New Discharge Permit Marathon Petroleum Company LP (GW-40) Former Giant Bloomfield Refinery (6/22/2020)

Western Refining Southwest, Inc.: Abatement of Groundwater and Vadose Zone Contamination under Water Quality Control Commission- WQCC 20.6.2.3114 NMAC Discharge Permit Application
The former Giant Bloomfield Refinery (GBR) Facility is located in the NW/4 of Section 27, and SW/4 of Section 22, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. The facility may be found driving toward the northeast corner of United States Highway 64 and County Road 3500, approximately five miles west of Bloomfield, New Mexico.

Administratively Complete (6/19/2020)

Description (6/22/2020)

Application (5/13/2020)

Application Addendum (7/16/2020)

Discharge Permit (7/12/2020)

Permit Issued (1/6/2021)

Public Notice (Estimated OCD date: Sunday (7/12/2020)

OCD Response to Public Comments (1//6/2021)

Former Giant Bloomfield Refinery Description (6/22/2020)**:**

A new Discharge Permit (GW-40) application for "Abatement of Groundwater and Vadose Zone Contamination" for the Western Refining SW, Inc., "Former Giant Bloomfield Refinery" (GBR) now owned by Marathon Petroleum Company, LP, was recently submitted in May to the New Mexico Oil Conservation Division.

The former refinery is located in the NW/4 of Section 27, and SW/4 of Section 22, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. The facility may be found driving toward the northeast corner of United States Highway 64 and County Road 3500, approximately five miles west of Bloomfield.

Groundwater monitoring and remediation activities have been ongoing since 1988. Limited areas of impacted groundwater remain at the Site and will be addressed under an updated Stage 2 Abatement Plan required under the permit. The Lee Acres Landfill Superfund Site is located hydrogeologically upgradient from the facility. The permittee may implement a study in an attempt to determine natural background groundwater quality conditions at the facility while it continues to monitor and evaluate the baseline upgradient groundwater quality conditions. Groundwater may be collected in recovery wells at the Site, then discharged after treatment. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of approximately 40 ft. below ground level with a TDS concentration of approximately 1,500 ppm. The new permit will address monitoring, remediation, contaminant hydrogeology, closure, risk and management of potential spills, leaks, and other accidental discharges to the surface during groundwater abatement.

DISCHARGE PERMIT APPLICATION

FORMER GIANT BLOOMFIELD REFINERY
BLOOMFIELD, NEW MEXICO

MAY 2020

Prepared for:

WESTERN REFINING SOUTHWEST, INC.
111 COUNTY ROAD 4990
BLOOMFIELD, NEW MEXICO 87413

Prepared by:

LT ENVIRONMENTAL, INC.
848 East Second Avenue
Durango, Colorado 81301
970.385.1096

A proud member of WSP

DISCHARGE PERMIT APPLICATION

FORMER GIANT BLOOMFIELD REFINERY
BLOOMFIELD, NEW MEXICO

Project Number: 095820002

Prepared by: _____ May 11, 2020

Stuart Hyde, LG
LTE Project Geologist

Date

Reviewed by: _____ May 11, 2020

Ashley Ager, P.G.
LTE Senior Geologist

Date

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APPENDICES

1.0 DISCHARGE PERMIT TYPE

Western Refining Southwest, Inc. (Western) proposes the potential discharge of water derived from wells at the inactive former Giant Bloomfield Refinery (GBR) in San Juan County, New Mexico. Monitoring and recovery wells were installed as part of site characterization activities and as a remedial action (groundwater recovery and treatment) to address groundwater contamination associated with historical releases of diesel fuel on the GBR property. For the purposes of this document, the "Site" is considered to be the lateral and vertical extents of contamination related to historical diesel-fuel releases originating from the GBR property. The "Facility" is considered the groundwater recovery and treatment system, as well as the existing water-discharge infrastructure, located on the GBR property.

Since 2015, no water has been discharged at the Facility. However, additional groundwater sampling is planned as part of additional characterization proposed for the Site per the *Stage 1 Abatement Plan* prepared by LT Environmental (LTE). Depending on the results of the additional sampling, the groundwater recovery and treatment system may be reactivated and require the discharge of treated effluent into the existing infiltration trenches located at the Site.

