.21.2020 02:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	03.21.2020 02:15	
1,4-Difluorobenzene	540-36-3	116	%	70-130	03.21.2020 02:15	

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West Pearl Queen Injunction

Sample Id:	**F13**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-013	Date Collected:	03.20.2020 13:25		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 20:00	Basis:	Wet Weight
Seq Number:	3120576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1140**	10.0	mg/kg	03.20.2020 20:19		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 18:00	Basis:	Wet Weight
Seq Number:	3120544				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	03.20.2020 21:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**334**	50.2	mg/kg	03.20.2020 21:48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**56.2**	50.2	mg/kg	03.20.2020 21:48		1
Total TPH	PHC635	**390**	50.2	mg/kg	03.20.2020 21:48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	03.20.2020 21:48	
o-Terphenyl	84-15-1	133	%	70-135	03.20.2020 21:48	

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Sample Id:	**F13**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-013	Date Collected:	03.20.2020 13:25		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.21.2020 02:36	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.21.2020 02:36	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.21.2020 02:36	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.21.2020 02:36	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.21.2020 02:36	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.21.2020 02:36	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.21.2020 02:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	03.21.2020 02:36	
1,4-Difluorobenzene	540-36-3	115	%	70-130	03.21.2020 02:36	

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Sample Id:	**F14**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-014	Date Collected:	03.20.2020 13:30		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 20:00	Basis:	Wet Weight
Seq Number:	3120576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3480**	50.0	mg/kg	03.20.2020 20:48		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 18:00	Basis:	Wet Weight
Seq Number:	3120544				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.2020 22:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1000**	49.9	mg/kg	03.20.2020 22:08		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**145**	49.9	mg/kg	03.20.2020 22:08		1
Total TPH	PHC635	**1150**	49.9	mg/kg	03.20.2020 22:08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	135	%	70-135	03.20.2020 22:08	
o-Terphenyl	84-15-1	134	%	70-135	03.20.2020 22:08	

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Sample Id:	**F14**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-014	Date Collected:	03.20.2020 13:30		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0667	0.0667	mg/kg	03.21.2020 02:56	U	1
Toluene	108-88-3	<0.0667	0.0667	mg/kg	03.21.2020 02:56	U	1
Ethylbenzene	100-41-4	<0.0667	0.0667	mg/kg	03.21.2020 02:56	U	1
m,p-Xylenes	179601-23-1	<0.133	0.133	mg/kg	03.21.2020 02:56	U	1
o-Xylene	95-47-6	<0.0667	0.0667	mg/kg	03.21.2020 02:56	U	1
Total Xylenes	1330-20-7	<0.0667	0.0667	mg/kg	03.21.2020 02:56	U	1
Total BTEX		<0.0667	0.0667	mg/kg	03.21.2020 02:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	70-130	03.21.2020 02:56	
1,4-Difluorobenzene	540-36-3	110	%	70-130	03.21.2020 02:56	

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Sample Id:	**F15**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-015	Date Collected:	03.20.2020 13:34		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 20:00	Basis:	Wet Weight
Seq Number:	3120576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1120**	9.98	mg/kg	03.20.2020 20:53		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 18:00	Basis:	Wet Weight
Seq Number:	3120544				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	03.20.2020 20:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**93.8**	50.0	mg/kg	03.20.2020 20:48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	03.20.2020 20:48	U	1
Total TPH	PHC635	**93.8**	50.0	mg/kg	03.20.2020 20:48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	03.20.2020 20:48	
o-Terphenyl	84-15-1	125	%	70-135	03.20.2020 20:48	

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Sample Id:	**F15**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-015	Date Collected:	03.20.2020 13:34		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.21.2020 03:17	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.21.2020 03:17	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.21.2020 03:17	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.21.2020 03:17	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.21.2020 03:17	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.21.2020 03:17	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.21.2020 03:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	03.21.2020 03:17	
1,4-Difluorobenzene	540-36-3	115	%	70-130	03.21.2020 03:17	

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Sample Id:	**SE1T**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-016	Date Collected:	03.20.2020 13:40		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 20:00	Basis:	Wet Weight
Seq Number:	3120576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**276**	9.96	mg/kg	03.20.2020 21:10		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 18:00	Basis:	Wet Weight
Seq Number:	3120544				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.2020 21:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.20.2020 21:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.20.2020 21:08	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.20.2020 21:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	134	%	70-135	03.20.2020 21:08	
o-Terphenyl	84-15-1	122	%	70-135	03.20.2020 21:08	

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Sample Id:	**SE1T**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-016	Date Collected:	03.20.2020 13:40		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.21.2020 03:37	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.21.2020 03:37	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.21.2020 03:37	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.21.2020 03:37	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.21.2020 03:37	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.21.2020 03:37	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.21.2020 03:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	03.21.2020 03:37	
1,4-Difluorobenzene	540-36-3	116	%	70-130	03.21.2020 03:37	

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Sample Id:	**SE2B**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-017	Date Collected:	03.20.2020 13:44		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 20:00	Basis:	Wet Weight
Seq Number:	3120576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**685**	9.87	mg/kg	03.20.2020 21:16		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 18:00	Basis:	Wet Weight
Seq Number:	3120544				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.20.2020 23:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	**562**	49.9	mg/kg	03.20.2020 23:09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**93.3**	49.9	mg/kg	03.20.2020 23:09		1
Total TPH	PHC635	**655**	49.9	mg/kg	03.20.2020 23:09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	134	%	70-135	03.20.2020 23:09	
o-Terphenyl	84-15-1	116	%	70-135	03.20.2020 23:09	

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Sample Id:	**SE2B**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-017	Date Collected:	03.20.2020 13:44		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.21.2020 03:57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.21.2020 03:57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.21.2020 03:57	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.21.2020 03:57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.21.2020 03:57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.21.2020 03:57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.21.2020 03:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	03.21.2020 03:57	
1,4-Difluorobenzene	540-36-3	117	%	70-130	03.21.2020 03:57	

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Sample Id:	**SE3T**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-018	Date Collected:	03.20.2020 13:49		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 20:00	Basis:	Wet Weight
Seq Number:	3120576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**168**	10.0	mg/kg	03.20.2020 21:22		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 18:00	Basis:	Wet Weight
Seq Number:	3120544				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	03.20.2020 21:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	03.20.2020 21:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	03.20.2020 21:28	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	03.20.2020 21:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	03.20.2020 21:28	
o-Terphenyl	84-15-1	132	%	70-135	03.20.2020 21:28	

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Sample Id:	**SE3T**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-018	Date Collected:	03.20.2020 13:49		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:36	Basis:	Wet Weight
Seq Number:	3120549				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.21.2020 04:18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.21.2020 04:18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.21.2020 04:18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.21.2020 04:18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.21.2020 04:18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.21.2020 04:18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.21.2020 04:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	03.21.2020 04:18	
1,4-Difluorobenzene	540-36-3	117	%	70-130	03.21.2020 04:18	

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Sample Id:	**SE4B**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-019	Date Collected:	03.20.2020 13:53		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 20:00	Basis:	Wet Weight
Seq Number:	3120576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**679**	50.4	mg/kg	03.20.2020 21:27		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 17:30	Basis:	Wet Weight
Seq Number:	3120485				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	03.21.2020 06:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	**76.2**	49.8	mg/kg	03.21.2020 06:12		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	03.21.2020 06:12	U	1
Total TPH	PHC635	**76.2**	49.8	mg/kg	03.21.2020 06:12		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	03.21.2020 06:12	
o-Terphenyl	84-15-1	135	%	70-135	03.21.2020 06:12	

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West Pearl Queen Injunction

Sample Id:	**SE4B**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-019	Date Collected:	03.20.2020 13:53		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:00	Basis:	Wet Weight
Seq Number:	3120550				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.20.2020 23:51	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.20.2020 23:51	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.20.2020 23:51	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	03.20.2020 23:51	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.20.2020 23:51	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.20.2020 23:51	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.20.2020 23:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	03.20.2020 23:51	
4-Bromofluorobenzene	460-00-4	95	%	70-130	03.20.2020 23:51	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**W2**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-020	Date Collected:	03.20.2020 13:59		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 20:00	Basis:	Wet Weight
Seq Number:	3120576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**245**	10.0	mg/kg	03.20.2020 21:39		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 17:30	Basis:	Wet Weight
Seq Number:	3120485				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	03.21.2020 06:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	**118**	50.1	mg/kg	03.21.2020 06:32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	03.21.2020 06:32	U	1
Total TPH	PHC635	**118**	50.1	mg/kg	03.21.2020 06:32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	03.21.2020 06:32	
o-Terphenyl	84-15-1	134	%	70-135	03.21.2020 06:32	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**W2**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-020	Date Collected:	03.20.2020 13:59		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:00	Basis:	Wet Weight
Seq Number:	3120550				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.21.2020 00:11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.21.2020 00:11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.21.2020 00:11	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.21.2020 00:11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.21.2020 00:11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.21.2020 00:11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.21.2020 00:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	03.21.2020 00:11	
1,4-Difluorobenzene	540-36-3	107	%	70-130	03.21.2020 00:11	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**E**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-021	Date Collected:	03.20.2020 14:03		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 20:00	Basis:	Wet Weight
Seq Number:	3120576				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**52.3**	10.0	mg/kg	03.20.2020 21:51		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.20.2020 17:30	Basis:	Wet Weight
Seq Number:	3120485				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	03.21.2020 06:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	**122**	49.8	mg/kg	03.21.2020 06:52		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	03.21.2020 06:52	U	1
Total TPH	PHC635	**122**	49.8	mg/kg	03.21.2020 06:52		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	03.21.2020 06:52	
o-Terphenyl	84-15-1	127	%	70-135	03.21.2020 06:52	

Certificate of Analytical Results 656457

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injunction

Sample Id:	**E**	Matrix:	Soil	Date Received:	03.20.2020 17:48
Lab Sample Id:	656457-021	Date Collected:	03.20.2020 14:03		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	03.20.2020 19:00	Basis:	Wet Weight
Seq Number:	3120550				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.21.2020 00:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.21.2020 00:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.21.2020 00:31	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.21.2020 00:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.21.2020 00:31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.21.2020 00:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.21.2020 00:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	03.21.2020 00:31	
1,4-Difluorobenzene	540-36-3	98	%	70-130	03.21.2020 00:31	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 656457

HRL Compliance Solutions

West Pearl Queen Injunction

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120561 — Matrix: Solid — Date Prep: 03.20.2020
MB Sample Id: 7699403-1-BLK — LCS Sample Id: 7699403-1-BKS — LCSD Sample Id: 7699403-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	261	104	261	104	90-110	0	20	mg/kg	03.20.2020 15:01	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120576 — Matrix: Solid — Date Prep: 03.20.2020
MB Sample Id: 7699455-1-BLK — LCS Sample Id: 7699455-1-BKS — LCSD Sample Id: 7699455-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	269	108	90-110	4	20	mg/kg	03.20.2020 20:08	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120561 — Matrix: Soil — Date Prep: 03.20.2020
Parent Sample Id: 656375-008 — MS Sample Id: 656375-008 S — MSD Sample Id: 656375-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1650	200	1830	90	1870	110	90-110	2	20	mg/kg	03.20.2020 15:24	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120561 — Matrix: Soil — Date Prep: 03.20.2020
Parent Sample Id: 656456-002 — MS Sample Id: 656456-002 S — MSD Sample Id: 656456-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	391	200	602	106	599	104	90-110	0	20	mg/kg	03.20.2020 18:36	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120576 — Matrix: Soil — Date Prep: 03.20.2020
Parent Sample Id: 656457-013 — MS Sample Id: 656457-013 S — MSD Sample Id: 656457-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1140	201	1340	100	1340	100	90-110	0	20	mg/kg	03.20.2020 20:25	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3120576 — Matrix: Soil — Date Prep: 03.20.2020
Parent Sample Id: 656457-021 — MS Sample Id: 656457-021 S — MSD Sample Id: 656457-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	52.3	200	267	107	269	108	90-110	1	20	mg/kg	03.20.2020 22:03	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 656457

HRL Compliance Solutions

West Pearl Queen Injunction

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120489 — Matrix: Solid — Date Prep: 03.20.2020
MB Sample Id: 7699446-1-BLK — LCS Sample Id: 7699446-1-BKS — LCSD Sample Id: 7699446-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	915	92	918	92	70-135	0	35	mg/kg	03.20.2020 15:04	
Diesel Range Organics (DRO)	<50.0	1000	996	100	1000	100	70-135	0	35	mg/kg	03.20.2020 15:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		108		110		70-135	%	03.20.2020 15:04
o-Terphenyl	126		108		113		70-135	%	03.20.2020 15:04

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120544 — Matrix: Solid — Date Prep: 03.20.2020
MB Sample Id: 7699472-1-BLK — LCS Sample Id: 7699472-1-BKS — LCSD Sample Id: 7699472-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	957	96	942	94	70-135	2	35	mg/kg	03.20.2020 15:04	
Diesel Range Organics (DRO)	<50.0	1000	1020	102	1010	101	70-135	1	35	mg/kg	03.20.2020 15:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		117		117		70-135	%	03.20.2020 15:04
o-Terphenyl	102		116		116		70-135	%	03.20.2020 15:04

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120485 — Matrix: Solid — Date Prep: 03.20.2020
MB Sample Id: 7699444-1-BLK — LCS Sample Id: 7699444-1-BKS — LCSD Sample Id: 7699444-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	969	97	977	98	70-135	1	35	mg/kg	03.21.2020 01:10	
Diesel Range Organics (DRO)	<50.0	1000	1140	114	1140	114	70-135	0	35	mg/kg	03.21.2020 01:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		115		119		70-135	%	03.21.2020 01:10
o-Terphenyl	132		120		125		70-135	%	03.21.2020 01:10

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120489 — Matrix: Solid — Date Prep: 03.20.2020
MB Sample Id: 7699446-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.20.2020 14:44	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 656457

HRL Compliance Solutions

West Pearl Queen Injunction

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3120544 Matrix: Solid Date Prep: 03.20.2020
MB Sample Id: 7699472-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.20.2020 14:44	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3120485 Matrix: Solid Date Prep: 03.20.2020
MB Sample Id: 7699444-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.21.2020 00:50	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3120489 Matrix: Soil Date Prep: 03.20.2020
Parent Sample Id: 656353-001 MS Sample Id: 656353-001 S MSD Sample Id: 656353-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1050	105	926	93	70-135	13	35	mg/kg	03.20.2020 16:05	
Diesel Range Organics (DRO)	<50.0	1000	1110	111	979	98	70-135	13	35	mg/kg	03.20.2020 16:05	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		121		70-135	%	03.20.2020 16:05
o-Terphenyl	118		118		70-135	%	03.20.2020 16:05

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3120544 Matrix: Soil Date Prep: 03.20.2020
Parent Sample Id: 656353-002 MS Sample Id: 656353-002 S MSD Sample Id: 656353-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	914	91	900	90	70-135	2	35	mg/kg	03.20.2020 16:05	
Diesel Range Organics (DRO)	<50.1	1000	988	99	974	97	70-135	1	35	mg/kg	03.20.2020 16:05	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		117		70-135	%	03.20.2020 16:05
o-Terphenyl	121		121		70-135	%	03.20.2020 16:05

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 656457

HRL Compliance Solutions

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Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3120485 — Matrix: Soil — Date Prep: 03.20.2020
Parent Sample Id: 656458-001 — MS Sample Id: 656458-001 S — MSD Sample Id: 656458-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	937	94	894	89	70-135	5	35	mg/kg	03.21.2020 02:11	
Diesel Range Organics (DRO)	<50.1	1000	1050	105	996	100	70-135	5	35	mg/kg	03.21.2020 02:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	132		126		70-135	%	03.21.2020 02:11
o-Terphenyl	120		132		70-135	%	03.21.2020 02:11

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3120550 — Matrix: Solid — Date Prep: 03.20.2020
MB Sample Id: 7699448-1-BLK — LCS Sample Id: 7699448-1-BKS — LCSD Sample Id: 7699448-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.111	111	0.107	107	70-130	4	35	mg/kg	03.20.2020 22:09	
Toluene	<0.00200	0.100	0.107	107	0.102	102	70-130	5	35	mg/kg	03.20.2020 22:09	
Ethylbenzene	<0.00200	0.100	0.101	101	0.0976	98	71-129	3	35	mg/kg	03.20.2020 22:09	
m,p-Xylenes	<0.00400	0.200	0.209	105	0.203	102	70-135	3	35	mg/kg	03.20.2020 22:09	
o-Xylene	<0.00200	0.100	0.106	106	0.102	102	71-133	4	35	mg/kg	03.20.2020 22:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		109		70-130	%	03.20.2020 22:09
4-Bromofluorobenzene	94		93		93		70-130	%	03.20.2020 22:09

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3120549 — Matrix: Solid — Date Prep: 03.20.2020
MB Sample Id: 7699447-1-BLK — LCS Sample Id: 7699447-1-BKS — LCSD Sample Id: 7699447-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.121	121	0.125	125	70-130	3	35	mg/kg	03.20.2020 18:47	
Toluene	<0.00200	0.100	0.119	119	0.113	113	70-130	5	35	mg/kg	03.20.2020 18:47	
Ethylbenzene	<0.00200	0.100	0.111	111	0.105	105	71-129	6	35	mg/kg	03.20.2020 18:47	
m,p-Xylenes	<0.00400	0.200	0.217	109	0.206	103	70-135	5	35	mg/kg	03.20.2020 18:47	
o-Xylene	<0.00200	0.100	0.109	109	0.104	104	71-133	5	35	mg/kg	03.20.2020 18:47	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	117		111		112		70-130	%	03.20.2020 18:47
4-Bromofluorobenzene	91		90		88		70-130	%	03.20.2020 18:47

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 656457

HRL Compliance Solutions

West Pearl Queen Injunction

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3120550 Matrix: Soil Date Prep: 03.20.2020

Parent Sample Id: 656457-019 MS Sample Id: 656457-019 S MSD Sample Id: 656457-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.108	108	0.0934	94	70-130	14	35	mg/kg	03.20.2020 22:49	
Toluene	<0.00200	0.100	0.102	102	0.0864	87	70-130	17	35	mg/kg	03.20.2020 22:49	
Ethylbenzene	<0.00200	0.100	0.0927	93	0.0736	74	71-129	23	35	mg/kg	03.20.2020 22:49	
m,p-Xylenes	<0.00401	0.200	0.190	95	0.149	75	70-135	24	35	mg/kg	03.20.2020 22:49	
o-Xylene	<0.00200	0.100	0.0957	96	0.0757	76	71-133	23	35	mg/kg	03.20.2020 22:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		109		70-130	%	03.20.2020 22:49
4-Bromofluorobenzene	95		93		70-130	%	03.20.2020 22:49

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3120549 Matrix: Soil Date Prep: 03.20.2020

Parent Sample Id: 656456-001 MS Sample Id: 656456-001 S MSD Sample Id: 656456-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.128	128	0.122	123	70-130	5	35	mg/kg	03.20.2020 19:28	
Toluene	<0.00200	0.100	0.113	113	0.106	107	70-130	6	35	mg/kg	03.20.2020 19:28	
Ethylbenzene	<0.00200	0.100	0.0992	99	0.0923	93	71-129	7	35	mg/kg	03.20.2020 19:28	
m,p-Xylenes	<0.00400	0.200	0.193	97	0.180	91	70-135	7	35	mg/kg	03.20.2020 19:28	
o-Xylene	<0.00200	0.100	0.0964	96	0.0897	91	71-133	7	35	mg/kg	03.20.2020 19:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		111		70-130	%	03.20.2020 19:28
4-Bromofluorobenzene	84		84		70-130	%	03.20.2020 19:28

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

Work Order No: 656457

www.xenco.com Page 1 of 3

Project Manager:	Julie Linn	Bill to: (if different)	
Company Name:	HRL Compliance	Company Name:	
Address:	112 6th St.	Address:	
City, State ZIP:	Artesia, NM	City, State ZIP:	
Phone:	(970) 903-8747	Email:	jlinn@hrlcomp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	West Pearl Queen Inj.	Turn Around	
Project Number:		Routine ☐	
Project Location		Rush: 24 HR	
Sampler's Name:	J. Linn	Due Date: 3/23	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temperature (°C):	4.0	Temp Blank: (Yes) No	Wet Ice: (Yes) No
Received Intact:	(Yes) No	Thermometer ID	T-NM-007
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	21

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (GRO, DRO, ORO) 8015	BTEX	Cl
	F1	Soil	3/20/20	1236		1		X	X	X
	F2	Soil	3/20/20	1239		1		X	X	X
	F3	Soil	3/20/20	1243		1		X	X	X
	F4	Soil	3/20/20	1247		1		X	X	X
	F5	Soil	3/20/20	1250		1		X	X	X
	F6	Soil	3/20/20	1256		1		X	X	X
	F7	Soil	3/20/20	1300		1		X	X	X
	F8	Soil	3/20/20	1308		1		X	X	X
	F9	Soil	3/20/20	1312		1		X	X	X
	F10	Soil	3/20/20	1315		1		X	X	X

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		3/20/20 1748	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Crasbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 656457

3/20/20 KK

Project Manager:	Julie Linn	Bill to: (if different)	
Company Name:	HRL Compliance	Company Name:	
Address:	112 S. 6th St.	Address:	
City, State ZIP:	Artesia, NM	City, State ZIP:	
Phone:	(970) 903-8747	Email:	jlinn@HRLCOMP.COM

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	West Pearl Queen Inj	Turn Around	
Project Number:		Routine ☐	
Project Location		Rush: 24 hr	
Sampler's Name:	J. Linn	Due Date: 3-23	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):		Thermometer ID	See pg 1
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Total Containers:	

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (GRO DRO ORO) 8015	BTEX	Cl	Sample Comments
	F11	Soil	3/20/20	1318			X	X	X	
	F12	Soil	3/20/20	1322			X	X	X	
	F13	Soil	3/20/20	1325			X	X	X	
	F14	Soil	3/20/20	1330			X	X	X	
	F15	Soil	3/20/20	1334			X	X	X	
	SE1T	Soil	3/20/20	1340			X	X	X	
	SE2B	Soil	3/20/20	1344			X	X	X	
	SE3T	Soil	3/20/20	1349			X	X	X	
	SE4B	Soil	3/20/20	1353			X	X	X	
	W2	Soil	3/20/20	1359			X	X	X	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Julie Linn		3/20/20 1748	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Crasbad, NM (432) 704-5440
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Work Order No: 656457

Page 3 of 3

Project Manager:	Julie Linn	Bill to: (if different)	
Company Name:	HRL Compliance	Company Name:	
Address:	112 S. 6th St.	Address:	
City, State ZIP:	Artesia, NM	City, State ZIP:	
Phone:	(970) 903-8747	Email:	jlinn@hrlcomp.com

Project Name:	West Pearl Queen Inj.	Turn Around	
Project Number:		Routine ☐	
Project Location		Rush: 24 hr.	
Sampler's Name:	J. Linn	Due Date: 3-23	
PO #:		Quote #:	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

SAMPLE RECEIPT

Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):		Thermometer ID	See Pg
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Total Containers:	

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	BTEX	TPH (GRO, DRO, MRO) 8015	Cl	Sample Comments
	E	Soil	3/20/20	1403	NA	1	X	X	X	

Total 200.7 / 6010 200.8 / 6020:
Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Julie Linn		3/20/20 1748	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: HRL Compliance Solutions

Date/ Time Received: 03.20.2020 05.48.00 PM

Work Order #: 656457

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 03.20.2020

Checklist reviewed by: Erica Morales Date: 03.23.2020

Certificate of Analysis Summary 656913

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen Injection

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Wed 03.25.2020 15:50

Report Date: 03.26.2020 16:44

Project Manager: Erica Morales

Analysis Requested									
	Lab Id:	656913-001		656913-002					
	Field Id:	F5R		F6R					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	03.25.2020 09:44		03.25.2020 09:41					
TPH By SW8015 Mod	***Extracted:***	03.25.2020 17:30		03.25.2020 17:30					
	Analyzed:	03.26.2020 12:54		03.26.2020 13:14					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<49.9	49.9				
Diesel Range Organics (DRO)		1110	49.8	1710	49.9				
Motor Oil Range Hydrocarbons (MRO)		266	49.8	269	49.9				
Total TPH		1380	49.8	1980	49.9				

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Analytical Report 656913

for

HRL Compliance Solutions

Project Manager: Julie Linn

West Pearl Queen Injection

03.26.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

03.26.2020

Project Manager: **Julie Linn**
HRL Compliance Solutions
112 6th St.
Artesia, NM 88210

Reference: XENCO Report No(s): **656913**
West Pearl Queen Injection
Project Address:

Julie Linn:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 656913. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 656913 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Erica Morales
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 656913

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injection

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
F5R	S	03.25.2020 09:44		656913-001
F6R	S	03.25.2020 09:41		656913-002

CASE NARRATIVE

Client Name: HRL Compliance Solutions

Project Name: West Pearl Queen Injection

Project ID:
Work Order Number(s): *656913*

Report Date: *03.26.2020*
Date Received: *03.25.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 656913

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injection

Sample Id:	**F5R**	Matrix:	Soil	Date Received:	03.25.2020 15:50
Lab Sample Id:	656913-001	Date Collected:	03.25.2020 09:44		
Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.25.2020 17:30	Basis:	Wet Weight
Seq Number:	3121009				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	03.26.2020 12:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1110**	49.8	mg/kg	03.26.2020 12:54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**266**	49.8	mg/kg	03.26.2020 12:54		1
Total TPH	PHC635	**1380**	49.8	mg/kg	03.26.2020 12:54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	03.26.2020 12:54	
o-Terphenyl	84-15-1	98	%	70-135	03.26.2020 12:54	

Certificate of Analytical Results 656913

HRL Compliance Solutions, Artesia, NM

West Pearl Queen Injection

Sample Id:	**F6R**	Matrix:	Soil	Date Received:	03.25.2020 15:50
Lab Sample Id:	656913-002	Date Collected:	03.25.2020 09:41		
Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	03.25.2020 17:30	Basis:	Wet Weight
Seq Number:	3121009				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.26.2020 13:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1710**	49.9	mg/kg	03.26.2020 13:14		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**269**	49.9	mg/kg	03.26.2020 13:14		1
Total TPH	PHC635	**1980**	49.9	mg/kg	03.26.2020 13:14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	03.26.2020 13:14	
o-Terphenyl	84-15-1	105	%	70-135	03.26.2020 13:14	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 656913

HRL Compliance Solutions

West Pearl Queen Injection

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3121009 Matrix: Solid Date Prep: 03.25.2020
MB Sample Id: 7699786-1-BLK LCS Sample Id: 7699786-1-BKS LCSD Sample Id: 7699786-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	982	98	933	93	70-135	5	35	mg/kg	03.26.2020 04:52	
Diesel Range Organics (DRO)	<50.0	1000	1120	112	1070	107	70-135	5	35	mg/kg	03.26.2020 04:52	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		121		115		70-135	%	03.26.2020 04:52
o-Terphenyl	103		124		118		70-135	%	03.26.2020 04:52

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3121009 Matrix: Solid Date Prep: 03.25.2020
MB Sample Id: 7699786-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.26.2020 04:32	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3121009 Matrix: Soil Date Prep: 03.25.2020
Parent Sample Id: 656917-001 MS Sample Id: 656917-001 S MSD Sample Id: 656917-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	970	97	1060	105	70-135	9	35	mg/kg	03.26.2020 05:53	
Diesel Range Organics (DRO)	<50.2	1000	1100	110	1210	120	70-135	10	35	mg/kg	03.26.2020 05:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		131		70-135	%	03.26.2020 05:53
o-Terphenyl	120		135		70-135	%	03.26.2020 05:53

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 456913 (456947 on 3/25)

Page 1 of 1

Project Manager:	Julie Linn	Bill to: (if different)	
Company Name:	HRL Compliance Solutions	Company Name:	
Address:	112 S 6th St	Address:	
City, State ZIP:	Artesia, NM	City, State ZIP:	
Phone:	970-903-8747	Email:	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	West Pearl Queen Injection	Turn Around	
Project Number:		Routine ☐	
Project Location		Rush: 24 hour	
Sampler's Name:	Julie Linn	Due Date: 3.26.20	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	20.0	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	2

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (GRO, DRO, ORO) 8015M
	F5R	Soil	3.25.20	0944	Comp.	1		X
	F6R	Soil	3.25.20	0941	Comp.	1		X

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Julie Linn		3/25/20 1550			
			4		
			6		

Revised Date 022619 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: HRL Compliance Solutions

Date/ Time Received: 03.25.2020 03.50.00 PM

Work Order #: 656913

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	20
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 03.25.2020

Checklist reviewed by: Erica Morales Date: 03.26.2020

Attachment E

Soil Boring Logs

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB1		Project: West Pearl Queen	
Date: 4/8/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal:	Grout: None
Casing Type: None	Diameter: Length:	Latitude: 32.622576	Drive Total Depth: 27 feet
Screen Type: None	Slot: Diameter: Length:	Longitude: -103.4756248	Boring Total Depth: 25 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1										None
1-2										
2-3										
3-4										
4-5										
5-6	2	Low	Dry	No	No	0.1	SM	SB1-5-7	Pink tan fine sand with minor silt and minor medium sand	
6-7										
7-8										
8-9										
9-10										
10-11	2	Low	Dry	No	No	0.1	SM		Pink tan fine sand with minor silt and minor medium sand	
11-12										
12-13										
13-14										
14-15										
15-16	2	High	Dry	No	No	0	CL		Dark red clay with angular coarse gravel, minor salt staining	
16-17										
17-18										
18-19										
19-20										
20-21	2	High	Dry	No	No	0	CL	SB1-20-22	Dark red clay with angular coarse gravel, minor salt staining	
21-22										
22-23										
23-24										
24-25										
25-26	2	Med	Dry	No	No	0	CL		Dark red clay with angular coarse gravel, minor salt staining	
26-27										

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB2		Project: West Pearl Queen	
Date: 4/8/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: 13 feet to 25 feet		Seal: Ground surface to 13 feet	Grout: None
Casing Type: PVC / Diameter: 2 inch / Length: 25 feet		Latitude: 32.62267558	Drive Total Depth: 37 feet
Screen Type: PVC / Slot: 0.010" / Diameter: 2 inch / Length: 10 feet		Longitude: -103.7583003	Boring Total Depth: 35 feet / Depth to Water: 17.82 feet

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks
0-1 1-2 2-3 3-4 4-5									
5-6 6-7	2	High	Dry	No	No	0.2	CL	SB2-5-7	Dark orange/brown/red, very slight moisture, clay with fine sand
7-8 8-9 9-10									
10-11 11-12	1.5	Med	Dry	No	No	0.1	CL		Dark orange, dry silt and clay with fine sand
12-13 13-14 14-15									
15-16 16-17	1.5	Low	Slight Moist	No	No	0	SM		Buff tan color fine sand with minor gravel, slightly moist
17-18 18-19 19-20									
20-21 21-22	1	Low	Moist	No	No	0	SM		Outside of core barrel wet; damp soil at 21', minor salt crust
22-23 23-24 24-25									
25-26 26-27	1.5	Low	Dry	No	No	0	SM		Outside of care barrel wet, soil slightly damp, pale pink/red silty fine sand with some cobbles
27-28 28-29 29-30									Water
30-31 31-32	1	High	Dry	No	No	0.4	CL	SB2-30-32	Dark red dry clay and light grey clay, black coarse-grained sand and gravel
32-33 33-34 34-35									
35-36 36-37	1.5	Med	Wet	No	No	0.4	ML		Outside of core barrel wet, wet cuttings, dark purple/red fine sand/silt/clay with light grey clay stringers and black angular sand

Well Completion: Bentonite

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB3		Project: West Pearl Queen	
Date: 4/8/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal:	Grout: None
Casing Type: None	Diameter: / Length:	Latitude: 32.6231385	Drive Total Depth: 42 feet
Screen Type: None	Slot: / Diameter: / Length:	Longitude: -103.47558599	Boring Total Depth: 40 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1 1-2 2-3 3-4 4-5										
5-6 6-7	1.5	Med	Dry	No	No	0	SM		Very slightly damp, buff-tan and pale orange color, some salt, silty	
7-8 8-9 9-10										
10-11 11-12	1.5	Med	Dry	No	No	0	SM	SB3-10-12	Same as above, less to no salt, lighter color, less orange	None
12-13 13-14 14-15										
15-16 16-17	1.5	Med	Dry	No	No	0	SM		Same as above	
17-18 18-19 19-20										
20-21 21-22	2	Med	Dry	No	No	0	SM		Outside of core barrel slightly damp, red/orange color fine sand with minor silt and med and coarse sand	
22-23 23-24 24-25										
25-26 26-27	2	Med	Dry	No	No	0.3	CL	SB3-25-27	Dark red dry clay and light grey clay	
27-28 28-29 29-30										
30-31 31-32	2	High	Wet	No	No	0.1	CL		Wet cuttings, wet soil 30'-31'; dry 31' - 32', deep purple/red clay	
32-33 33-34 34-35										
35-36 36-37	2	Med	Dry	No	No	0	CL		Deep purple/red clay and light grey clay with black coarse angular inclusions	
37-38 38-39 39-40										
40-41 41-42	1	High	Moist	No	No	0	CL		Deep purple/red clay with some light grey clay	

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB4			Project: West Pearl Queen
Date: 4/9/2020			Client: Armstrong Energy
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal:	Grout: None
Casing Type: PVC	Diameter: 2 inch / Length: 10 feet	Latitude: 32.6229711	Drive Total Depth: 27 feet
Screen Type: PVC	Slot: 0.010 inch / Diameter: 2 inch / Length: 10 feet	Longitude: -103.47556825	Boring Total Depth: 25 feet / Depth to Water: 16.85 feet

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks
0-1 1-2 2-3 3-4 4-5									
5-6 6-7	2	Low	Dry	No	No	0	SM		Orange/pink/buff tan silty fine sand with minor medium sand and gravel
7-8 8-9 9-10									
10-11 11-12	1.5	Med	Moist	No	No	0	SM		Orange/pink/buff tan fine sand with silt and gravel; increasing silt with depth
12-13 13-14 14-15									
15-16 16-17	1.5	Low	Dry	No	No	0	SW	SB4-15-17	Terra cotta color well graded sand with clay
17-18 18-19 19-20									
20-21 21-22	1	High	Moist	No	No	0	CL		Terra cotta color clay with medium and coarse sand
22-23 23-24	1.5	Med	Dry	No	No	0.2	SM	SB4-22-24	Dark red clay with minor light grey clay and fine sand, minor angular coarse sand and gravel
24-25									
25-26 26-27	1.5	High	Dry	No	No	0.3	CL		Deep purple/red clay with black andgular coarse sand and gravel and minor light grey clay

Well Completion: Bentonite

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB5			Project: West Pearl Queen
Date: 4/9/2020			Client: Armstrong Energy
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: 13 feet to 25 feet		Seal: 2 feet to 13 feet	Grout: None
Casing Type: PVC	Diameter: 2 inch / Length: 15 feet	Latitude: 32.6231108	Drive Total Depth: 57 feet / PLUGGED BACK to 25 ft
Screen Type: PVC	Slot: 0.010 inch / Diameter: 2 inch / Length: 10 feet	Longitude: -103.47594061	Boring Total Depth: 55 feet / Depth to Water: 15.38

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks
0-1 1-2	N/A	High	Dry	Yes	Yes	391	CL	SB5-1-2	Sample from cuttings with shovel, black stained, strong petroleum odor
2-3	N/A	Low	Dry	Yes	No	102	SW		Grey/light brown, dry, well graded sand with gravel and minor silt
3-4 4-5									
5-6 6-7	1.5	Low	Dry	No	No	0.3	SM		Buff/tan color silty fine sand with minor medium and coarse sand and gravel
7-8 8-9 9-10									
10-11 11-12	1.5	Low	Dry	No	No	1.4	SM		Pale rusty orange silty fine sand with medium sand and minor coarse sand
12-13 13-14 14-15									
15-16 16-17	1.5	Low	Dry	No	No	0.1	SM		Orange silty fine sand with medium and coarse sand
17-18 18-19 19-20									
20-21 21-22	1.5	Med	Dry	No	No	0	SM		Orange dense, hard silty sand
22-23 23-24 24-25									
25-26 26-27	1.5	High	Dry	No	No	0.2	CL		Purple, hard clay with light grey clay inclusions and black angular inclusions
27-28 28-29 29-30									
30-31 31-32	1.5	High	Dry	No	No	0	CL		Same as above

Well Completion

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB5		Project: West Pearl Queen	
Date: 4/9/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: 13 feet to 25 feet		Seal: 2 feet to 13 feet	Grout: None
Casing Type: PVC / Diameter: 2 inch / Length: 15 feet		Latitude: 32.6231108	Drive Total Depth: 57 feet / PLUGGED BACK to 25 ft
Screen Type: PVC / Slot: 0.010 inch / Diameter: 2 inch / Length: 10 feet		Longitude: -103.47594061	Boring Total Depth: 55 feet / Depth to Water: 15.38

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
32-33 33-34 34-35										Filled with Bentonite
35-36 36-37	1.5	High	Dry	No	No	0	CL		Same as above with minor calcite	
37-38 38-39 39-40										
40-41 41-42	1.5	High	Dry	No	No	0	CL		Same as above	
42-43 43-44 44-45										
45-46 46-47	1.5	High	Dry	No	No	0	CL		Same as above	
47-48 48-49 49-50										
50-51	0.75	High	Dry	No	No	0	CL		Same as above	
51-52	0.75	High	Dry	No	No	0	CL	SB5-51-52	Light grey clay with some red clay, hard, dry, dense, minor black angular inclusions	
52-53 53-54 54-55										

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB6		Project: West Pearl Queen	
Date: 4/9/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal:	Grout: None
Casing Type: None	Diameter: Length:	Latitude:	Drive Total Depth: 7 feet
Screen Type: None	Slot: Diameter: Length:	Longitude:	Boring Total Depth: 10 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1 1-2 2-3 3-4 4-5										
5-6 6-7	1.5	Low	Dry	No	No	0	SM		Pink tan fine sand with minor coarse sand and gravel	None
7-8 8-9 9-10									Clean cuttings; cease boring at 10'; no samples collected	

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB7		Project: West Pearl Queen	
Date: 4/14/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: 10/20 Silica Sand 8 feet to 20 feet		Seal: Hydrated Bentonite 0 to 8 feet	Grout: None
Casing Type: PVC / Diameter: 2 inch / Length: 10 feet		Latitude: 32.62296569	Drive Total Depth: 32 feet / Well Total Depth: 20 feet
Screen Type: PVC / Slot: 0.010 inch / Diameter: 2 inch / Length: 10 feet		Longitude: -103.47573842	Boring Total Depth: 30 feet / Depth to Water: 9.63 feet

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks
0-1 1-2									
2-3 3-4	1	Low	Dry	Yes	Yes	755	SM		Grey stained silty fine sand with minor medium sand, increasing silt, grey odor and staining in bottom of core
4-5 5-6	1.5	Med	Dry	Yes	No	567	SM	SB7-5-7	Brown-grey stained silty fine sand with minor medium sand, petroleum odor
6-7 7-8	1.5	Low	Dry	Yes	No	782	SW		Buff to tan colored well-graded sand with silt, strong degraded petroleum odor, some gravel and cobbles
8-9 9-10	2	Low	Dry	Yes	Yes	447	SW		Light grey stained, strong petroleum odor, well graded sand with silt and gravel
10-11 11-12	2	Low	Dry	Yes	Yes	788	SW		Light grey stained, strong petroleum odor, well graded sand with silt, PetroFlag: 1,436 ppm
12-13 13-14		Low	Dry	Yes	No	42	SW-SM		Light brown to grey well graded sand with silt, slight odor, outside of core barrel slightly wet
14-15	0.25	High	Moist	No	No	11	CL		Light brown clay with well graded sand and gravel, sandy lean clay, slightly moist
15-16	1	Low	Dry	No	No	8.6	SW-SM		Hard, dry orange brown well graded sand with silt
16-17 17-18	1.5	Low	Dry	No	No	1.4	SW		Pinky orange well graded sand and calcite chunks > 1 inch in size
18-19	0.25	High	Wet	Yes	Yes	12	CL		Pinky orange with grey staining clay with coarse sand
19-20	1	High	Moist	No	No	1.8	SW		Dark red orange well-graded sand with clay
20-21 21-22	1	Low	Dry	No	No	1	SW		Orange and buff colored well-graded sand with gravel and angular calcite cobbles. Can hear water cascading into boring.
22-23 23-24 24-25									
25-26 26-27	1	High	Dry	No	No	1.1	CL		Dry purple clay with minor light grey to white clay inclusions
27-28 28-29 29-30									
30-31 31-32	1	High	Dry	No	No	1.1	CL	SB7-30-32	Dry deep red/purple clay with white calcite and black gravel inclusions