2.0 OPERATOR INFORMATION

The landowner, operator and legally responsible party is as follows:

Western Refining Southwest, Inc.
539 South Main Street, Room M-7081
Findlay, OH 45840
Phone: (419) 421-2338

Correspondence regarding this discharge plan should be directed to the local representative:

Gregory McCartney
Senior Environmental Professional
Marathon Petroleum Company LP
539 South Main Street, Room M-7081
Findlay, OH 45840
Phone: (419) 310-4888

3.0 LOCATION

The Facility is located on the northeast corner of United States Highway 64 and County Road 3500, approximately five miles west of Bloomfield, New Mexico, in the southwest quarter of Section 22 and the northwest quarter of Section 27, Township 29 North, Range 12 West in San Juan County, New Mexico (Figure 1).

4.0 LANDOWNER INFORMATION

The landowner, operator and legally responsible party is as follows:

Western Refining Southwest, Inc.
539 South Main Street, Room M-7081
Findlay, OH 45840
Phone: (419) 421-2338

5.0 FACILITY DESCRIPTION

The Facility consists of the former Giant Bloomfield Refinery storage tanks and equipment, as well as the remedial equipment installed for recovery, treatment, and discharge of groundwater from the Site (pumps, piping, and treatment system). The refinery operated from 1974 to 1982 and is presently inactive. A remediation system was installed in stages beginning in 1988 and has gradually been simplified over time. The remediation system was designed to treat groundwater affected by various releases during operation of the former refinery and periodic spills at the truck unloading facility. The remediation system consists of a series of groundwater monitoring wells, groundwater recovery wells, water treatment equipment, and treated-water infiltration trenches. During operation, the treatment system could process up to 5,000,000 gallons of water per year. Currently, the Facility and associated equipment is located within the GBR property boundary. The location of the current Facility equipment is shown on Figure 2.

6.0 STORED MATERIALS

The refinery is no longer in operation and there are no stored materials located at the Facility.

7.0 EFFLUENT SOURCES

The effluent will be derived from groundwater pumped from a series of recovery wells at the Site. Groundwater in several areas of the Site is impacted by petroleum hydrocarbons. However, the recovered water will be treated prior to discharge (see Section 8.0). Table 1 presents the analytical results of the influent and effluent water in 2015 prior to shut-down of the remediation system. Up to 420,000 gallons of water was previously treated and discharged per month.

8.0 WATER COLLECTION, TREATMENT, AND DISPOSAL

8.1 WATER COLLECTION

At the Facility, petroleum hydrocarbon-impacted groundwater and phase-separated hydrocarbons (PSH) may be pumped from the shallow aquifer through a series of recovery wells located within the formerly defined contaminant plume associated with the Site. Locations of previously used recovery wells are shown in Figure 2 and are identified by the acronym GRW (Giant Recovery Well), followed by a numerical designation. There may be solid filters in each recovery well enclosure to control deposition of solid contaminants in the system. Flow meters will be installed to monitor volumes of groundwater recovered.

8.2 WATER TREATMENT

Recovered water exhibiting dissolved phase contaminants and/or PSH above New Mexico Water Quality Control Commission (NMWQCC) regulatory standards require treatment to within applicable guidelines prior to discharge. A carbon adsorption process formerly was utilized for water treatment prior to discharge and is available for future use, if appropriate. This process removes contaminants from the groundwater by forcing it through tanks containing activated carbon treated to attract the contaminants. Figure 3 presents a simplified representation of the groundwater recovery and treatment system at the Site. Figure 4 details the carbon adsorption tank and associated piping used at the refinery.

8.2.1 Tank 102

Depending on the volume recovered, Tank 102 (capacity of 500 barrels, or 21,000 gallons) may be used as an intermediate storage tank for the water treatment system. The tank can store water before it is treated.

8.3 WATER DISCHARGE

Once treated, water can be discharged to an infiltration trench located within the Site boundary. Infiltration trenches consist of subsurface distribution systems placed within gravel packs. Water infiltrates into the surrounding strata and eventually makes its way to the shallow aquifer. Figure 5 illustrates a typical infiltration gallery. The return of treated water to the aquifer serves to recharge the aquifer.

9.0 PROPOSED MODIFICATION OF EXISTING COLLECTION, TREATMENT, AND DISPOSAL SYSTEMS

No modifications of the existing collection, treatment, and/or disposal systems are requested at this time. Following completion of a *Stage 1 Abatement Plan*, changes may be proposed in a *Stage 2 Abatement Plan.*

10.0 INSPECTION AND MAINTENANCE PLAN

When in operation, inspection and maintenance are an integral part of the remediation system. Inspection provides information critical to the safe and efficient operation of the system. Maintenance is key in the prevention of undesirable events and excessive downtime. Regular inspections are performed to assure safe and efficient operation. During operation, the system will be monitored on a regular basis during the work week. Observations will be recorded in a bound field logbook with the date, time, and person recording the information noted.