Well Completion: Filled with Bentonite

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB8		Project: West Pearl Queen	
Date: 4/10/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal:	Grout: None
Casing Type: None	Diameter: / Length:	Latitude: 32.6229122	Drive Total Depth: 27 feet
Screen Type: None	Slot: / Diameter: / Length:	Longitude: -103.47566861	Boring Total Depth: 25 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1 1-2 2-3 3-4 4-5										None
5-6 6-7	2	High	Dry	No	No	0	CL		Red orange and light grey silt with fine sand and some coarse angular sand	
7-8 8-9 9-10										
10-11 11-12	2	Med	Damp	No	No	0.7	SM	SB8-10-12	Pale oarnge and light grey fine sand with silt and gravel	
12-13 13-14 14-15										
15-16 16-17	1.5	Low	Dry	No	No	0	SM		Terra-cotta color orange fine sand with calcite white inclusions	
17-18 18-19 19-20										
20-21 21-22	2	Low	Dry/Slight Moist	No	No	0.2	SW		Dark orange and white sand with large calcite gravel pieces; outside of core barrel wet	
22-23 23-24 24-25										
25-26 26-27	2	High	Dry	No	No	2.1	SC	SB8-25-27	Dark purple clay and fine sand with white and light grey inclusions	

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB9		Project: West Pearl Queen	
Date: 4/10/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal: None	Grout: None
Casing Type: None	Diameter: Length:	Latitude: 32.62284699	Drive Total Depth: 32 feet
Screen Type: None	Slot: Diameter: Length:	Longitude: -103.47564437	Boring Total Depth: 30 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1 1-2 2-3 3-4 4-5										None
5-6 6-7	1.5	Med	Dry	No	No	0.3	SW		Orange fine sand with minor silt	
7-8 8-9 9-10										
10-11 11-12	1.5	Low	Dry	No	No	2.4	SW	SB9-10-12	Light brown/tan fine sand with minor silt and coarse sand and gravel	
12-13 13-14 14-15										
15-16 16-17	1.5	Low	Dry	No	No	0.7	SW		Orange/light brown well-graded sand with minor silt and gravel	
17-18 18-19 19-20										
20-21 21-22	1.5	Low	Dry	No	No	0.8	SW		Outside of core barrel wet, dark orange/red fine sand with minor medium and coarse sand and silt and white calcite chunks	
22-23 23-24 24-25										
25-26 26-27	0								Not logged; no recovery; attempted drive two times	
27-28 28-29	0.1	High	Moist	No	No	0.9	CL		Brick red to purple clay with minor medium and coarse sand and gravel	
29-30										
30-31 31-32	1	Med	Dry	No	No	1	CL	SB9-30-32	Very hard, dark purple clay with fine and medium sand and light grey calcite inclusions, brittle	

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB10		Project: West Pearl Queen	
Date: 4/10/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal: None	Grout: None
Casing Type: None	Diameter: / Length:	Latitude: 32.62282713	Drive Total Depth: 22 feet
Screen Type: None	Slot: / Diameter: / Length:	Longitude: -103.47575959	Boring Total Depth: 20 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1 1-2 2-3 3-4 4-5										None
5-6 6-7	2	Low	Dry	None	None	0.5	SW		Tan and pale orange colored well graded sand with minor gravel	
7-8 8-9 9-10										
10-11 11-12	2	Low	Dry	None	None	0.2	SW		Orange well graded sand with minor gravel	
12-13 13-14 14-15										
15-16 16-17	1	Low	Dry	None	None	0.9	SW	SB10-15-17	Tan colored well graded sand with minor gravel	
17-18 18-19 19-20										
20-21 21-22	1.5	Low	Dry	None	None	0.6	SM	SB10-20-22	Dark orange/red fine sand and medium sand with white inclusions	

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB11		Project: West Pearl Queen	
Date: 4/14/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal: None	Grout: None
Casing Type: None	Diameter: Length:	Latitude: 32.62303329	Drive Total Depth: 27
Screen Type: None	Slot: Diameter: Length:	Longitude: -103.47584757	Boring Total Depth: 25 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1 1-2 2-3 3-4 4-5										None
5-6 6-7	1.5	Low	Dry	No	No	0.3	SW		Dark orange well-graded sand with minor silt	
7-8 8-9 9-10										
10-11 11-12	1.5	Low	Dry	No	No	68	SW	SB11-10-12	Grey well-graded sand with minor silt, lighter petroleum odor	
12-13 13-14 14-15										
15-16 16-17	1.5	Low	Dry	No	No	1	SW		Orange well-graded sand with silt	
17-18 18-19 19-20										
20-21 21-22	1.5	Low	Dry	No	No	0	SW		Orange and buff colored well-graded sand with gravel	
22-23 23-24 24-25										
25-26 26-27	1.5	Med	Dry	No	No	0.4	SC	SB11-25-27	Very hard, dark purple clay with fine and medium sand and light grey calcite inclusions, brittle	

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB12		Project: West Pearl Queen	
Date: 4/15/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal: None	Grout: None
Casing Type: None / Diameter: / Length:		Latitude: 32.62296855	Drive Total Depth: 24 feet
Screen Type: None / Slot: / Diameter: / Length:		Longitude: -103.47601724	Boring Total Depth: 20 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1 1-2 2-3 3-4 4-5										
5-6	0.75	Low	Wet	Yes	No	8.6	SP		Brown fine sand with minor coarse sand and gravel; wet	
6-7	0.75	Low	Wet	Yes	Yes	72	SP		Black, petroleum saturated fine sand with minor coarse sand, strong petroleum odor	
7-8	1	Low	Moist	Yes	Yes	967	SP	SB12-7-8	Oil saturated black fine sand, strong petroleum odor, saturated with oil, not as wet as 6'-7'	
8-9	1	Low	Dry	Yes	No	635	SW		Light brown well-graded sand with gravel and white clay chunks, strong odor	
9-10										
10-11 11-12	1.5	Low	Dry-Moist	Very Slight	No	6.6	SW		Buff colored well-graded sand with minor silt	None
12-13 13-14 14-15										
15-16 16-17	1.5	Low	Dry-Moist	Very Slight	No	12	SW		Buff colored well graded sand with minor silt	
17-18 18-19 19-20										
20-21 21-22	1.5	Low-Med	Dry	Slight	No	5.5	SM		Dark orange medium sand and fine sand with minor silt and gravel	
22-23 23-24	1	Low-Med	Moist-Wet	slight	No	10	SM	SB12-22-24	Dark orange medium sand and fine sand with minor silt and gravel; core barrel saturated and dripping water; core dries out 23' to 24'	

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB13		Project: West Pearl Queen	
Date: 4/15/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal: None	Grout: None
Casing Type: None	Diameter: Length:	Latitude: 32.62282721	Drive Total Depth: 27 feet
Screen Type: None	Slot: Diameter: Length:	Longitude: -103.47588129	Boring Total Depth: 25 feet / Depth to Water: 15.57 feet

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks
0-1 1-2 2-3 3-4 4-5									
5-6 6-7	1.5	Low	Dry	No	No	0.3	SW		Tan-light brown well-graded sand with minor gravel
7-8 8-9 9-10									
10-11 11-12	2	Low	Dry	No	No	0	SW		Orange well-graded sand with minor gravel
12-13 13-14 14-15									
15-16 16-17	2	High	Wet	No	No	1.5	SM	SB13-15-17	Orange fine sand with silt and minor medium sand, wet 15'-16'
17-18 18-19 19-20									
20-21 21-22	1.5	Low-Med	Dry	No	No	1.3	SM		Orange silty fine sand with angular medium and coarse sand
22-23 23-24 24-25									
25-26 26-27	1.5	Low	Dry	No	No	1.2	SW	SB13-25-27	Orange and buff-colored well-graded sand with large angular calcite and white/light grey clay

Well Completion

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB14		Project: West Pearl Queen	
Date: 4/15/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal: None	Grout: None
Casing Type: None	Diameter: Length:	Latitude: 32.62308818	Drive Total Depth: 27 feet
Screen Type: None	Slot: Diameter: Length:	Longitude: -103.47548803	Boring Total Depth: 25 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1 1-2 2-3 3-4 4-5										None
5-6 6-7	1.5	Low	Dry	No	No	0.5	SW	SB14-5-7	Tan to slightly orange well-graded sand	
7-8 8-9 9-10										
10-11 11-12	2	Low	Dry	No	No	0.1	SW		Orange with small quantity of buff/tan colored well-graded sand with minor silt	
12-13 13-14 14-15										
15-16 16-17	2	Low-Med	Dry	No	No	0.3	SM		Pinky pale-buff colored silty fine sand	
17-18 18-19 19-20										
20-21 21-22	2	Low	Dry-Moist	No	No	0.1	SW		Orange with small quantity of tan well-graded sand with minor silt; 20'-21' moist; 21'-22' Dry; outside of core barrel slightly wet	
22-23 23-24 24-25										
25-26 26-27	1.5	High	Dry-Moist	No	No	0.8	SC-SW	SB14-25-27	Brick red color clay with medium and coarse well-graded sand and broken calcite chunks	

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB15		Project: West Pearl Queen	
Date: 4/16/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal: None	Grout: None
Casing Type: None / Diameter: / Length:		Latitude: 32.62286209	Drive Total Depth: 19 feet
Screen Type: None / Slot: / Diameter: / Length:		Longitude: -103.47597345	Boring Total Depth: 19 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1										None
1-2 2-3	1.5	Low	Dry-Moist	No	No	0.1	SW		Brown fine sand with minor silt	
3-4 4-5	2	Low	Dry-Moist	No	No	0.3	SW	SB15-3-5	Pink-orange well-graded sand with minor silt and minor gravel	
5-6 6-7	2	Low	Dry	No	No	0.1	SW		Dark orange and buff-colored well-graded sand with minor silt	
7-8 8-9	2	Low	Dry	No	No	0.1	SW		Pale orange well-graded sand with minor silt and minor gravel	
9-10 10-11	2	Low	Dry	No	No	0	SW		Pale orange well-graded sand with minor silt and minor gravel	
11-12	1	Low/ Med	Dry	No	No	0.2	SW		Buff to tan color well-graded sand	
12-13	1	Low/ Med	Dry	No	No	0.2	SW		Rusty dark orange color well-graded sand	
13-14 14-15	2	Low/ Med	Dry	No	No	0	SW		Rusty dark orange color well-graded sand	
15-16	1	Low/ Med	Dry	No	No	0.1	SW		Buff and dark rusty orange well-graded sand with clay	
16-17	1	Low/ Med	Dry	No	No	0.2	SW		Same as 15'-16' with less rusty orange color; mostly orange and buff	
17-18 18-19	2	Med	Dry	No	No	0	SC	SB15-17-19	Red orange well-graded sand with appreciable clay	

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB16		Project: West Pearl Queen	
Date: 4/16/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal: None	Grout: None
Casing Type: None / Diameter: / Length:		Latitude: 32.62296021	Drive Total Depth: 22 feet
Screen Type: None / Slot: / Diameter: / Length:		Longitude: -103.47605911	Boring Total Depth: 20 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1 1-2 2-3 3-4 4-5										None
5-6 6-7	1.5	Low	Dry	No	No	2.3	SW		Buff-colored well-graded sand with minor silt	
7-8 8-9 9-10										
10-11 11-12	2	Low	Dry	No	No	2.3	SW	SB16-10-12	Orange colored well-graded sand with minor silt and minor gravel	
12-13 13-14 14-15										
15-16 16-17	2	Low	Dry	No	No	1.1	SW		Orange colored well-graded sand with minor silt and minor gravel	
17-18 18-19 19-20										
20-21 21-22	2	Low	Dry	No	No	1	SW	SB16-20-22	Dark orange well-graded sand with silt, outside of core barrel wet	

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB17		Project: West Pearl Queen	
Date: 4/16/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal: None	Grout: None
Casing Type: None	Diameter: Length:	Latitude: 32.62295473	Drive Total Depth: 22 feet
Screen Type: None	Slot: Diameter: Length:	Longitude: -103.47596960	Boring Total Depth: 25 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1 1-2	1.5	Low	Dry	Slight	No	1.6	SP		Brown fine sand with minor silt	
2-3 3-4	1.5	Low	Dry	No	No	2.1	SP		Brown fine sand with minor silt	
4-5 5-6	1	Low	Moist-Wet	No	No	2.5	SP		Darker brown fine sand with minor silt; moist to wet, especially 5.5'-6'	
6-7.5	1.5	Low	Wet	Yes	Yes	2.6	SP		Dark brown with dark grey staining fine sand with minor silt, saturated	
7.5-8	0.5	Low	Wet	Yes	Yes	548	SP		Heavy black staining fine sand with minor medium sand, wet	
8-9	1	Med	Wet	Yes	Yes	933	SW-SC	SB17-8-9	Black stained well-graded sand with clay, free petroleum product at 8.5'	
9-10	1	Med	Dry	Slight	No	38	SM-SW		Dark red-orange well-graded fine-medium sand with silt	Set Temporary Well with Screen 15' - 25'; no sandpack; no bentonite; sampled then immediately pulled and abandoned
10-11 11-12	1.5	Med	Dry	No	No	39	SM-SW		Dark red-orange well-graded fine-medium sand with silt	
12-13 13-14	1.5	Low	Dry	No	No	7.3	SW-SC		Orange and buff-colored well-graded sand with minor silt and minor gravel	
14-15 15-16	1.5	Low/Med	Dry-Moist	Slight	Slight	12.2	SC		Light grey stained well-graded sand with clay	
16-17 17-18 18-19 19-20										
20-21 21-22	1.5	Low	Dry	No	No	3.1	SC	SB17-20-22	Dark red-orange well-graded sand with clay and minor gravel	
22-23 23-24 24-25										

HRL COMPLIANCE SOLUTIONS

BORING LOG/MONITORING WELL COMPLETION DIAGRAM

Boring/Well Number: SB18		Project: West Pearl Queen	
Date: 4/16/2020		Client: Armstrong Energy	
Drilling Method: Hollow Stem Auger	Sampling Method: Split Spoon 2 foot Drive	Logged By: J. Linn	Drilled By: HRL Compliance
Gravel Pack: None		Seal: None	Grout: None
Casing Type: None / Diameter: / Length:		Latitude: 32.62307021	Drive Total Depth: 22 feet
Screen Type: None / Slot: / Diameter: / Length:		Longitude: -103.47608211	Boring Total Depth: 20 feet / Depth to Water: None

Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks	Well Completion
0-1 1-2 2-3 3-4 4-5										
5-6 6-7	1.5	Low	Dry	No	Very Slight	8.6	SW	SB18-5-7	Red orange/rusty orange colored fine sand with minor medium sand	
7-8 8-9 9-10										
10-11 11-12	2	Low	Dry	No	No	1.7	SW		Red orange/rusty orange fine sand with minor medium and coarse sand	None
12-13 13-14 14-15										
15-16 16-17	2	Low/ Med	Dry/Slight Moist	No	No	1.7	SM		Pale orange silty sand with minor medium sand	
17-18 18-19 19-20										
20-21 21-22	1.5	Low/ Med	Dry	No	No	1.6	SW	SB18-20-22	Dry pale-orange color hard, well-graded sand with minor gravel and calcite	

Attachment F

Soil Boring Analytical Laboratory Reports

Certificate of Analysis Summary 658610

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Fri 04.10.2020 14:10

Report Date: 04.16.2020 16:29

Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	658610-001		658610-002		658610-003		658610-004		658610-005		658610-006	
	Field Id:	SB1		SB1		SB2		SB2		SB3		SB3	
	Depth:	5-7 ft		20-22 ft		5-7 ft		30-32 ft		10-12 ft		25-27 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	04.08.2020 09:00		04.08.2020 09:37		04.08.2020 10:34		04.08.2020 11:27		04.08.2020 13:45		04.08.2020 14:15	
BTEX by EPA 8021B	***Extracted:***	04.10.2020 20:27		04.10.2020 20:27		04.13.2020 09:30		04.10.2020 20:27		04.10.2020 20:27		04.10.2020 20:27	
	Analyzed:	04.11.2020 14:09		04.11.2020 14:30		04.13.2020 12:31		04.11.2020 14:50		04.11.2020 15:11		04.11.2020 15:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
m,p-Xylenes		<0.00399	0.00399	<0.00398	0.00398	<0.00404	0.00404	<0.00404	0.00404	<0.00403	0.00403	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	04.10.2020 15:00		04.10.2020 15:00		04.10.2020 15:00		04.10.2020 15:00		04.10.2020 15:00		04.10.2020 15:00	
	Analyzed:	04.10.2020 17:38		04.10.2020 17:54		04.10.2020 18:00		04.10.2020 18:05		04.10.2020 18:25		04.10.2020 18:30	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		157	10.0	4970	50.0	88.1	9.96	5200	49.9	48.1	9.96	6210	49.9
TPH By SW8015 Mod	***Extracted:***	04.10.2020 16:50		04.10.2020 16:50		04.10.2020 16:50		04.10.2020 16:50		04.10.2020 16:50		04.10.2020 16:50	
	Analyzed:	04.10.2020 21:27		04.10.2020 21:47		04.10.2020 22:08		04.10.2020 22:28		04.10.2020 22:48		04.10.2020 23:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.2	50.2	<50.2	50.2	<49.8	49.8	<49.8	49.8	<49.8	49.8
Diesel Range Organics (DRO)		<49.8	49.8	<50.2	50.2	<50.2	50.2	<49.8	49.8	<49.8	49.8	<49.8	49.8
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.2	50.2	<50.2	50.2	<49.8	49.8	<49.8	49.8	<49.8	49.8
Total TPH		<49.8	49.8	<50.2	50.2	<50.2	50.2	<49.8	49.8	<49.8	49.8	<49.8	49.8

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Certificate of Analysis Summary 658610

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Fri 04.10.2020 14:10

Report Date: 04.16.2020 16:29

Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	658610-007		658610-008		658610-009		658610-010		658610-011		658610-012	
	Field Id:	SB4		SB4		SB5		SB5		SB7		SB7	
	Depth:	15-17 ft		22-24 ft		1-2 ft		51-52 ft		5-7 ft		30-32 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	04.09.2020 08:57		04.09.2020 09:32		04.09.2020 10:44		04.09.2020 13:20		04.09.2020 14:44		04.09.2020 15:27	
BTEX by EPA 8021B	***Extracted:***	04.10.2020 20:27		04.13.2020 09:30		04.13.2020 09:30		04.13.2020 09:30		04.13.2020 09:30		04.13.2020 09:30	
	Analyzed:	04.11.2020 15:51		04.13.2020 12:52		04.13.2020 14:13		04.13.2020 13:12		04.13.2020 21:01		04.13.2020 13:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.100	0.100	<0.00201	0.00201	0.0483	0.0278	<0.00202	0.00202
Toluene		<0.00200	0.00200	<0.00201	0.00201	0.830	0.400	<0.00201	0.00201	0.0483	0.0278	<0.00202	0.00202
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	4.67	0.400	<0.00201	0.00201	4.67	0.111	<0.00202	0.00202
m,p-Xylenes		<0.00401	0.00401	<0.00402	0.00402	5.30	0.800	<0.00402	0.00402	7.51	0.222	<0.00403	0.00403
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	3.12	0.400	<0.00201	0.00201	3.20	0.111	<0.00202	0.00202
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	8.42	0.400	<0.00201	0.00201	10.7	0.111	<0.00202	0.00202
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	13.9	0.100	<0.00201	0.00201	15.5	0.0278	<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	04.10.2020 15:00		04.10.2020 15:00		04.10.2020 15:00		04.10.2020 15:00		04.10.2020 15:00		04.11.2020 09:13	
	Analyzed:	04.10.2020 18:35		04.10.2020 18:41		04.10.2020 18:46		04.10.2020 18:52		04.10.2020 18:57		04.11.2020 15:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		19.9	9.96	7480	49.6	576	9.96	111	10.0	14.5	10.0	787	9.96
TPH By SW8015 Mod	***Extracted:***	04.10.2020 16:50		04.10.2020 16:50		04.10.2020 16:50		04.10.2020 16:50		04.10.2020 16:50		04.10.2020 16:50	
	Analyzed:	04.10.2020 23:29		04.10.2020 21:47		04.10.2020 23:09		04.10.2020 22:08		04.10.2020 23:29		04.10.2020 22:28	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.3	50.3	<50.3	50.3	271	251	<50.2	50.2	1510	502	<50.1	50.1
Diesel Range Organics (DRO)		<50.3	50.3	<50.3	50.3	3500	502	<50.2	50.2	8160	502	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		<50.3	50.3	<50.3	50.3	535	502	<50.2	50.2	830	502	<50.1	50.1
Total TPH		<50.3	50.3	<50.3	50.3	4310	251	<50.2	50.2	10500	502	<50.1	50.1

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Erica Morales
Project Manager

Certificate of Analysis Summary 658610

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Fri 04.10.2020 14:10

Report Date: 04.16.2020 16:29

Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	658610-013		658610-014		658610-015		658610-016		658610-017		658610-018	
	Field Id:	SB8		SB8		SB9		SB9		SB10		SB10	
	Depth:	10-12 ft		25-27 ft		10-12 ft		30-32 ft		15-17 ft		20-22 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	04.10.2020 08:39		04.10.2020 09:01		04.10.2020 09:30		04.10.2020 10:25		04.10.2020 11:02		04.10.2020 11:12	
BTEX by EPA 8021B	***Extracted:***	04.13.2020 09:30		04.13.2020 09:32		04.13.2020 09:32		04.13.2020 09:32		04.13.2020 09:32		04.13.2020 09:32	
	Analyzed:	04.13.2020 13:53		04.13.2020 12:23		04.13.2020 12:43		04.13.2020 13:04		04.13.2020 13:24		04.13.2020 13:45	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201
Toluene		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201
Ethylbenzene		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201
m,p-Xylenes		<0.00402	0.00402	<0.00401	0.00401	<0.00404	0.00404	<0.00401	0.00401	<0.00403	0.00403	<0.00402	0.00402
o-Xylene		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201
Total Xylenes		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201
Total BTEX		<0.00201	0.00201	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00201	0.00201
Chloride by EPA 300	***Extracted:***	04.11.2020 09:13		04.11.2020 09:13		04.11.2020 09:13		04.11.2020 09:13		04.11.2020 09:13		04.11.2020 09:13	
	Analyzed:	04.11.2020 15:26		04.11.2020 15:31		04.11.2020 15:37		04.11.2020 15:43		04.11.2020 16:00		04.11.2020 16:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1760	9.98	1590	9.98	79.5	9.96	1420	49.9	62.5	10.0	14.5	10.0
TPH By SW8015 Mod	***Extracted:***	04.10.2020 16:50		04.10.2020 16:00		04.10.2020 16:00		04.10.2020 16:00		04.10.2020 16:00		04.10.2020 16:00	
	Analyzed:	04.10.2020 22:48		04.11.2020 01:51		04.13.2020 13:15		04.11.2020 02:51		04.11.2020 03:12		04.11.2020 03:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<49.9	49.9	<50.1	50.1	<49.8	49.8	<50.0	50.0	<49.8	49.8
Diesel Range Organics (DRO)		56.4	50.1	<49.9	49.9	<50.1	50.1	<49.8	49.8	<50.0	50.0	<49.8	49.8
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<49.9	49.9	<50.1	50.1	<49.8	49.8	<50.0	50.0	<49.8	49.8
Total TPH		56.4	50.1	<49.9	49.9	<50.1	50.1	<49.8	49.8	<50.0	50.0	<49.8	49.8

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Erica Morales
Project Manager

Analytical Report 658610

for

HRL Compliance Solutions

Project Manager: Julie Linn

West Pearl Queen

04.16.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

04.16.2020

Project Manager: **Julie Linn**
HRL Compliance Solutions
112 6th St.
Artesia, NM 88210

Reference: XENCO Report No(s): **658610**
West Pearl Queen
Project Address:

Julie Linn:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 658610. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 658610 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Erica Morales
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 658610

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB1	S	04.08.2020 09:00	5 - 7 ft	658610-001
SB1	S	04.08.2020 09:37	20 - 22 ft	658610-002
SB2	S	04.08.2020 10:34	5 - 7 ft	658610-003
SB2	S	04.08.2020 11:27	30 - 32 ft	658610-004
SB3	S	04.08.2020 13:45	10 - 12 ft	658610-005
SB3	S	04.08.2020 14:15	25 - 27 ft	658610-006
SB4	S	04.09.2020 08:57	15 - 17 ft	658610-007
SB4	S	04.09.2020 09:32	22 - 24 ft	658610-008
SB5	S	04.09.2020 10:44	1 - 2 ft	658610-009
SB5	S	04.09.2020 13:20	51 - 52 ft	658610-010
SB7	S	04.09.2020 14:44	5 - 7 ft	658610-011
SB7	S	04.09.2020 15:27	30 - 32 ft	658610-012
SB8	S	04.10.2020 08:39	10 - 12 ft	658610-013
SB8	S	04.10.2020 09:01	25 - 27 ft	658610-014
SB9	S	04.10.2020 09:30	10 - 12 ft	658610-015
SB9	S	04.10.2020 10:25	30 - 32 ft	658610-016
SB10	S	04.10.2020 11:02	15 - 17 ft	658610-017
SB10	S	04.10.2020 11:12	20 - 22 ft	658610-018

CASE NARRATIVE

Client Name: HRL Compliance Solutions

Project Name: West Pearl Queen

Project ID:
Work Order Number(s): *658610*

Report Date: *04.16.2020*
Date Received: *04.10.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3122701 TPH By SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 658610-007,658610-002.

Batch: LBA-3122702 TPH By SW8015 Mod
Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 658610-010,658610-008.

Batch: LBA-3122766 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3122893 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3122895 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 658610

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB1**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-001	Date Collected:	04.08.2020 09:00	Sample Depth:	5 - 7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 15:00	Basis:	Wet Weight
Seq Number:	3122768				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**157**	10.0	mg/kg	04.10.2020 17:38		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.10.2020 21:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.10.2020 21:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.10.2020 21:27	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.10.2020 21:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	04.10.2020 21:27	
o-Terphenyl	84-15-1	120	%	70-135	04.10.2020 21:27	

Certificate of Analytical Results 658610

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB1**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-001	Date Collected:	04.08.2020 09:00	Sample Depth:	5 - 7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 20:27	Basis:	Wet Weight
Seq Number:	3122766				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.11.2020 14:09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.11.2020 14:09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.11.2020 14:09	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.11.2020 14:09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.11.2020 14:09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.11.2020 14:09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.11.2020 14:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.11.2020 14:09	
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.11.2020 14:09	

Certificate of Analytical Results 658610

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB1**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-002	Date Collected:	04.08.2020 09:37	Sample Depth:	20 - 22 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 15:00	Basis:	Wet Weight
Seq Number:	3122768				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4970**	50.0	mg/kg	04.10.2020 17:54		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.10.2020 21:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.10.2020 21:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.10.2020 21:47	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.10.2020 21:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	130	%	70-135	04.10.2020 21:47	
o-Terphenyl	84-15-1	139	%	70-135	04.10.2020 21:47	**

Certificate of Analytical Results 658610

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB1**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-002	Date Collected:	04.08.2020 09:37	Sample Depth:	20 - 22 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 20:27	Basis:	Wet Weight
Seq Number:	3122766				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.11.2020 14:30	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.11.2020 14:30	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.11.2020 14:30	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.11.2020 14:30	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.11.2020 14:30	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.11.2020 14:30	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.11.2020 14:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.11.2020 14:30	
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.11.2020 14:30	

Certificate of Analytical Results 658610

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB2**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-003	Date Collected:	04.08.2020 10:34	Sample Depth:	5 - 7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 15:00	Basis:	Wet Weight
Seq Number:	3122768				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**88.1**	9.96	mg/kg	04.10.2020 18:00		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.10.2020 22:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.10.2020 22:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.10.2020 22:08	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.10.2020 22:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	04.10.2020 22:08	
o-Terphenyl	84-15-1	126	%	70-135	04.10.2020 22:08	

Certificate of Analytical Results 658610

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB2**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-003	Date Collected:	04.08.2020 10:34	Sample Depth:	5 - 7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:30	Basis:	Wet Weight
Seq Number:	3122895				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.13.2020 12:31	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.13.2020 12:31	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.13.2020 12:31	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.13.2020 12:31	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.13.2020 12:31	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.13.2020 12:31	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.13.2020 12:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.13.2020 12:31	
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.13.2020 12:31	

Certificate of Analytical Results 658610

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB2**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-004	Date Collected:	04.08.2020 11:27	Sample Depth:	30 - 32 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 15:00	Basis:	Wet Weight
Seq Number:	3122768				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5200**	49.9	mg/kg	04.10.2020 18:05		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.10.2020 22:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.10.2020 22:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.10.2020 22:28	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.10.2020 22:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	04.10.2020 22:28	
o-Terphenyl	84-15-1	123	%	70-135	04.10.2020 22:28	

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West Pearl Queen

Sample Id:	**SB2**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-004	Date Collected:	04.08.2020 11:27	Sample Depth:	30 - 32 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 20:27	Basis:	Wet Weight
Seq Number:	3122766				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.11.2020 14:50	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.11.2020 14:50	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.11.2020 14:50	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.11.2020 14:50	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.11.2020 14:50	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.11.2020 14:50	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.11.2020 14:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.11.2020 14:50	
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.11.2020 14:50	

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West Pearl Queen

Sample Id:	**SB3**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-005	Date Collected:	04.08.2020 13:45	Sample Depth:	10 - 12 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 15:00	Basis:	Wet Weight
Seq Number:	3122768				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**48.1**	9.96	mg/kg	04.10.2020 18:25		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.10.2020 22:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.10.2020 22:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.10.2020 22:48	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.10.2020 22:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	04.10.2020 22:48	
o-Terphenyl	84-15-1	126	%	70-135	04.10.2020 22:48	

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West Pearl Queen

Sample Id:	**SB3**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-005	Date Collected:	04.08.2020 13:45	Sample Depth:	10 - 12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 20:27	Basis:	Wet Weight
Seq Number:	3122766				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.11.2020 15:11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.11.2020 15:11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.11.2020 15:11	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.11.2020 15:11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.11.2020 15:11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.11.2020 15:11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.11.2020 15:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.11.2020 15:11	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.11.2020 15:11	

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Sample Id:	**SB3**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-006	Date Collected:	04.08.2020 14:15	Sample Depth:	25 - 27 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 15:00	Basis:	Wet Weight
Seq Number:	3122768				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6210**	49.9	mg/kg	04.10.2020 18:30		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.10.2020 23:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.10.2020 23:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.10.2020 23:09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.10.2020 23:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	04.10.2020 23:09	
o-Terphenyl	84-15-1	127	%	70-135	04.10.2020 23:09	

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West Pearl Queen

Sample Id:	**SB3**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-006	Date Collected:	04.08.2020 14:15	Sample Depth:	25 - 27 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 20:27	Basis:	Wet Weight
Seq Number:	3122766				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.11.2020 15:31	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.11.2020 15:31	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.11.2020 15:31	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.11.2020 15:31	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.11.2020 15:31	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.11.2020 15:31	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.11.2020 15:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.11.2020 15:31	
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.11.2020 15:31	

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Sample Id:	**SB4**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-007	Date Collected:	04.09.2020 08:57	Sample Depth:	15 - 17 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 15:00	Basis:	Wet Weight
Seq Number:	3122768				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.9**	9.96	mg/kg	04.10.2020 18:35		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122701				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.10.2020 23:29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.10.2020 23:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.10.2020 23:29	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.10.2020 23:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	04.10.2020 23:29	
o-Terphenyl	84-15-1	136	%	70-135	04.10.2020 23:29	**

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West Pearl Queen

Sample Id:	**SB4**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-007	Date Collected:	04.09.2020 08:57	Sample Depth:	15 - 17 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 20:27	Basis:	Wet Weight
Seq Number:	3122766				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.11.2020 15:51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.11.2020 15:51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.11.2020 15:51	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.11.2020 15:51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.11.2020 15:51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.11.2020 15:51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.11.2020 15:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.11.2020 15:51	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.11.2020 15:51	

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Sample Id:	**SB4**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-008	Date Collected:	04.09.2020 09:32	Sample Depth:	22 - 24 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 15:00	Basis:	Wet Weight
Seq Number:	3122768				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7480**	49.6	mg/kg	04.10.2020 18:41		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.10.2020 21:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.10.2020 21:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.10.2020 21:47	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.10.2020 21:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	04.10.2020 21:47	
o-Terphenyl	84-15-1	136	%	70-135	04.10.2020 21:47	**

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West Pearl Queen

Sample Id:	**SB4**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-008	Date Collected:	04.09.2020 09:32	Sample Depth:	22 - 24 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:30	Basis:	Wet Weight
Seq Number:	3122895				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.13.2020 12:52	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.13.2020 12:52	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.13.2020 12:52	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.13.2020 12:52	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.13.2020 12:52	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.13.2020 12:52	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.13.2020 12:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.13.2020 12:52	
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.13.2020 12:52	

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West Pearl Queen

Sample Id:	**SB5**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-009	Date Collected:	04.09.2020 10:44	Sample Depth:	1 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 15:00	Basis:	Wet Weight
Seq Number:	3122768				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**576**	9.96	mg/kg	04.10.2020 18:46		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**271**	251	mg/kg	04.10.2020 23:09		10
Diesel Range Organics (DRO)	C10C28DRO	**3500**	502	mg/kg	04.10.2020 23:09		10
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**535**	502	mg/kg	04.10.2020 23:09		10
Total TPH	PHC635	**4310**	251	mg/kg	04.10.2020 23:09		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	131	%	70-135	04.10.2020 23:09	
o-Terphenyl	84-15-1	122	%	70-135	04.10.2020 23:09	

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Sample Id:	**SB5**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-009	Date Collected:	04.09.2020 10:44	Sample Depth:	1 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:30	Basis:	Wet Weight
Seq Number:	3122895				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.100	0.100	mg/kg	04.13.2020 14:13	U	200
Toluene	108-88-3	**0.830**	0.400	mg/kg	04.13.2020 14:13		200
Ethylbenzene	100-41-4	**4.67**	0.400	mg/kg	04.13.2020 14:13		200
m,p-Xylenes	179601-23-1	**5.30**	0.800	mg/kg	04.13.2020 14:13		200
o-Xylene	95-47-6	**3.12**	0.400	mg/kg	04.13.2020 14:13		200
Total Xylenes	1330-20-7	**8.42**	0.400	mg/kg	04.13.2020 14:13		200
Total BTEX		**13.9**	0.100	mg/kg	04.13.2020 14:13		200

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	04.13.2020 14:13	
4-Bromofluorobenzene	460-00-4	85	%	70-130	04.13.2020 14:13	

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Sample Id:	**SB5**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-010	Date Collected:	04.09.2020 13:20	Sample Depth:	51 - 52 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 15:00	Basis:	Wet Weight
Seq Number:	3122768				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**111**	10.0	mg/kg	04.10.2020 18:52		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.10.2020 22:08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.10.2020 22:08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.10.2020 22:08	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.10.2020 22:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	04.10.2020 22:08	
o-Terphenyl	84-15-1	139	%	70-135	04.10.2020 22:08	**

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Sample Id:	**SB5**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-010	Date Collected:	04.09.2020 13:20	Sample Depth:	51 - 52 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:30	Basis:	Wet Weight
Seq Number:	3122895				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.13.2020 13:12	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.13.2020 13:12	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.13.2020 13:12	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.13.2020 13:12	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.13.2020 13:12	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.13.2020 13:12	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.13.2020 13:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.13.2020 13:12	
1,4-Difluorobenzene	540-36-3	114	%	70-130	04.13.2020 13:12	

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Sample Id:	**SB7**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-011	Date Collected:	04.09.2020 14:44	Sample Depth:	5 - 7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.10.2020 15:00	Basis:	Wet Weight
Seq Number:	3122768				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.5**	10.0	mg/kg	04.10.2020 18:57		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1510**	502	mg/kg	04.10.2020 23:29		10
Diesel Range Organics (DRO)	C10C28DRO	**8160**	502	mg/kg	04.10.2020 23:29		10
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**830**	502	mg/kg	04.10.2020 23:29		10
Total TPH	PHC635	**10500**	502	mg/kg	04.10.2020 23:29		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	04.10.2020 23:29	
o-Terphenyl	84-15-1	102	%	70-135	04.10.2020 23:29	

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West Pearl Queen

Sample Id:	**SB7**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-011	Date Collected:	04.09.2020 14:44	Sample Depth:	5 - 7 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:30	Basis:	Wet Weight
Seq Number:	3122895				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0483**	0.0278	mg/kg	04.13.2020 21:01		1
Toluene	108-88-3	**0.0483**	0.0278	mg/kg	04.13.2020 21:01		1
Ethylbenzene	100-41-4	**4.67**	0.111	mg/kg	04.13.2020 21:01		1
m,p-Xylenes	179601-23-1	**7.51**	0.222	mg/kg	04.13.2020 21:01		1
o-Xylene	95-47-6	**3.20**	0.111	mg/kg	04.13.2020 21:01		1
Total Xylenes	1330-20-7	**10.7**	0.111	mg/kg	04.13.2020 21:01		1
Total BTEX		**15.5**	0.0278	mg/kg	04.13.2020 21:01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	70-130	04.13.2020 21:01	
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.13.2020 21:01	

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HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB7**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-012	Date Collected:	04.09.2020 15:27	Sample Depth:	30 - 32 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.11.2020 09:13	Basis:	Wet Weight
Seq Number:	3122773				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**787**	9.96	mg/kg	04.11.2020 15:20		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.10.2020 22:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.10.2020 22:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.10.2020 22:28	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.10.2020 22:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	04.10.2020 22:28	
o-Terphenyl	84-15-1	133	%	70-135	04.10.2020 22:28	

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HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB7**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-012	Date Collected:	04.09.2020 15:27	Sample Depth:	30 - 32 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:30	Basis:	Wet Weight
Seq Number:	3122895				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.13.2020 13:32	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.13.2020 13:32	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.13.2020 13:32	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.13.2020 13:32	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.13.2020 13:32	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.13.2020 13:32	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.13.2020 13:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	70-130	04.13.2020 13:32	
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.13.2020 13:32	

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West Pearl Queen

Sample Id:	**SB8**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-013	Date Collected:	04.10.2020 08:39	Sample Depth:	10 - 12 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.11.2020 09:13	Basis:	Wet Weight
Seq Number:	3122773				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1760**	9.98	mg/kg	04.11.2020 15:26		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:50	Basis:	Wet Weight
Seq Number:	3122702				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.10.2020 22:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**56.4**	50.1	mg/kg	04.10.2020 22:48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.10.2020 22:48	U	1
Total TPH	PHC635	**56.4**	50.1	mg/kg	04.10.2020 22:48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	04.10.2020 22:48	
o-Terphenyl	84-15-1	134	%	70-135	04.10.2020 22:48	

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West Pearl Queen

Sample Id:	**SB8**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-013	Date Collected:	04.10.2020 08:39	Sample Depth:	10 - 12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:30	Basis:	Wet Weight
Seq Number:	3122895				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.13.2020 13:53	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.13.2020 13:53	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.13.2020 13:53	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.13.2020 13:53	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.13.2020 13:53	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.13.2020 13:53	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.13.2020 13:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	70-130	04.13.2020 13:53	
1,4-Difluorobenzene	540-36-3	114	%	70-130	04.13.2020 13:53	

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West Pearl Queen

Sample Id:	**SB8**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-014	Date Collected:	04.10.2020 09:01	Sample Depth:	25 - 27 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.11.2020 09:13	Basis:	Wet Weight
Seq Number:	3122773				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1590**	9.98	mg/kg	04.11.2020 15:31		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:00	Basis:	Wet Weight
Seq Number:	3122832				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.11.2020 01:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.11.2020 01:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.11.2020 01:51	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.11.2020 01:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.11.2020 01:51	
o-Terphenyl	84-15-1	96	%	70-135	04.11.2020 01:51	

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West Pearl Queen

Sample Id:	**SB8**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-014	Date Collected:	04.10.2020 09:01	Sample Depth:	25 - 27 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:32	Basis:	Wet Weight
Seq Number:	3122893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.13.2020 12:23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.13.2020 12:23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.13.2020 12:23	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.13.2020 12:23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.13.2020 12:23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.13.2020 12:23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.13.2020 12:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.13.2020 12:23	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.13.2020 12:23	

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West Pearl Queen

Sample Id:	**SB9**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-015	Date Collected:	04.10.2020 09:30	Sample Depth:	10 - 12 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.11.2020 09:13	Basis:	Wet Weight
Seq Number:	3122773				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**79.5**	9.96	mg/kg	04.11.2020 15:37		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:00	Basis:	Wet Weight
Seq Number:	3122832				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.13.2020 13:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.13.2020 13:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.13.2020 13:15	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.13.2020 13:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	04.13.2020 13:15	
o-Terphenyl	84-15-1	95	%	70-135	04.13.2020 13:15	

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Sample Id:	**SB9**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-015	Date Collected:	04.10.2020 09:30	Sample Depth:	10 - 12 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:32	Basis:	Wet Weight
Seq Number:	3122893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.13.2020 12:43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.13.2020 12:43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.13.2020 12:43	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.13.2020 12:43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.13.2020 12:43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.13.2020 12:43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.13.2020 12:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.13.2020 12:43	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.13.2020 12:43	

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West Pearl Queen

Sample Id:	**SB9**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-016	Date Collected:	04.10.2020 10:25	Sample Depth:	30 - 32 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.11.2020 09:13	Basis:	Wet Weight
Seq Number:	3122773				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1420**	49.9	mg/kg	04.11.2020 15:43		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:00	Basis:	Wet Weight
Seq Number:	3122832				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.11.2020 02:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.11.2020 02:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.11.2020 02:51	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.11.2020 02:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	04.11.2020 02:51	
o-Terphenyl	84-15-1	102	%	70-135	04.11.2020 02:51	

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West Pearl Queen

Sample Id:	**SB9**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-016	Date Collected:	04.10.2020 10:25	Sample Depth:	30 - 32 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:32	Basis:	Wet Weight
Seq Number:	3122893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.13.2020 13:04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.13.2020 13:04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.13.2020 13:04	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.13.2020 13:04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.13.2020 13:04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.13.2020 13:04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.13.2020 13:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	04.13.2020 13:04	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.13.2020 13:04	

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West Pearl Queen

Sample Id:	**SB10**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-017	Date Collected:	04.10.2020 11:02	Sample Depth:	15 - 17 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.11.2020 09:13	Basis:	Wet Weight
Seq Number:	3122773				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**62.5**	10.0	mg/kg	04.11.2020 16:00		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:00	Basis:	Wet Weight
Seq Number:	3122832				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.11.2020 03:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.11.2020 03:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.11.2020 03:12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.11.2020 03:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	04.11.2020 03:12	
o-Terphenyl	84-15-1	94	%	70-135	04.11.2020 03:12	

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West Pearl Queen

Sample Id:	**SB10**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-017	Date Collected:	04.10.2020 11:02	Sample Depth:	15 - 17 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:32	Basis:	Wet Weight
Seq Number:	3122893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.13.2020 13:24	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.13.2020 13:24	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.13.2020 13:24	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.13.2020 13:24	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.13.2020 13:24	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.13.2020 13:24	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.13.2020 13:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.13.2020 13:24	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.13.2020 13:24	

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West Pearl Queen

Sample Id:	**SB10**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-018	Date Collected:	04.10.2020 11:12	Sample Depth:	20 - 22 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.11.2020 09:13	Basis:	Wet Weight
Seq Number:	3122773				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.5**	10.0	mg/kg	04.11.2020 16:06		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.10.2020 16:00	Basis:	Wet Weight
Seq Number:	3122832				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.11.2020 03:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.11.2020 03:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.11.2020 03:32	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.11.2020 03:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	04.11.2020 03:32	
o-Terphenyl	84-15-1	98	%	70-135	04.11.2020 03:32	

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West Pearl Queen

Sample Id:	**SB10**	Matrix:	Soil	Date Received:	04.10.2020 14:10
Lab Sample Id:	658610-018	Date Collected:	04.10.2020 11:12	Sample Depth:	20 - 22 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.13.2020 09:32	Basis:	Wet Weight
Seq Number:	3122893				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.13.2020 13:45	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.13.2020 13:45	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.13.2020 13:45	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.13.2020 13:45	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.13.2020 13:45	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.13.2020 13:45	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.13.2020 13:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	04.13.2020 13:45	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.13.2020 13:45	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 658610

HRL Compliance Solutions

West Pearl Queen

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122768 — Matrix: Solid — Date Prep: 04.10.2020
MB Sample Id: 7701102-1-BLK — LCS Sample Id: 7701102-1-BKS — LCSD Sample Id: 7701102-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	258	103	247	99	90-110	4	20	mg/kg	04.10.2020 16:10	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122773 — Matrix: Solid — Date Prep: 04.11.2020
MB Sample Id: 7701110-1-BLK — LCS Sample Id: 7701110-1-BKS — LCSD Sample Id: 7701110-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	258	103	262	105	90-110	2	20	mg/kg	04.11.2020 14:20	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122768 — Matrix: Soil — Date Prep: 04.10.2020
Parent Sample Id: 658608-001 — MS Sample Id: 658608-001 S — MSD Sample Id: 658608-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2680	199	2870	95	2890	104	90-110	1	20	mg/kg	04.10.2020 16:32	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122768 — Matrix: Soil — Date Prep: 04.10.2020
Parent Sample Id: 658610-001 — MS Sample Id: 658610-001 S — MSD Sample Id: 658610-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	157	200	365	104	369	106	90-110	1	20	mg/kg	04.10.2020 17:43	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122773 — Matrix: Soil — Date Prep: 04.11.2020
Parent Sample Id: 658610-016 — MS Sample Id: 658610-016 S — MSD Sample Id: 658610-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1420	200	1620	100	1630	105	90-110	1	20	mg/kg	04.11.2020 15:49	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3122773 — Matrix: Soil — Date Prep: 04.11.2020
Parent Sample Id: 658616-061 — MS Sample Id: 658616-061 S — MSD Sample Id: 658616-061 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	64.7	199	274	105	272	104	90-110	1	20	mg/kg	04.11.2020 14:37	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 658610

HRL Compliance Solutions

West Pearl Queen

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122701 — Matrix: Solid — Date Prep: 04.10.2020
MB Sample Id: 7701064-1-BLK — LCS Sample Id: 7701064-1-BKS — LCSD Sample Id: 7701064-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	950	95	1010	101	70-135	6	35	mg/kg	04.10.2020 15:21	
Diesel Range Organics (DRO)	<50.0	1000	1030	103	1110	111	70-135	7	35	mg/kg	04.10.2020 15:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		124		130		70-135	%	04.10.2020 15:21
o-Terphenyl	98		120		127		70-135	%	04.10.2020 15:21

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122702 — Matrix: Solid — Date Prep: 04.10.2020
MB Sample Id: 7701065-1-BLK — LCS Sample Id: 7701065-1-BKS — LCSD Sample Id: 7701065-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	957	96	980	98	70-135	2	35	mg/kg	04.10.2020 15:21	
Diesel Range Organics (DRO)	<50.0	1000	1110	111	1130	113	70-135	2	35	mg/kg	04.10.2020 15:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		128		122		70-135	%	04.10.2020 15:21
o-Terphenyl	122		129		129		70-135	%	04.10.2020 15:21

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122832 — Matrix: Solid — Date Prep: 04.10.2020
MB Sample Id: 7701070-1-BLK — LCS Sample Id: 7701070-1-BKS — LCSD Sample Id: 7701070-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	771	77	935	94	70-135	19	35	mg/kg	04.11.2020 01:10	
Diesel Range Organics (DRO)	<50.0	1000	709	71	857	86	70-135	19	35	mg/kg	04.11.2020 01:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		85		101		70-135	%	04.11.2020 01:10
o-Terphenyl	91		84		99		70-135	%	04.11.2020 01:10

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3122701 — Matrix: Solid — Date Prep: 04.10.2020
MB Sample Id: 7701064-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.10.2020 15:00	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 658610

HRL Compliance Solutions

West Pearl Queen

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3122702 Matrix: Solid Date Prep: 04.10.2020
MB Sample Id: 7701065-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.10.2020 15:00	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3122832 Matrix: Solid Date Prep: 04.10.2020
MB Sample Id: 7701070-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.11.2020 00:50	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3122701 Matrix: Soil Date Prep: 04.10.2020
Parent Sample Id: 658521-003 MS Sample Id: 658521-003 S MSD Sample Id: 658521-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	1040	104	1040	104	70-135	0	35	mg/kg	04.10.2020 16:22	
Diesel Range Organics (DRO)	60.2	999	1160	110	1140	108	70-135	2	35	mg/kg	04.10.2020 16:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	131		130		70-135	%	04.10.2020 16:22
o-Terphenyl	132		129		70-135	%	04.10.2020 16:22

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3122702 Matrix: Soil Date Prep: 04.10.2020
Parent Sample Id: 658522-007 MS Sample Id: 658522-007 S MSD Sample Id: 658522-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	995	1020	103	1040	104	70-135	2	35	mg/kg	04.10.2020 16:22	
Diesel Range Organics (DRO)	<49.8	995	1180	119	1200	120	70-135	2	35	mg/kg	04.10.2020 16:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	135		134		70-135	%	04.10.2020 16:22
o-Terphenyl	120		132		70-135	%	04.10.2020 16:22

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 658610

HRL Compliance Solutions

West Pearl Queen

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3122832 Matrix: Soil Date Prep: 04.10.2020
Parent Sample Id: 658610-014 MS Sample Id: 658610-014 S MSD Sample Id: 658610-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	885	89	898	90	70-135	1	35	mg/kg	04.11.2020 02:11	
Diesel Range Organics (DRO)	<50.0	999	819	82	833	83	70-135	2	35	mg/kg	04.11.2020 02:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		104		70-135	%	04.11.2020 02:11
o-Terphenyl	102		102		70-135	%	04.11.2020 02:11

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122766 Matrix: Solid Date Prep: 04.10.2020
MB Sample Id: 7701117-1-BLK LCS Sample Id: 7701117-1-BKS LCSD Sample Id: 7701117-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.102	102	0.0941	94	70-130	8	35	mg/kg	04.11.2020 07:01	
Toluene	<0.00200	0.100	0.0962	96	0.0888	89	70-130	8	35	mg/kg	04.11.2020 07:01	
Ethylbenzene	<0.00200	0.100	0.0906	91	0.0830	83	71-129	9	35	mg/kg	04.11.2020 07:01	
m,p-Xylenes	<0.00400	0.200	0.187	94	0.172	86	70-135	8	35	mg/kg	04.11.2020 07:01	
o-Xylene	<0.00200	0.100	0.0955	96	0.0879	88	71-133	8	35	mg/kg	04.11.2020 07:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		105		104		70-130	%	04.11.2020 07:01
4-Bromofluorobenzene	94		93		93		70-130	%	04.11.2020 07:01

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3122895 Matrix: Solid Date Prep: 04.13.2020
MB Sample Id: 7701119-1-BLK LCS Sample Id: 7701119-1-BKS LCSD Sample Id: 7701119-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.121	121	0.110	110	70-130	10	35	mg/kg	04.13.2020 10:29	
Toluene	<0.00200	0.100	0.109	109	0.0994	99	70-130	9	35	mg/kg	04.13.2020 10:29	
Ethylbenzene	<0.00200	0.100	0.100	100	0.0909	91	71-129	10	35	mg/kg	04.13.2020 10:29	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.176	88	70-135	10	35	mg/kg	04.13.2020 10:29	
o-Xylene	<0.00200	0.100	0.100	100	0.0906	91	71-133	10	35	mg/kg	04.13.2020 10:29	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	113		108		108		70-130	%	04.13.2020 10:29
4-Bromofluorobenzene	91		85		87		70-130	%	04.13.2020 10:29

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 658610

HRL Compliance Solutions

West Pearl Queen

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3122893 — Matrix: Solid — Date Prep: 04.13.2020
MB Sample Id: 7701120-1-BLK — LCS Sample Id: 7701120-1-BKS — LCSD Sample Id: 7701120-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.105	105	0.109	109	70-130	4	35	mg/kg	04.13.2020 10:21	
Toluene	<0.00200	0.100	0.101	101	0.105	105	70-130	4	35	mg/kg	04.13.2020 10:21	
Ethylbenzene	<0.00200	0.100	0.0959	96	0.0998	100	71-129	4	35	mg/kg	04.13.2020 10:21	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.207	104	70-135	3	35	mg/kg	04.13.2020 10:21	
o-Xylene	<0.00200	0.100	0.100	100	0.104	104	71-133	4	35	mg/kg	04.13.2020 10:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		104		104		70-130	%	04.13.2020 10:21
4-Bromofluorobenzene	97		91		92		70-130	%	04.13.2020 10:21

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3122766 — Matrix: Soil — Date Prep: 04.10.2020
Parent Sample Id: 658616-061 — MS Sample Id: 658616-061 S — MSD Sample Id: 658616-061 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.105	104	0.102	101	70-130	3	35	mg/kg	04.11.2020 07:42	
Toluene	<0.00201	0.101	0.0991	98	0.0949	94	70-130	4	35	mg/kg	04.11.2020 07:42	
Ethylbenzene	<0.00201	0.101	0.0928	92	0.0870	86	71-129	6	35	mg/kg	04.11.2020 07:42	
m,p-Xylenes	<0.00402	0.201	0.189	94	0.178	89	70-135	6	35	mg/kg	04.11.2020 07:42	
o-Xylene	<0.00201	0.101	0.0960	95	0.0906	90	71-133	6	35	mg/kg	04.11.2020 07:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		70-130	%	04.11.2020 07:42
4-Bromofluorobenzene	94		92		70-130	%	04.11.2020 07:42

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3122895 — Matrix: Soil — Date Prep: 04.13.2020
Parent Sample Id: 658610-003 — MS Sample Id: 658610-003 S — MSD Sample Id: 658610-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00197	0.0986	0.106	108	0.104	104	70-130	2	35	mg/kg	04.13.2020 11:10	
Toluene	<0.00197	0.0986	0.0968	98	0.0936	94	70-130	3	35	mg/kg	04.13.2020 11:10	
Ethylbenzene	<0.00197	0.0986	0.0907	92	0.0854	85	71-129	6	35	mg/kg	04.13.2020 11:10	
m,p-Xylenes	<0.00394	0.197	0.176	89	0.165	83	70-135	6	35	mg/kg	04.13.2020 11:10	
o-Xylene	<0.00197	0.0986	0.0875	89	0.0852	85	71-133	3	35	mg/kg	04.13.2020 11:10	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		109		70-130	%	04.13.2020 11:10
4-Bromofluorobenzene	88		84		70-130	%	04.13.2020 11:10

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 658610

HRL Compliance Solutions

West Pearl Queen

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3122893 Matrix: Soil Date Prep: 04.13.2020

Parent Sample Id: 658613-001 MS Sample Id: 658613-001 S MSD Sample Id: 658613-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.109	109	0.0899	89	70-130	19	35	mg/kg	04.13.2020 11:01	
Toluene	<0.00200	0.0998	0.105	105	0.0857	85	70-130	20	35	mg/kg	04.13.2020 11:01	
Ethylbenzene	<0.00200	0.0998	0.0970	97	0.0770	76	71-129	23	35	mg/kg	04.13.2020 11:01	
m,p-Xylenes	<0.00399	0.200	0.201	101	0.157	78	70-135	25	35	mg/kg	04.13.2020 11:01	
o-Xylene	<0.00200	0.0998	0.101	101	0.0795	79	71-133	24	35	mg/kg	04.13.2020 11:01	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	04.13.2020 11:01
4-Bromofluorobenzene	97		93		70-130	%	04.13.2020 11:01

MS/MSD Percent Recovery	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

Chain of Custody

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www.xenco.com

Work Order No: 658610

Page 1 of 2

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Company Name:	HRL Compliance Services	Company Name:	
Address:	112 South 6th St.	Address:	
City, State ZIP:	Artesia, NM	City, State ZIP:	
Phone:	(970) 903-8747	Email:	jlinn@hrlcomp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	West Pearl Queen	Turn Around	
Project Number:		Routine	☒
Project Location		Rush:	
Sampler's Name:	J.Linn	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	4.0	Thermometer ID	NM007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	18

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	BTEX	TPH (GRO, DRO, ORO) 8015M	CL
	SB1-5-7	Soil	4-8-20	0900	5'-7'	1		X	X	X
	SB1-20-22	Soil	4-8-20	0937	20'-22'	1		X	X	X
	SB2-5-7	Soil	4-8-20	1034	5'-7'	1		X	X	X
	SB2-30-32	Soil	4-8-20	1127	30'-32'	1		X	X	X
	SB3-10-12	Soil	4-8-20	1345	10'-12'	1		X	X	X
	SB3-25-27	Soil	4-8-20	1415	25'-27'	1		X	X	X
	SB4-15-17	Soil	4-9-20	0857	15'-17'	1		X	X	X
	SB4-22-24	Soil	4-9-20	0932	22'-24'	1		X	X	X
	SB5-1-2	Soil	4-9-20	1044	1'-2'	1		X	X	X
	SB5-51-52	Soil	4-9-20	1320	51'-52'	1		X	X	X

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Julie		4/10/20 14:10	2		
3			4		
5			6		

Revised Date 022619 Rev. 2019.1

Chain of Custody

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 458640

Page 2 of 2

Project Manager:	Julie Linn	Bill to: (if different)	HRL Compliance
Company Name:	HRL Compliance	Company Name:	
Address:	112 S. 6th St.	Address:	
City, State ZIP:	Artesia, NM	City, State ZIP:	
Phone:	(970) 903-8747	Email:	jlinn@hrlcomp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	West Pearl Queen	Turn Around	
Project Number:		Routine	☒
Project Location		Rush:	
Sampler's Name:	J. Linn	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):		Thermometer ID	
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Total Containers:	

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	BTEX	TPH (GRO, DRO, ORO) 8015M	Cl
	SB7-5-7	Soil	4-9-20	1444	5'-7'	1		X	X	X
	SB7-30-32	Soil	4-9-20	1527	30'-32'	1		X	X	X
	SB8-10-12	Soil	4-10-20	0839	10'-12'	1		X	X	X
	SB8-25-27	Soil	4-10-20	0901	25'-27'	1		X	X	X
	SB9-10-12	Soil	4-10-20	0930	10'-12'	1		X	X	X
	SB9-30-32	Soil	4-10-20	1025	30'-32'	1		X	X	X
	SB10-15-17	Soil	4-10-20	1102	15'-17'	1		X	X	X
	SB10-20-22	Soil	4-10-20	1112	20'-22'	1		X	X	X

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020:
Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U

1631 / 245.1 / 7470 / 7471 : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Julie Linn		4/10/20 14:10	2		
3				4		
5				6		

Revised Date 022619 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: HRL Compliance Solutions

Date/ Time Received: 04.10.2020 02.10.00 PM

Work Order #: 658610

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 04.10.2020

Checklist reviewed by: Erica Morales Date: 04.10.2020

Certificate of Analysis Summary 659150

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Thu 04.16.2020 17:45

Report Date: 04.23.2020 09:53

Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	659150-001		659150-002		659150-003		659150-004		659150-005		659150-006	
	Field Id:	SB11-10-12		SB11-25-27		SB12-7-8		SB12-22-24		SB13-15-17		SB13-25-27	
	Depth:	10-12 ft		25-27 ft		7-8 ft		22-14 ft		15-17 ft		25-27 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	04.14.2020 10:16		04.14.2020 10:36		04.15.2020 14:12		04.15.2020 15:00		04.15.2020 10:00		04.15.2020 10:21	
BTEX by EPA 8021B	***Extracted:***	04.17.2020 17:42		04.17.2020 17:42		04.17.2020 17:42		04.17.2020 17:42		04.17.2020 17:42		04.17.2020 17:42	
	Analyzed:	04.18.2020 20:31		04.18.2020 20:51		04.20.2020 11:08		04.18.2020 21:12		04.18.2020 21:32		04.18.2020 21:53	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.0204	0.0204	<0.00202	0.00202	<0.0499	0.0499	<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202
Toluene		<0.0204	0.0204	<0.00202	0.00202	<0.0499	0.0499	<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202
Ethylbenzene		<0.0204	0.0204	<0.00202	0.00202	6.11	0.200	<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202
m,p-Xylenes		<0.0408	0.0408	<0.00403	0.00403	8.81	0.399	<0.00397	0.00397	<0.00398	0.00398	<0.00403	0.00403
o-Xylene		<0.0204	0.0204	<0.00202	0.00202	2.35	0.200	<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202
Total Xylenes		<0.0204	0.0204	<0.00202	0.00202	11.2	0.200	<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202
Total BTEX		<0.0204	0.0204	<0.00202	0.00202	17.3	0.0499	<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	04.17.2020 10:35		04.17.2020 10:35		04.17.2020 10:35		04.17.2020 10:35		04.17.2020 10:35		04.17.2020 10:35	
	Analyzed:	04.17.2020 15:39		04.17.2020 15:58		04.17.2020 16:05		04.17.2020 16:10		04.17.2020 16:17		04.17.2020 16:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		214	10.1	2120	50.2	469	10.1	1470	50.0	547	9.96	469	9.98
TPH By SW8015 Mod	***Extracted:***	04.17.2020 16:00		04.17.2020 16:00		04.17.2020 16:00		04.17.2020 16:00		04.17.2020 16:00		04.17.2020 16:00	
	Analyzed:	04.17.2020 16:35		04.17.2020 17:16		04.20.2020 09:51		04.17.2020 17:36		04.17.2020 17:57		04.17.2020 18:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.1	50.1	1230	498	<49.9	49.9	<49.9	49.9	<50.1	50.1
Diesel Range Organics (DRO)		165	50.1	<50.1	50.1	7720	498	<49.9	49.9	<49.9	49.9	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.1	50.1	983	498	<49.9	49.9	<49.9	49.9	<50.1	50.1

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Certificate of Analysis Summary 659150

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Thu 04.16.2020 17:45

Report Date: 04.23.2020 09:53

Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	659150-007		659150-008		659150-009		659150-010		659150-011		659150-012	
	Field Id:	SB14-5-7		SB14-25-27		SB15-3-5		SB15-17-19		SB16-10-12		SB16-20-22	
	Depth:	5-7 ft		25-27 ft		3-5 ft		17-19 ft		10-12 ft		20-22 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	04.15.2020 11:35		04.15.2020 12:07		04.16.2020 09:05		04.16.2020 09:07		04.16.2020 10:04		04.16.2020 11:04	
BTEX by EPA 8021B	***Extracted:***	04.17.2020 17:42		04.17.2020 17:42		04.17.2020 17:42		04.16.2020 20:46		04.16.2020 20:46		04.16.2020 20:46	
	Analyzed:	04.18.2020 22:13		04.18.2020 22:33		04.18.2020 22:54		04.19.2020 03:19		04.19.2020 03:39		04.19.2020 02:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes		<0.00399	0.00399	<0.00403	0.00403	<0.00403	0.00403	<0.00398	0.00398	<0.00402	0.00402	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	04.17.2020 10:35		04.17.2020 10:35		04.17.2020 10:35		04.17.2020 10:35		04.17.2020 10:35		04.17.2020 10:35	
	Analyzed:	04.17.2020 16:30		04.17.2020 16:48		04.17.2020 16:54		04.17.2020 17:12		04.17.2020 17:18		04.17.2020 17:24	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		43.7	9.98	1020	50.3	39.4	9.92	447	9.90	42.1	10.1	1380	50.4
TPH By SW8015 Mod	***Extracted:***	04.17.2020 16:00		04.17.2020 16:00		04.17.2020 16:00		04.17.2020 16:00		04.17.2020 16:00		04.17.2020 16:00	
	Analyzed:	04.17.2020 18:57		04.17.2020 19:17		04.17.2020 19:38		04.17.2020 19:58		04.17.2020 20:18		04.17.2020 20:38	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.0	50.0	<49.9	49.9	<50.3	50.3	<50.3	50.3	<50.2	50.2
Diesel Range Organics (DRO)		<50.1	50.1	<50.0	50.0	<49.9	49.9	<50.3	50.3	<50.3	50.3	<50.2	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.0	50.0	<49.9	49.9	<50.3	50.3	<50.3	50.3	<50.2	50.2

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Certificate of Analysis Summary 659150

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen

Project Id:
Contact: Julie Linn
Project Location:

Date Received in Lab: Thu 04.16.2020 17:45
Report Date: 04.23.2020 09:53
Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	659150-013		659150-014		659150-015		659150-016					
	Field Id:	SB17-8-9		SB17-20-22		SB18-5-7		SB18-20-22					
	Depth:	8-9 ft		20-22 ft		5-7 ft		20-22 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	04.16.2020 11:37		04.16.2020 13:50		04.16.2020 14:10		04.16.2020 09:05					
BTEX by EPA 8021B	***Extracted:***	04.17.2020 17:42		04.16.2020 20:46		04.16.2020 20:46		04.16.2020 20:46					
	Analyzed:	04.20.2020 11:28		04.19.2020 04:00		04.19.2020 04:20		04.19.2020 04:41					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		0.887	0.200	<0.00199	0.00199	<0.00201	0.00201	<0.00199	0.00199				
Toluene		0.751	0.200	<0.00199	0.00199	<0.00201	0.00201	<0.00199	0.00199				
Ethylbenzene		5.35	0.200	<0.00199	0.00199	<0.00201	0.00201	<0.00199	0.00199				
m,p-Xylenes		7.35	0.399	<0.00398	0.00398	<0.00402	0.00402	<0.00398	0.00398				
o-Xylene		3.07	0.200	<0.00199	0.00199	<0.00201	0.00201	<0.00199	0.00199				
Total Xylenes		10.4	0.200	<0.00199	0.00199	<0.00201	0.00201	<0.00199	0.00199				
Total BTEX		17.4	0.200	<0.00199	0.00199	<0.00201	0.00201	<0.00199	0.00199				
Chloride by EPA 300	***Extracted:***	04.17.2020 10:35		04.17.2020 10:35		04.17.2020 10:35		04.17.2020 10:35					
	Analyzed:	04.17.2020 17:30		04.17.2020 17:36		04.17.2020 17:42		04.17.2020 17:48					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		2220	99.8	730	10.0	6540	200	1570	49.6				
TPH By SW8015 Mod	***Extracted:***	04.17.2020 16:00		04.17.2020 16:00		04.20.2020 13:00		04.20.2020 13:00					
	Analyzed:	04.17.2020 21:38		04.17.2020 20:58		04.20.2020 20:38		04.20.2020 13:10					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		3220	2490	<50.0	50.0	<50.3	50.3	<49.8	49.8				
Diesel Range Organics (DRO)		35100	2490	<50.0	50.0	213	50.3	<49.8	49.8				
Motor Oil Range Hydrocarbons (MRO)		5310	2490	<50.0	50.0	<50.3	50.3	<49.8	49.8				

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Analytical Report 659150

for

HRL Compliance Solutions

Project Manager: Julie Linn

West Pearl Queen

04.23.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

04.23.2020

Project Manager: **Julie Linn**
HRL Compliance Solutions
112 6th St.
Artesia, NM 88210

Reference: XENCO Report No(s): **659150**
West Pearl Queen
Project Address:

Julie Linn:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 659150. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 659150 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Erica Morales
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 659150

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB11-10-12	S	04.14.2020 10:16	10 - 12 ft	659150-001
SB11-25-27	S	04.14.2020 10:36	25 - 27 ft	659150-002
SB12-7-8	S	04.15.2020 14:12	7 - 8 ft	659150-003
SB12-22-24	S	04.15.2020 15:00	22 - 14 ft	659150-004
SB13-15-17	S	04.15.2020 10:00	15 - 17 ft	659150-005
SB13-25-27	S	04.15.2020 10:21	25 - 27 ft	659150-006
SB14-5-7	S	04.15.2020 11:35	5 - 7 ft	659150-007
SB14-25-27	S	04.15.2020 12:07	25 - 27 ft	659150-008
SB15-3-5	S	04.16.2020 09:05	3 - 5 ft	659150-009
SB15-17-19	S	04.16.2020 09:07	17 - 19 ft	659150-010
SB16-10-12	S	04.16.2020 10:04	10 - 12 ft	659150-011
SB16-20-22	S	04.16.2020 11:04	20 - 22 ft	659150-012
SB17-8-9	S	04.16.2020 11:37	8 - 9 ft	659150-013
SB17-20-22	S	04.16.2020 13:50	20 - 22 ft	659150-014
SB18-5-7	S	04.16.2020 14:10	5 - 7 ft	659150-015
SB18-20-22	S	04.16.2020 09:05	20 - 22 ft	659150-016

CASE NARRATIVE

Client Name: HRL Compliance Solutions

Project Name: West Pearl Queen

Project ID:
Work Order Number(s): *659150*

Report Date: *04.23.2020*
Date Received: *04.16.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3123439 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3123441 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 659150

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB11-10-12**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-001	Date Collected:	04.14.2020 10:16	Sample Depth:	10 - 12 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**214**	10.1	mg/kg	04.17.2020 15:39		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.17.2020 16:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	**165**	50.1	mg/kg	04.17.2020 16:35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.17.2020 16:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.17.2020 16:35	
o-Terphenyl	84-15-1	112	%	70-135	04.17.2020 16:35	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 17:42	Basis:	Wet Weight
Seq Number:	3123439				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	04.18.2020 20:31	U	1
Toluene	108-88-3	<0.0204	0.0204	mg/kg	04.18.2020 20:31	U	1
Ethylbenzene	100-41-4	<0.0204	0.0204	mg/kg	04.18.2020 20:31	U	1
m,p-Xylenes	179601-23-1	<0.0408	0.0408	mg/kg	04.18.2020 20:31	U	1
o-Xylene	95-47-6	<0.0204	0.0204	mg/kg	04.18.2020 20:31	U	1
Total Xylenes	1330-20-7	<0.0204	0.0204	mg/kg	04.18.2020 20:31	U	1
Total BTEX		<0.0204	0.0204	mg/kg	04.18.2020 20:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.18.2020 20:31	
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.18.2020 20:31	

Certificate of Analytical Results 659150

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB11-25-27**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-002	Date Collected:	04.14.2020 10:36	Sample Depth:	25 - 27 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2120**	50.2	mg/kg	04.17.2020 15:58		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.17.2020 17:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.17.2020 17:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.17.2020 17:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	04.17.2020 17:16	
o-Terphenyl	84-15-1	108	%	70-135	04.17.2020 17:16	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 17:42	Basis:	Wet Weight
Seq Number:	3123439				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.18.2020 20:51	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.18.2020 20:51	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.18.2020 20:51	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.18.2020 20:51	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.18.2020 20:51	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.18.2020 20:51	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.18.2020 20:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	04.18.2020 20:51	
4-Bromofluorobenzene	460-00-4	104	%	70-130	04.18.2020 20:51	

Certificate of Analytical Results 659150

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB12-7-8**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-003	Date Collected:	04.15.2020 14:12	Sample Depth:	7 - 8 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**469**	10.1	mg/kg	04.17.2020 16:05		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**1230**	498	mg/kg	04.20.2020 09:51		10
Diesel Range Organics (DRO)	C10C28DRO	**7720**	498	mg/kg	04.20.2020 09:51		10
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**983**	498	mg/kg	04.20.2020 09:51		10

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	04.20.2020 09:51	
o-Terphenyl	84-15-1	116	%	70-135	04.20.2020 09:51	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 17:42	Basis:	Wet Weight
Seq Number:	3123439				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0499	0.0499	mg/kg	04.20.2020 11:08	U	100
Toluene	108-88-3	<0.0499	0.0499	mg/kg	04.20.2020 11:08	U	100
Ethylbenzene	100-41-4	**6.11**	0.200	mg/kg	04.20.2020 11:08		100
m,p-Xylenes	179601-23-1	**8.81**	0.399	mg/kg	04.20.2020 11:08		100
o-Xylene	95-47-6	**2.35**	0.200	mg/kg	04.20.2020 11:08		100
Total Xylenes	1330-20-7	**11.2**	0.200	mg/kg	04.20.2020 11:08		100
Total BTEX		**17.3**	0.0499	mg/kg	04.20.2020 11:08		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	04.20.2020 11:08	
1,4-Difluorobenzene	540-36-3	96	%	70-130	04.20.2020 11:08	

Certificate of Analytical Results 659150

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB12-22-24**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-004	Date Collected:	04.15.2020 15:00	Sample Depth:	22 - 14 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1470**	50.0	mg/kg	04.17.2020 16:10		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.17.2020 17:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.17.2020 17:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.17.2020 17:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.17.2020 17:36	
o-Terphenyl	84-15-1	108	%	70-135	04.17.2020 17:36	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 17:42	Basis:	Wet Weight
Seq Number:	3123439				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	04.18.2020 21:12	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	04.18.2020 21:12	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	04.18.2020 21:12	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	04.18.2020 21:12	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	04.18.2020 21:12	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	04.18.2020 21:12	U	1
Total BTEX		<0.00198	0.00198	mg/kg	04.18.2020 21:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.18.2020 21:12	
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.18.2020 21:12	

Certificate of Analytical Results 659150

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB13-15-17**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-005	Date Collected:	04.15.2020 10:00	Sample Depth:	15 - 17 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**547**	9.96	mg/kg	04.17.2020 16:17		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.17.2020 17:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.17.2020 17:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.17.2020 17:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.17.2020 17:57	
o-Terphenyl	84-15-1	106	%	70-135	04.17.2020 17:57	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 17:42	Basis:	Wet Weight
Seq Number:	3123439				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.18.2020 21:32	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.18.2020 21:32	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.18.2020 21:32	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.18.2020 21:32	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.18.2020 21:32	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.18.2020 21:32	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.18.2020 21:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 21:32	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.18.2020 21:32	

Certificate of Analytical Results 659150

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB13-25-27**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-006	Date Collected:	04.15.2020 10:21	Sample Depth:	25 - 27 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**469**	9.98	mg/kg	04.17.2020 16:23		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.17.2020 18:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.17.2020 18:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.17.2020 18:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.17.2020 18:17	
o-Terphenyl	84-15-1	114	%	70-135	04.17.2020 18:17	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 17:42	Basis:	Wet Weight
Seq Number:	3123439				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.18.2020 21:53	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.18.2020 21:53	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.18.2020 21:53	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.18.2020 21:53	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.18.2020 21:53	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.18.2020 21:53	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.18.2020 21:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 21:53	
4-Bromofluorobenzene	460-00-4	101	%	70-130	04.18.2020 21:53	

Certificate of Analytical Results 659150

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB14-5-7**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-007	Date Collected:	04.15.2020 11:35	Sample Depth:	5 - 7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**43.7**	9.98	mg/kg	04.17.2020 16:30		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.17.2020 18:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.17.2020 18:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.17.2020 18:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.17.2020 18:57	
o-Terphenyl	84-15-1	113	%	70-135	04.17.2020 18:57	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 17:42	Basis:	Wet Weight
Seq Number:	3123439				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.18.2020 22:13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.18.2020 22:13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.18.2020 22:13	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.18.2020 22:13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.18.2020 22:13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.18.2020 22:13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.18.2020 22:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.18.2020 22:13	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 22:13	

Certificate of Analytical Results 659150

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB14-25-27**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-008	Date Collected:	04.15.2020 12:07	Sample Depth:	25 - 27 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1020**	50.3	mg/kg	04.17.2020 16:48		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.17.2020 19:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.17.2020 19:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.17.2020 19:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	04.17.2020 19:17	
o-Terphenyl	84-15-1	114	%	70-135	04.17.2020 19:17	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 17:42	Basis:	Wet Weight
Seq Number:	3123439				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.18.2020 22:33	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.18.2020 22:33	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.18.2020 22:33	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.18.2020 22:33	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.18.2020 22:33	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.18.2020 22:33	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.18.2020 22:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.18.2020 22:33	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.18.2020 22:33	

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HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB15-3-5**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-009	Date Collected:	04.16.2020 09:05	Sample Depth:	3 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.4**	9.92	mg/kg	04.17.2020 16:54		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.17.2020 19:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.17.2020 19:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.17.2020 19:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	04.17.2020 19:38	
o-Terphenyl	84-15-1	115	%	70-135	04.17.2020 19:38	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 17:42	Basis:	Wet Weight
Seq Number:	3123439				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.18.2020 22:54	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.18.2020 22:54	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.18.2020 22:54	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	04.18.2020 22:54	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.18.2020 22:54	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.18.2020 22:54	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.18.2020 22:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.18.2020 22:54	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.18.2020 22:54	

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HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB15-17-19**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-010	Date Collected:	04.16.2020 09:07	Sample Depth:	17 - 19 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**447**	9.90	mg/kg	04.17.2020 17:12		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.17.2020 19:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.17.2020 19:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.17.2020 19:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	04.17.2020 19:58	
o-Terphenyl	84-15-1	116	%	70-135	04.17.2020 19:58	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.16.2020 20:46	Basis:	Wet Weight
Seq Number:	3123441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.19.2020 03:19	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.19.2020 03:19	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.19.2020 03:19	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.19.2020 03:19	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.19.2020 03:19	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.19.2020 03:19	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.19.2020 03:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	04.19.2020 03:19	
1,4-Difluorobenzene	540-36-3	104	%	70-130	04.19.2020 03:19	

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HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB16-10-12**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-011	Date Collected:	04.16.2020 10:04	Sample Depth:	10 - 12 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**42.1**	10.1	mg/kg	04.17.2020 17:18		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.17.2020 20:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.17.2020 20:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.17.2020 20:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	04.17.2020 20:18	
o-Terphenyl	84-15-1	112	%	70-135	04.17.2020 20:18	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.16.2020 20:46	Basis:	Wet Weight
Seq Number:	3123441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.19.2020 03:39	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.19.2020 03:39	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.19.2020 03:39	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.19.2020 03:39	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.19.2020 03:39	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.19.2020 03:39	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.19.2020 03:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	04.19.2020 03:39	
1,4-Difluorobenzene	540-36-3	104	%	70-130	04.19.2020 03:39	

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HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB16-20-22**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-012	Date Collected:	04.16.2020 11:04	Sample Depth:	20 - 22 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1380**	50.4	mg/kg	04.17.2020 17:24		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.17.2020 20:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.17.2020 20:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.17.2020 20:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	04.17.2020 20:38	
o-Terphenyl	84-15-1	113	%	70-135	04.17.2020 20:38	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.16.2020 20:46	Basis:	Wet Weight
Seq Number:	3123441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.19.2020 02:59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.19.2020 02:59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.19.2020 02:59	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	04.19.2020 02:59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.19.2020 02:59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.19.2020 02:59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.19.2020 02:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.19.2020 02:59	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.19.2020 02:59	

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HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB17-8-9**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-013	Date Collected:	04.16.2020 11:37	Sample Depth:	8 - 9 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2220**	99.8	mg/kg	04.17.2020 17:30		10

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**3220**	2490	mg/kg	04.17.2020 21:38		50
Diesel Range Organics (DRO)	C10C28DRO	**35100**	2490	mg/kg	04.17.2020 21:38		50
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**5310**	2490	mg/kg	04.17.2020 21:38		50

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	04.17.2020 21:38	
o-Terphenyl	84-15-1	112	%	70-135	04.17.2020 21:38	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 17:42	Basis:	Wet Weight
Seq Number:	3123439				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.887**	0.200	mg/kg	04.20.2020 11:28		100
Toluene	108-88-3	**0.751**	0.200	mg/kg	04.20.2020 11:28		100
Ethylbenzene	100-41-4	**5.35**	0.200	mg/kg	04.20.2020 11:28		100
m,p-Xylenes	179601-23-1	**7.35**	0.399	mg/kg	04.20.2020 11:28		100
o-Xylene	95-47-6	**3.07**	0.200	mg/kg	04.20.2020 11:28		100
Total Xylenes	1330-20-7	**10.4**	0.200	mg/kg	04.20.2020 11:28		100
Total BTEX		**17.4**	0.200	mg/kg	04.20.2020 11:28		100

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	04.20.2020 11:28	
4-Bromofluorobenzene	460-00-4	90	%	70-130	04.20.2020 11:28	

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HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB17-20-22**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-014	Date Collected:	04.16.2020 13:50	Sample Depth:	20 - 22 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**730**	10.0	mg/kg	04.17.2020 17:36		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.17.2020 16:00	Basis:	Wet Weight
Seq Number:	3123393				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.17.2020 20:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.17.2020 20:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.17.2020 20:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	04.17.2020 20:58	
o-Terphenyl	84-15-1	111	%	70-135	04.17.2020 20:58	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.16.2020 20:46	Basis:	Wet Weight
Seq Number:	3123441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.19.2020 04:00	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.19.2020 04:00	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.19.2020 04:00	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.19.2020 04:00	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.19.2020 04:00	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.19.2020 04:00	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.19.2020 04:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.19.2020 04:00	
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.19.2020 04:00	

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HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB18-5-7**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-015	Date Collected:	04.16.2020 14:10	Sample Depth:	5 - 7 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6540**	200	mg/kg	04.17.2020 17:42		20

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.20.2020 13:00	Basis:	Wet Weight
Seq Number:	3123601				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.20.2020 20:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	**213**	50.3	mg/kg	04.20.2020 20:38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.20.2020 20:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	04.20.2020 20:38	
o-Terphenyl	84-15-1	112	%	70-135	04.20.2020 20:38	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.16.2020 20:46	Basis:	Wet Weight
Seq Number:	3123441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.19.2020 04:20	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.19.2020 04:20	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.19.2020 04:20	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.19.2020 04:20	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.19.2020 04:20	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.19.2020 04:20	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.19.2020 04:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	04.19.2020 04:20	
4-Bromofluorobenzene	460-00-4	97	%	70-130	04.19.2020 04:20	

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HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id:	**SB18-20-22**	Matrix:	Soil	Date Received:	04.16.2020 17:45
Lab Sample Id:	659150-016	Date Collected:	04.16.2020 09:05	Sample Depth:	20 - 22 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.17.2020 10:35	Basis:	Wet Weight
Seq Number:	3123445				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1570**	49.6	mg/kg	04.17.2020 17:48		5

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	04.20.2020 13:00	Basis:	Wet Weight
Seq Number:	3123601				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.20.2020 13:10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.20.2020 13:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.20.2020 13:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	04.20.2020 13:10	
o-Terphenyl	84-15-1	106	%	70-135	04.20.2020 13:10	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	04.16.2020 20:46	Basis:	Wet Weight
Seq Number:	3123441				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.19.2020 04:41	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.19.2020 04:41	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.19.2020 04:41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.19.2020 04:41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.19.2020 04:41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.19.2020 04:41	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.19.2020 04:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.19.2020 04:41	
1,4-Difluorobenzene	540-36-3	106	%	70-130	04.19.2020 04:41	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 659150

HRL Compliance Solutions

West Pearl Queen

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3123445 — Matrix: Solid — Date Prep: 04.17.2020
MB Sample Id: 7701481-1-BLK — LCS Sample Id: 7701481-1-BKS — LCSD Sample Id: 7701481-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	264	106	265	106	90-110	0	20	mg/kg	04.17.2020 14:52	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3123445 — Matrix: Soil — Date Prep: 04.17.2020
Parent Sample Id: 659086-021 — MS Sample Id: 659086-021 S — MSD Sample Id: 659086-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	71.1	199	286	108	286	108	90-110	0	20	mg/kg	04.17.2020 15:10	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3123445 — Matrix: Soil — Date Prep: 04.17.2020
Parent Sample Id: 659150-007 — MS Sample Id: 659150-007 S — MSD Sample Id: 659150-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	43.7	200	259	108	261	109	90-110	1	20	mg/kg	04.17.2020 16:36	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3123393 — Matrix: Solid — Date Prep: 04.17.2020
MB Sample Id: 7701527-1-BLK — LCS Sample Id: 7701527-1-BKS — LCSD Sample Id: 7701527-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	999	100	954	95	70-135	5	35	mg/kg	04.17.2020 13:32	
Diesel Range Organics (DRO)	<50.0	1000	1170	117	1110	111	70-135	5	35	mg/kg	04.17.2020 13:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		112		109		70-135	%	04.17.2020 13:32
o-Terphenyl	102		115		107		70-135	%	04.17.2020 13:32

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3123601 — Matrix: Solid — Date Prep: 04.20.2020
MB Sample Id: 7701657-1-BLK — LCS Sample Id: 7701657-1-BKS — LCSD Sample Id: 7701657-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	955	96	909	91	70-135	5	35	mg/kg	04.20.2020 12:30	
Diesel Range Organics (DRO)	<50.0	1000	1100	110	1040	104	70-135	6	35	mg/kg	04.20.2020 12:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	90		111		103		70-135	%	04.20.2020 12:30
o-Terphenyl	95		109		100		70-135	%	04.20.2020 12:30

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 659150

HRL Compliance Solutions

West Pearl Queen

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3123393 Matrix: Solid Date Prep: 04.17.2020
MB Sample Id: 7701527-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.17.2020 13:12	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3123601 Matrix: Solid Date Prep: 04.20.2020
MB Sample Id: 7701657-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.20.2020 12:09	

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3123393 Matrix: Soil Date Prep: 04.17.2020
Parent Sample Id: 659143-001 MS Sample Id: 659143-001 S MSD Sample Id: 659143-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.8	996	1120	112	1080	108	70-135	4	35	mg/kg	04.17.2020 14:33	
Diesel Range Organics (DRO)	<49.8	996	1140	114	1170	117	70-135	3	35	mg/kg	04.17.2020 14:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		125		70-135	%	04.17.2020 14:33
o-Terphenyl	122		119		70-135	%	04.17.2020 14:33

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3123601 Matrix: Soil Date Prep: 04.20.2020
Parent Sample Id: 659150-016 MS Sample Id: 659150-016 S MSD Sample Id: 659150-016 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	1080	108	1050	105	70-135	3	35	mg/kg	04.20.2020 13:30	
Diesel Range Organics (DRO)	<50.0	999	1140	114	1090	109	70-135	4	35	mg/kg	04.20.2020 13:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		115		70-135	%	04.20.2020 13:30
o-Terphenyl	113		112		70-135	%	04.20.2020 13:30

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 659150

HRL Compliance Solutions

West Pearl Queen

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3123441 — Matrix: Solid — Date Prep: 04.16.2020
MB Sample Id: 7701558-1-BLK — LCS Sample Id: 7701558-1-BKS — LCSD Sample Id: 7701558-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.104	104	0.104	104	70-130	0	35	mg/kg	04.19.2020 01:17	
Toluene	<0.00200	0.100	0.0990	99	0.0975	98	70-130	2	35	mg/kg	04.19.2020 01:17	
Ethylbenzene	<0.00200	0.100	0.0919	92	0.0903	90	71-129	2	35	mg/kg	04.19.2020 01:17	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.184	92	70-135	3	35	mg/kg	04.19.2020 01:17	
o-Xylene	<0.00200	0.100	0.0963	96	0.0946	95	71-133	2	35	mg/kg	04.19.2020 01:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		103		104		70-130	%	04.19.2020 01:17
4-Bromofluorobenzene	93		90		89		70-130	%	04.19.2020 01:17

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3123439 — Matrix: Solid — Date Prep: 04.17.2020
MB Sample Id: 7701557-1-BLK — LCS Sample Id: 7701557-1-BKS — LCSD Sample Id: 7701557-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0996	100	0.108	108	70-130	8	35	mg/kg	04.18.2020 14:44	
Toluene	<0.00200	0.100	0.0943	94	0.101	101	70-130	7	35	mg/kg	04.18.2020 14:44	
Ethylbenzene	<0.00200	0.100	0.0875	88	0.0932	93	71-129	6	35	mg/kg	04.18.2020 14:44	
m,p-Xylenes	<0.00400	0.200	0.178	89	0.190	95	70-135	7	35	mg/kg	04.18.2020 14:44	
o-Xylene	<0.00200	0.100	0.0917	92	0.0980	98	71-133	7	35	mg/kg	04.18.2020 14:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		104		105		70-130	%	04.18.2020 14:44
4-Bromofluorobenzene	95		94		92		70-130	%	04.18.2020 14:44

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3123441 — Matrix: Soil — Date Prep: 04.16.2020
Parent Sample Id: 659150-012 — MS Sample Id: 659150-012 S — MSD Sample Id: 659150-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.103	102	70-130	0	35	mg/kg	04.19.2020 05:01	
Toluene	<0.00200	0.100	0.0970	97	0.0995	99	70-130	3	35	mg/kg	04.19.2020 05:01	
Ethylbenzene	<0.00200	0.100	0.0896	90	0.0943	93	71-129	5	35	mg/kg	04.19.2020 05:01	
m,p-Xylenes	<0.00400	0.200	0.182	91	0.195	97	70-135	7	35	mg/kg	04.19.2020 05:01	
o-Xylene	<0.00200	0.100	0.0936	94	0.0974	96	71-133	4	35	mg/kg	04.19.2020 05:01	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		105		70-130	%	04.19.2020 05:01
4-Bromofluorobenzene	92		93		70-130	%	04.19.2020 05:01

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 659150

HRL Compliance Solutions

West Pearl Queen

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3123439 Matrix: Soil Date Prep: 04.17.2020

Parent Sample Id: 659086-021 MS Sample Id: 659086-021 S MSD Sample Id: 659086-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.0789	78	70-130	26	35	mg/kg	04.19.2020 05:01	
Toluene	<0.00200	0.100	0.0972	97	0.0972	96	70-130	0	35	mg/kg	04.19.2020 05:01	
Ethylbenzene	<0.00200	0.100	0.0898	90	0.0891	88	71-129	1	35	mg/kg	04.19.2020 05:01	
m,p-Xylenes	<0.00401	0.200	0.183	92	0.183	91	70-135	0	35	mg/kg	04.19.2020 05:01	
o-Xylene	<0.00200	0.100	0.0938	94	0.0723	72	71-133	26	35	mg/kg	04.19.2020 05:01	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		106		70-130	%	04.19.2020 05:01
4-Bromofluorobenzene	92		95		70-130	%	04.19.2020 05:01

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

Chain of Custody

XENCO LABORATORIES
Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
www.xenco.com

Work Order No: 659150

Page 1 of 2

Project Manager:	Julie Linn	Bill to: (if different)	same
Company Name:	HRL Compliance Solutions	Company Name:	
Address:	112 S. 6th St.	Address:	
City, State ZIP:	Artesia, NM	City, State ZIP:	
Phone:	(970) 903-8747	Email:	jlinn@hrlcomp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	West Pearl Queen	Turn Around	
Project Number:		Routine	☒
Project Location		Rush:	
Sampler's Name:	J. Linn	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.0	Thermometer ID	
Received Intact:	(Yes) No		T-NM-007
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	12

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH - GRO, DRO, ORO 8015	BTEX	CL	Sample Comments
	SB11-10-12	Soil	4-14-20	1016	10-12	2		X	X	X	
	SB11-25-27	Soil	4-14-20	1036	25-27	2		X	X	X	
	SB12-7-8	Soil	4-15-20	1412	7-8	2		X	X	X	
	SB12-22-24	Soil	4-15-20	1500	22-24	2		X	X	X	
	SB13-15-17	Soil	4-15-20	1000	15-17	2		X	X	X	
	SB13-25-27	Soil	4-15-20	1021	25-27	2		X	X	X	
	SB14-5-7	Soil	4-15-20	1135	5-7	2		X	X	X	
	SB14-25-27	Soil	4-15-20	1207	25-27	2		X	X	X	
	SB15-3-5	Soil	4-16-20	0905	3-5	2		X	X	X	
	SB15-17-19	Soil	4-16-20	0907	17-19	2		X	X	X	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimun charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Julie Linn		4/16/20 1745	4		
			6		

Revised Date 022619 Rev. 2019.1

Chain of Custody

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Crasbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

Work Order No: 659150

www.xenco.com Page 2 of 2

Project Manager:	Julie Linn	Bill to: (if different)	HRL
Company Name:	HRL Compliance	Company Name:	
Address:	112 S. 6th St.	Address:	
City, State ZIP:	Artesia, NM	City, State ZIP:	
Phone:	(970) 403-8747	Email:	jlinn@hrlcomp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	West Pearl Queen	Turn Around	
Project Number:		Routine	☒
Project Location		Rush:	
Sampler's Name:	J. Linn	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):		Thermometer ID		
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Total Containers:		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH-GRO, DRO, ORO 8015	BTEX	Cl	Sample Comments
	SB16-10-12	Soil	4-16-20	1004	10-12	2		X	X	X	
	SB16-20-22	Soil	4-16-20	1009	20-22	2		X	X	X	
	SB17-8-9	Soil	4-16-20	1104	8-9	2		X	X	X	
	SB17-20-22	Soil	4-16-20	1137	20-22	2		X	X	X	
	SB18-5-7	Soil	4-16-20	1350	5-7	2		X	X	X	
	SB18-20-22	Soil	4-16-20	1410	20-22	2		X	X	X	

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U 1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Julie Linn		4/16/20 1745	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: HRL Compliance Solutions

Date/ Time Received: 04.16.2020 05.45.00 PM

Work Order #: 659150

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**Yes**
#6*Custody Seals Signed and dated?	**Yes**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 04.17.2020

Checklist reviewed by: Erica Morales Date: 04.17.2020

Attachment G

Groundwater Sample Analytical Laboratory Reports

Certificate of Analysis Summary 659152

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Thu 04.16.2020 17:45

Report Date: 04.23.2020 10:30

Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	659152-001		659152-002		659152-003		659152-004		659152-005		659152-006	
	Field Id:	SB 14		SB 13		SB 2		SB 17		SB 5		SB 7	
	Depth:												
	Matrix:	GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER	
	Sampled:	04.16.2020 08:40		04.16.2020 13:25		04.16.2020 14:50		04.16.2020 15:10		04.16.2020 16:03		04.16.2020 16:15	
BTEX by EPA 8021B SUB: T104704400-19-19	Extracted:	04.20.2020 16:00		04.20.2020 16:00		04.20.2020 16:00		04.20.2020 16:00		04.20.2020 16:00		04.20.2020 16:00	
	Analyzed:	04.21.2020 05:47		04.21.2020 07:26		04.21.2020 07:46		04.21.2020 08:06		04.21.2020 08:27		04.21.2020 08:47	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Benzene		<0.00200	0.00200	0.0254	0.00200	<0.00200	0.00200	0.00290	0.00200	<0.00200	0.00200	0.0202	0.00200
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	0.00565	0.00200	<0.00200	0.00200	0.0143	0.00200
m,p-Xylenes		<0.00400	0.00400	<0.00400	0.00400	<0.00400	0.00400	0.00913	0.00400	<0.00400	0.00400	0.00653	0.00400
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	0.00441	0.00200	<0.00200	0.00200	0.00263	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	0.0135	0.00200	<0.00200	0.00200	0.00916	0.00200
Total BTEX		<0.00200	0.00200	0.0254	0.00200	<0.00200	0.00200	0.0221	0.00200	<0.00200	0.00200	0.0437	0.00200
Chloride by EPA 300	Extracted:	04.17.2020 15:38		04.17.2020 15:38		04.17.2020 15:38		04.17.2020 15:38		04.17.2020 15:38		04.17.2020 15:38	
	Analyzed:	04.18.2020 11:23		04.18.2020 11:40		04.18.2020 11:45		04.18.2020 11:51		04.18.2020 11:56		04.18.2020 12:13	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Chloride		6840 X	250	928	10.0	1810	250	17300	250	12000	250	3470	250
Specific Conductance @25C by SM2510B SUB: T104704400-19-19	Extracted:												
	Analyzed:	04.20.2020 11:15		04.20.2020 11:15		04.20.2020 11:15		04.20.2020 11:15		04.20.2020 11:15		04.20.2020 11:15	
	Units/RL:	umhos/cm	RL	umhos/cm	RL	umhos/cm	RL	umhos/cm	RL	umhos/cm	RL	umhos/cm	RL
Conductivity		34200	10.0	4900	10.0	13000	10.0	27300	10.0	32300	10.0	22500	10.0
TPH By SW8015 Mod	Extracted:	04.17.2020 16:30		04.17.2020 16:30		04.17.2020 16:30		04.17.2020 16:30		04.17.2020 16:30		04.17.2020 16:30	
	Analyzed:	04.21.2020 00:21		04.21.2020 00:41		04.21.2020 11:48		04.21.2020 01:21		04.21.2020 01:41		04.21.2020 02:02	
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL
Gasoline Range Hydrocarbons (GRO)		<2.50	2.50	<2.50	2.50	<2.50	2.50	<2.50	2.50	<2.50	2.50	<2.50	2.50
Diesel Range Organics (DRO)		<2.50	2.50	<2.50	2.50	<2.50	2.50	<2.50	2.50	<2.50	2.50	<2.50	2.50
Motor Oil Range Hydrocarbons (MRO)		<2.50	2.50	<2.50	2.50	<2.50	2.50	<2.50	2.50	<2.50	2.50	<2.50	2.50

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Certificate of Analysis Summary 659152

HRL Compliance Solutions, Artesia, NM

Project Name: West Pearl Queen

Project Id:

Contact: Julie Linn

Project Location:

Date Received in Lab: Thu 04.16.2020 17:45

Report Date: 04.23.2020 10:30

Project Manager: Erica Morales

Analysis Requested													
	Lab Id:	659152-001		659152-002		659152-003		659152-004		659152-005		659152-006	
	Field Id:	SB 14		SB 13		SB 2		SB 17		SB 5		SB 7	
	Depth:												
	Matrix:	GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER		GROUND WATER	
	Sampled:	04.16.2020 08:40		04.16.2020 13:25		04.16.2020 14:50		04.16.2020 15:10		04.16.2020 16:03		04.16.2020 16:15	
pH by SM4500-H SUB: T104704400-19-19	***Extracted:***												
	Analyzed:	04.20.2020 11:55		04.20.2020 11:55		04.20.2020 11:55		04.20.2020 11:55		04.20.2020 11:55		04.20.2020 11:55	
	Units/RL:	Deg C	RL	Deg C	RL	Deg C	RL	Deg C	RL	Deg C	RL	Deg C	RL
Temperature		22.4 K		22.5 K		22.3 K		22.4 K		22.6 K		22.1 K	
pH by SM4500-H SUB: T104704400-19-19	***Extracted:***												
	Analyzed:	04.20.2020 11:55		04.20.2020 11:55		04.20.2020 11:55		04.20.2020 11:55		04.20.2020 11:55		04.20.2020 11:55	
	Units/RL:	SU	RL	SU	RL	SU	RL	SU	RL	SU	RL	SU	RL
pH		7.13 K		7.84 K		7.10 K		6.94 K		6.91 K		7.29 K	

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Erica Morales
Project Manager

Analytical Report 659152

for

HRL Compliance Solutions

Project Manager: Julie Linn

West Pearl Queen

04.23.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

04.23.2020

Project Manager: **Julie Linn**
HRL Compliance Solutions
112 6th St.
Artesia, NM 88210

Reference: XENCO Report No(s): **659152**
West Pearl Queen
Project Address:

Julie Linn:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 659152. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 659152 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Erica Morales
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SB 14	W	04.16.2020 08:40		659152-001
SB 13	W	04.16.2020 13:25		659152-002
SB 2	W	04.16.2020 14:50		659152-003
SB 17	W	04.16.2020 15:10		659152-004
SB 5	W	04.16.2020 16:03		659152-005
SB 7	W	04.16.2020 16:15		659152-006

CASE NARRATIVE

Client Name: HRL Compliance Solutions

Project Name: West Pearl Queen

Project ID:
Work Order Number(s): *659152*

Report Date: *04.23.2020*
Date Received: *04.16.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3123450 Chloride by EPA 300

Lab Sample ID 659152-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 659152-001, -002, -003, -004, -005, -006.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3123568 BTEX by EPA 8021B

Benzene Relative Percent Difference (RPD) between matrix spike and duplicate was above quality control limits.

Samples in the analytical batch are: 659152-001, -002, -003, -004, -005, -006

Lab Sample ID 659152-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 659152-001, -002, -003, -004, -005, -006.

The Laboratory Control Sample for Benzene is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 14** Matrix: Ground Water Date Received:04.16.2020 17:45

Lab Sample Id: 659152-001 Date Collected: 04.16.2020 08:40

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 04.17.2020 15:38

Seq Number: 3123450

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6840**	250	mg/L	04.18.2020 11:23	X	500

Analytical Method: pH by SM4500-H

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123462 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	**7.13**		SU	04.20.2020 11:55	K	1
Temperature	TEMP	**22.4**		Deg C	04.20.2020 11:55	K	1

Analytical Method: Specific Conductance @25C by SM2510B

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123463 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Conductivity	COND	**34200**	10.0	umhos/cm	04.20.2020 11:15		1

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 14** Matrix: Ground Water Date Received:04.16.2020 17:45

Lab Sample Id: 659152-001 Date Collected: 04.16.2020 08:40

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 04.17.2020 16:30

Seq Number: 3123611

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<2.50	2.50	mg/L	04.21.2020 00:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<2.50	2.50	mg/L	04.21.2020 00:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<2.50	2.50	mg/L	04.21.2020 00:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	04.21.2020 00:21	
o-Terphenyl	84-15-1	108	%	70-135	04.21.2020 00:21	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: KTL % Moisture:

Analyst: KTL Date Prep: 04.20.2020 16:00

Seq Number: 3123568 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	04.21.2020 05:47	UXF	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	04.21.2020 05:47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	04.21.2020 05:47	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	04.21.2020 05:47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	04.21.2020 05:47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	04.21.2020 05:47	U	1
Total BTEX		<0.00200	0.00200	mg/L	04.21.2020 05:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.21.2020 05:47	
4-Bromofluorobenzene	460-00-4	113	%	70-130	04.21.2020 05:47	

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 13** Matrix: Ground Water Date Received:04.16.2020 17:45

Lab Sample Id: 659152-002 Date Collected: 04.16.2020 13:25

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 04.17.2020 15:38

Seq Number: 3123450

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**928**	10.0	mg/L	04.18.2020 11:40		20

Analytical Method: pH by SM4500-H

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123462 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	**7.84**		SU	04.20.2020 11:55	K	1
Temperature	TEMP	**22.5**		Deg C	04.20.2020 11:55	K	1

Analytical Method: Specific Conductance @25C by SM2510B

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123463 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Conductivity	COND	**4900**	10.0	umhos/cm	04.20.2020 11:15		1

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 13** Matrix: Ground Water Date Received:04.16.2020 17:45

Lab Sample Id: 659152-002 Date Collected: 04.16.2020 13:25

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 04.17.2020 16:30

Seq Number: 3123611

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<2.50	2.50	mg/L	04.21.2020 00:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<2.50	2.50	mg/L	04.21.2020 00:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<2.50	2.50	mg/L	04.21.2020 00:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	04.21.2020 00:41	
o-Terphenyl	84-15-1	118	%	70-135	04.21.2020 00:41	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: KTL % Moisture:

Analyst: KTL Date Prep: 04.20.2020 16:00

Seq Number: 3123568 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0254**	0.00200	mg/L	04.21.2020 07:26		1
Toluene	108-88-3	<0.00200	0.00200	mg/L	04.21.2020 07:26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	04.21.2020 07:26	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	04.21.2020 07:26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	04.21.2020 07:26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	04.21.2020 07:26	U	1
Total BTEX		**0.0254**	0.00200	mg/L	04.21.2020 07:26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	04.21.2020 07:26	
4-Bromofluorobenzene	460-00-4	123	%	70-130	04.21.2020 07:26	

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 2** Matrix: Ground Water Date Received:04.16.2020 17:45

Lab Sample Id: 659152-003 Date Collected: 04.16.2020 14:50

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 04.17.2020 15:38

Seq Number: 3123450

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1810**	250	mg/L	04.18.2020 11:45		500

Analytical Method: pH by SM4500-H

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123462 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	**7.10**		SU	04.20.2020 11:55	K	1
Temperature	TEMP	**22.3**		Deg C	04.20.2020 11:55	K	1

Analytical Method: Specific Conductance @25C by SM2510B

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123463 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Conductivity	COND	**13000**	10.0	umhos/cm	04.20.2020 11:15		1

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 2**
Matrix: Ground Water
Date Received:04.16.2020 17:45
Lab Sample Id: 659152-003
Date Collected: 04.16.2020 14:50

Analytical Method: TPH By SW8015 Mod
Prep Method: SW8015P
Tech: DTH
% Moisture:
Analyst: DTH
Date Prep: 04.17.2020 16:30
Seq Number: 3123611

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<2.50	2.50	mg/L	04.21.2020 11:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<2.50	2.50	mg/L	04.21.2020 11:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<2.50	2.50	mg/L	04.21.2020 11:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	04.21.2020 11:48	
o-Terphenyl	84-15-1	87	%	70-135	04.21.2020 11:48	

Analytical Method: BTEX by EPA 8021B
Prep Method: SW5030B
Tech: KTL
% Moisture:
Analyst: KTL
Date Prep: 04.20.2020 16:00
Seq Number: 3123568
SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	04.21.2020 07:46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	04.21.2020 07:46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	04.21.2020 07:46	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	04.21.2020 07:46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	04.21.2020 07:46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	04.21.2020 07:46	U	1
Total BTEX		<0.00200	0.00200	mg/L	04.21.2020 07:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	04.21.2020 07:46	
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.21.2020 07:46	

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 17** Matrix: Ground Water Date Received:04.16.2020 17:45

Lab Sample Id: 659152-004 Date Collected: 04.16.2020 15:10

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 04.17.2020 15:38

Seq Number: 3123450

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17300**	250	mg/L	04.18.2020 11:51		500

Analytical Method: pH by SM4500-H

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123462 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	**6.94**		SU	04.20.2020 11:55	K	1
Temperature	TEMP	**22.4**		Deg C	04.20.2020 11:55	K	1

Analytical Method: Specific Conductance @25C by SM2510B

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123463 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Conductivity	COND	**27300**	10.0	umhos/cm	04.20.2020 11:15		1

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 17** Matrix: Ground Water Date Received:04.16.2020 17:45

Lab Sample Id: 659152-004 Date Collected: 04.16.2020 15:10

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 04.17.2020 16:30

Seq Number: 3123611

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<2.50	2.50	mg/L	04.21.2020 01:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<2.50	2.50	mg/L	04.21.2020 01:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<2.50	2.50	mg/L	04.21.2020 01:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	04.21.2020 01:21	
o-Terphenyl	84-15-1	103	%	70-135	04.21.2020 01:21	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: KTL % Moisture:

Analyst: KTL Date Prep: 04.20.2020 16:00

Seq Number: 3123568 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00290**	0.00200	mg/L	04.21.2020 08:06		1
Toluene	108-88-3	<0.00200	0.00200	mg/L	04.21.2020 08:06	U	1
Ethylbenzene	100-41-4	**0.00565**	0.00200	mg/L	04.21.2020 08:06		1
m,p-Xylenes	179601-23-1	**0.00913**	0.00400	mg/L	04.21.2020 08:06		1
o-Xylene	95-47-6	**0.00441**	0.00200	mg/L	04.21.2020 08:06		1
Total Xylenes	1330-20-7	**0.0135**	0.00200	mg/L	04.21.2020 08:06		1
Total BTEX		**0.0221**	0.00200	mg/L	04.21.2020 08:06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	04.21.2020 08:06	
4-Bromofluorobenzene	460-00-4	101	%	70-130	04.21.2020 08:06	

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 5** Matrix: Ground Water Date Received:04.16.2020 17:45

Lab Sample Id: 659152-005 Date Collected: 04.16.2020 16:03

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 04.17.2020 15:38

Seq Number: 3123450

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12000**	250	mg/L	04.18.2020 11:56		500

Analytical Method: pH by SM4500-H

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123462 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	**6.91**		SU	04.20.2020 11:55	K	1
Temperature	TEMP	**22.6**		Deg C	04.20.2020 11:55	K	1

Analytical Method: Specific Conductance @25C by SM2510B

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123463 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Conductivity	COND	**32300**	10.0	umhos/cm	04.20.2020 11:15		1

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 5** Matrix: Ground Water Date Received:04.16.2020 17:45

Lab Sample Id: 659152-005 Date Collected: 04.16.2020 16:03

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 04.17.2020 16:30

Seq Number: 3123611

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<2.50	2.50	mg/L	04.21.2020 01:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<2.50	2.50	mg/L	04.21.2020 01:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<2.50	2.50	mg/L	04.21.2020 01:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	04.21.2020 01:41	
o-Terphenyl	84-15-1	96	%	70-135	04.21.2020 01:41	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: KTL % Moisture:

Analyst: KTL Date Prep: 04.20.2020 16:00

Seq Number: 3123568 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/L	04.21.2020 08:27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/L	04.21.2020 08:27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/L	04.21.2020 08:27	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/L	04.21.2020 08:27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/L	04.21.2020 08:27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/L	04.21.2020 08:27	U	1
Total BTEX		<0.00200	0.00200	mg/L	04.21.2020 08:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	04.21.2020 08:27	
4-Bromofluorobenzene	460-00-4	102	%	70-130	04.21.2020 08:27	

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 7** Matrix: Ground Water Date Received:04.16.2020 17:45

Lab Sample Id: 659152-006 Date Collected: 04.16.2020 16:15

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB % Moisture:

Analyst: MAB Date Prep: 04.17.2020 15:38

Seq Number: 3123450

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3470**	250	mg/L	04.18.2020 12:13		500

Analytical Method: pH by SM4500-H

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123462 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
pH	12408-02-5	**7.29**		SU	04.20.2020 11:55	K	1
Temperature	TEMP	**22.1**		Deg C	04.20.2020 11:55	K	1

Analytical Method: Specific Conductance @25C by SM2510B

Tech: CHE % Moisture:

Analyst: CHE

Seq Number: 3123463 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Conductivity	COND	**22500**	10.0	umhos/cm	04.20.2020 11:15		1

Certificate of Analytical Results 659152

HRL Compliance Solutions, Artesia, NM

West Pearl Queen

Sample Id: **SB 7** Matrix: Ground Water Date Received:04.16.2020 17:45

Lab Sample Id: 659152-006 Date Collected: 04.16.2020 16:15

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: DTH % Moisture:

Analyst: DTH Date Prep: 04.17.2020 16:30

Seq Number: 3123611

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<2.50	2.50	mg/L	04.21.2020 02:02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<2.50	2.50	mg/L	04.21.2020 02:02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<2.50	2.50	mg/L	04.21.2020 02:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	04.21.2020 02:02	
o-Terphenyl	84-15-1	112	%	70-135	04.21.2020 02:02	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: KTL % Moisture:

Analyst: KTL Date Prep: 04.20.2020 16:00

Seq Number: 3123568 SUB: T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.0202**	0.00200	mg/L	04.21.2020 08:47		1
Toluene	108-88-3	<0.00200	0.00200	mg/L	04.21.2020 08:47	U	1
Ethylbenzene	100-41-4	**0.0143**	0.00200	mg/L	04.21.2020 08:47		1
m,p-Xylenes	179601-23-1	**0.00653**	0.00400	mg/L	04.21.2020 08:47		1
o-Xylene	95-47-6	**0.00263**	0.00200	mg/L	04.21.2020 08:47		1
Total Xylenes	1330-20-7	**0.00916**	0.00200	mg/L	04.21.2020 08:47		1
Total BTEX		**0.0437**	0.00200	mg/L	04.21.2020 08:47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	04.21.2020 08:47	
4-Bromofluorobenzene	460-00-4	127	%	70-130	04.21.2020 08:47	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 659152

HRL Compliance Solutions

West Pearl Queen

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3123450 Matrix: Water Date Prep: 04.17.2020
MB Sample Id: 7701518-1-BLK LCS Sample Id: 7701518-1-BKS LCSD Sample Id: 7701518-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.500	25.0	26.5	106	26.5	106	90-110	0	20	mg/L	04.18.2020 11:12	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3123450 Matrix: Ground Water Date Prep: 04.17.2020
Parent Sample Id: 659152-001 MS Sample Id: 659152-001 S MSD Sample Id: 659152-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6840	20.0	5820	0	5640	0	90-110	3	20	mg/L	04.18.2020 11:29	X

Analytical Method: **pH by SM4500-H**
Seq Number: 3123462 Matrix: Ground Water
Parent Sample Id: 659152-001 MD Sample Id: 659152-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
pH	7.13	7.16	0	20	SU	04.20.2020 11:55	
Temperature	22.4	22.4	0	20	Deg C	04.20.2020 11:55	

Analytical Method: **Specific Conductance @25C by SM2510B**
Seq Number: 3123463 Matrix: Water
MB Sample Id: 3123463-1-BLK LCS Sample Id: 3123463-1-BKS LCSD Sample Id: 3123463-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Conductivity	<10.0	1410	1410	100	1420	101	80-120	1	20	umhos/cm	04.20.2020 11:15	

Analytical Method: **Specific Conductance @25C by SM2510B**
Seq Number: 3123463 Matrix: Ground Water
Parent Sample Id: 659152-001 MD Sample Id: 659152-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Conductivity	34200	34200	0	20	umhos/cm	04.20.2020 11:15	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

QC Summary 659152

HRL Compliance Solutions

West Pearl Queen

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3123611 — Matrix: Water — Date Prep: 04.17.2020
MB Sample Id: 7701672-1-BLK — LCS Sample Id: 7701672-1-BKS — LCSD Sample Id: 7701672-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<2.50	100	88.1	88	75.6	76	70-135	15	35	mg/L	04.20.2020 22:19	
Diesel Range Organics (DRO)	<2.50	100	96.8	97	80.6	81	70-135	18	35	mg/L	04.20.2020 22:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	73		118		118		70-135	%	04.20.2020 22:19
o-Terphenyl	71		111		101		70-135	%	04.20.2020 22:19

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3123611 — Matrix: Water — Date Prep: 04.17.2020
MB Sample Id: 7701672-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<2.50	mg/L	04.20.2020 21:59	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3123611 — Matrix: Water — Date Prep: 04.17.2020
Parent Sample Id: 659194-001 — MS Sample Id: 659194-001 S — MSD Sample Id: 659194-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<2.31	92.4	75.8	82	61.2	65	70-135	21	35	mg/L	04.20.2020 23:20	X
Diesel Range Organics (DRO)	<2.31	92.4	78.4	85	61.1	65	70-135	25	35	mg/L	04.20.2020 23:20	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		78		70-135	%	04.20.2020 23:20
o-Terphenyl	99		73		70-135	%	04.20.2020 23:20

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3123568 — Matrix: Water — Date Prep: 04.20.2020
MB Sample Id: 7701649-1-BLK — LCS Sample Id: 7701649-1-BKS — LCSD Sample Id: 7701649-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0822	82	0.0969	97	70-130	16	25	mg/L	04.21.2020 03:28	
Toluene	<0.00200	0.100	0.0836	84	0.0948	95	70-130	13	25	mg/L	04.21.2020 03:28	
Ethylbenzene	<0.00200	0.100	0.0862	86	0.0946	95	70-130	9	25	mg/L	04.21.2020 03:28	
m,p-Xylenes	<0.00400	0.200	0.169	85	0.186	93	70-130	10	25	mg/L	04.21.2020 03:28	
o-Xylene	<0.00200	0.100	0.0911	91	0.0943	94	70-130	3	25	mg/L	04.21.2020 03:28	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		101		102		70-130	%	04.21.2020 03:28
4-Bromofluorobenzene	85		106		97		70-130	%	04.21.2020 03:28

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 659152

HRL Compliance Solutions

West Pearl Queen

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3123568 Matrix: Ground Water Date Prep: 04.20.2020

Parent Sample Id: 659152-001 MS Sample Id: 659152-001 S MSD Sample Id: 659152-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0867	87	0.0652	65	70-130	28	25	mg/L	04.21.2020 04:08	XF
Toluene	<0.00200	0.100	0.0855	86	0.0793	79	70-130	8	25	mg/L	04.21.2020 04:08	
Ethylbenzene	<0.00200	0.100	0.0871	87	0.0871	87	70-130	0	25	mg/L	04.21.2020 04:08	
m,p-Xylenes	<0.00400	0.200	0.168	84	0.174	87	70-130	4	25	mg/L	04.21.2020 04:08	
o-Xylene	<0.00200	0.100	0.0881	88	0.0917	92	70-130	4	25	mg/L	04.21.2020 04:08	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		96		70-130	%	04.21.2020 04:08
4-Bromofluorobenzene	96		102		70-130	%	04.21.2020 04:08

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

XENCO LABORATORIES

Chain of Custody

Work Order No: 659152

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Project Manager:	Julie Linn	Bill to: (if different)	HRL
Company Name:	HRL Compliance Solutions	Company Name:	
Address:	112 S. 6th St.	Address:	
City, State ZIP:	Artesia, NM	City, State ZIP:	
Phone:	(970) 903-8747	Email:	jlinn@hrlcomp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	West Pearl Queen	Turn Around	
Project Number:		Routine	☒
Project Location		Rush:	
Sampler's Name:	J. Linn	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.0	Thermometer ID	T-NM-007	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes (No) N/A	Total Containers:	42	

ANALYSIS REQUEST

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH - GRO, DRO, ORO 8015	BTEX	CL	pH	Electrical Conductivity	Sample Comments
	SB14	GW	4-16-20	0840	—	7	X	X	X	X	X	
	SB13	GW	4-16-20	1325	—	7	X	X	X	X	X	
	SB2	GW	4-16-20	1450	—	7	X	X	X	X	X	
	SB17	GW	4-16-20	1510	—	7	X	X	X	X	X	
	SB5	GW	4-16-20	1603	—	7	X	X	X	X	X	
	SB7	GW	4-16-20	1615	—	7	X	X	X	X	X	

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Tl Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Julie L	[signature]	4/16/20 1745	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

Inter-Office Shipment

IOS Number **62277**

Date/Time: 04/17/20 11:29
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.:

Please send report to: Erica Morales
Address: 1089 N Canal Street
E-Mail: erica.morales@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
659152-001	W	SB 14	04/16/20 08:40	SW8021B	BTEX by EPA 8021B	04/22/20	04/30/20	EIM	BR4FBZ BZ BZME EBZ X	
659152-001	W	SB 14	04/16/20 08:40	SM2510B	Specific Conductance @25C by SM2510	04/22/20	05/14/20	EIM		
659152-001	W	SB 14	04/16/20 08:40	SM4500-H	pH by SM4500-H	04/22/20	04/16/20 08:55	EIM		
659152-002	W	SB 13	04/16/20 13:25	SW8021B	BTEX by EPA 8021B	04/22/20	04/30/20	EIM	BR4FBZ BZ BZME EBZ X	
659152-002	W	SB 13	04/16/20 13:25	SM4500-H	pH by SM4500-H	04/22/20	04/16/20 13:40	EIM		
659152-002	W	SB 13	04/16/20 13:25	SM2510B	Specific Conductance @25C by SM2510	04/22/20	05/14/20	EIM		
659152-003	W	SB 2	04/16/20 14:50	SM2510B	Specific Conductance @25C by SM2510	04/22/20	05/14/20	EIM		
659152-003	W	SB 2	04/16/20 14:50	SM4500-H	pH by SM4500-H	04/22/20	04/16/20 15:05	EIM		
659152-003	W	SB 2	04/16/20 14:50	SW8021B	BTEX by EPA 8021B	04/22/20	04/30/20	EIM	BR4FBZ BZ BZME EBZ X	
659152-004	W	SB 17	04/16/20 15:10	SM4500-H	pH by SM4500-H	04/22/20	04/16/20 15:25	EIM		
659152-004	W	SB 17	04/16/20 15:10	SM2510B	Specific Conductance @25C by SM2510	04/22/20	05/14/20	EIM		
659152-004	W	SB 17	04/16/20 15:10	SW8021B	BTEX by EPA 8021B	04/22/20	04/30/20	EIM	BR4FBZ BZ BZME EBZ X	
659152-005	W	SB 5	04/16/20 16:03	SM2510B	Specific Conductance @25C by SM2510	04/22/20	05/14/20	EIM		
659152-005	W	SB 5	04/16/20 16:03	SM4500-H	pH by SM4500-H	04/22/20	04/16/20 16:18	EIM		
659152-005	W	SB 5	04/16/20 16:03	SW8021B	BTEX by EPA 8021B	04/22/20	04/30/20	EIM	BR4FBZ BZ BZME EBZ X	
659152-006	W	SB 7	04/16/20 16:15	SM2510B	Specific Conductance @25C by SM2510	04/22/20	05/14/20	EIM		
659152-006	W	SB 7	04/16/20 16:15	SW8021B	BTEX by EPA 8021B	04/22/20	04/30/20	EIM	BR4FBZ BZ BZME EBZ X	
659152-006	W	SB 7	04/16/20 16:15	SM4500-H	pH by SM4500-H	04/22/20	04/16/20 16:30	EIM		

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 04/17/2020

Received By: Brianna Teel

Date Received: 04/20/2020 10:20

Cooler Temperature: 0.6

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 62277

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used :

Sent By: Elizabeth McClellan **Date Sent:** 04/17/2020 11:29 AM

Received By: Brianna Teel **Date Received:** 04/20/2020 10:20 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.6	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Brianna Teel Date: 04/20/2020

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: HRL Compliance Solutions

Date/ Time Received: 04.16.2020 05.45.00 PM

Work Order #: 659152

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	1	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**No**	Samples split in lab for Chloride Method. 4-17-20 EM
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	SM4500H, SM2510 and BTEX subbed to Midland.
#18 Water VOC samples have zero headspace?	**Yes**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#: 10Fox1971

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: HRL Compliance Solutions

Date/ Time Received: 04.16.2020 05.45.00 PM

Work Order #: 659152

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Sample Receipt Checklist

A032690e

Checklist completed by: _____ Date: 04.17.2020
Elizabeth McClellan

Checklist reviewed by: _____ Date: 04.17.2020
Erica Morales

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

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

CONDITIONS

Action 79988

CONDITIONS

Operator: ARMSTRONG ENERGY CORP P.O. Box 1973 Roswell, NM 88202	OGRID: 1092
	Action Number: 79988
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.	3/18/2022
chensley	Data pertaining to depth to water is not defined. In lieu of protecting groundwater, The OCD requires that table 1 <50ft bgs be used.	3/18/2022
chensley	This site is an abandon facility. Site must meet reclamation standard for top 4 feet.	3/18/2022
chensley	Deferral will not be considered for abandon facility.	3/18/2022
chensley	Armstong has yet to define the edge of the plum vertically. Define the release with table 1 standards 50 ft or less.	3/18/2022
chensley	Test groundwater for TDS, cation, and anions, chloride specific.	3/18/2022
chensley	NOTE: The OCD requires a copy of all correspondence relative to remedial projects be included in all proposal and/or final closure reports. Correspondence required to be included in reports may include, but not necessarily limited to, extension requests, liner inspection notifications, sample event notifications, spill/release/fire notifications, and variance requests. This will allow for notifications and requests to become a documented part of the incident file.	3/18/2022
chensley	Update requested by 06/18/2022	3/18/2022