During operation, an inspection will be made weekly in the control building, at the storage tank, and each recovery well. All equipment will be inspected for leaks and malfunctions. The operator will be familiar with the location of underground lines and note any surface indication of underground leaks. Leaks of any size will be noted and repaired. Readings from all water meters will be observed and recorded in the logbook regularly, and comparisons to previous readings will be made. Abnormal meter readings can indicate problems within the system. On a semi-annual basis, the level of water and product is determined for each monitoring and recovery well. An electronic water/oil detection tape is used to determine levels. The data will be recorded in a logbook.

Maintenance of the Facility will include replacement of filters in well houses, lubrication of rotating equipment, air compressor oil changes, addition of nutrients as necessary, observations of unusual pump and motor noise, inspection of the carbon pre-filter, and repair of any equipment as required. Water volumes removed from each recovery well will be metered. Metered water volumes, as well as water levels, indicate the effectiveness of the well pump and controls. Efforts will be made to maintain consistent pumping rates.

An inspection and maintenance schedule and checklist will be provided with the *Stage 2 Abatement Plan*.

11.0 SPILLS AND RELEASE CONTINGENCY PLAN

In the event of an unplanned release of water or hydrocarbon at the Facility, the Western Project Manager should be notified and act as the response coordinator. If the Project Manager is not available, the next person noted in the following list of alternates should be notified.

INTERNAL EMERGENCY NOTIFICATIONS

- **24-hour Emergency Line:** 1-888-658-8006
- **Tommy D. Roberts – Facility Supervisor**

  Mobile: 505-801-0421

  Office: 505-632-4195
- **Frank Dooling - Operations**

  Mobile: 505-634-6138

  Office: 505-632-4142

EMERGENCY RESPONSE CONTRACTORS

- **EnviroTech Inc. / Emergency Spill Response Contractor**

  5796 U.S. Highway 64

  Farmington, New Mexico 87401

  24 Hour Emergency Response: 1-800-362-1879
- **H2O Environmental / Emergency Spill Response Contractor**

  2634 S Airport Blvd #2

  Chandler, Arizona 85286

  24 Hour Emergency Response: 480-855-5676

If it is determined that the release is 5 barrels or greater, the OCD will be notified and a written report submitted. Leaks occurring outside of tank containment berms should be contained or redirected so that they can be picked up by pumps or vacuum trucks and placed back in storage. In the event of a broken pipe, the leaking section should be isolated by closing necessary valves and shutting down pumps.

11.1 SPILL AND LEAK PREVENTION AND MONITORING

Leaks and spills are not likely; however, the potential does exist for these events. Tanks and piping are the most likely locations for leak and/or spills. Safeguards in place in the refinery include choice of construction materials, safety and shutdown devices, secondary containment, inspection and security.

11.1.1 Construction Materials

All piping is and will be constructed of PVC or other hydrocarbon and corrosion resistant plastic. Material choices for valves and controls include plastic, stainless steel, bronze and cast iron. All are suitable for water and hydrocarbon service. Storage Tank 102 is constructed of steel.

11.1.2 Safety and Shutdown Devices

All storage tanks are equipped with high- and low-level liquid sensors to detect breaches or overfills. Any treatment system installed may be equipped with an emergency shutoff.

11.1.3 Secondary Containment

Tank 102 has viable earthen secondary containment berms in place. The bermed area has a minimum liquid capacity of 1.5 times the total capacity of the tank contained within it. Berms are monitored and maintained to ensure effectiveness.

11.1.4 Inspection

During system operation, regular inspections will be performed during the work week. These inspections include looking for visual indications of leaks, checking tank levels, recording and comparing meter readings and checking the condition of pump seals and motors. Unusual conditions are noted in the logbook and reported to the Project Manager.

11.1.5 Security

The facility is entirely fenced with chain link or barbed wire. Gates are locked and access is limited to facility personnel and supervised visitors and contractors.

12.0 GEOLOGICAL/HYDROLOGICAL INFORMATION

The Facility and Site are located on weathered outcrops of Nacimiento Formation, which is comprised of shales, sandstones and siltstones of Cretaceous-Tertiary age. Immediately to the west of the Facility and on Western's property is a large unnamed arroyo, which is underlain by 30 to 60 feet of Quaternary alluvial sediments. Older Quaternary terrace deposits of cobbles and boulders are observed on the interfluvial ridges adjacent to the arroyo. These terrace deposits may have been utilized as fill on the refinery site. The San Juan River Valley is located south of the site and contains up to several hundred feet of alluvial fill.

The uppermost zone of ground water in the refinery area is unconfined to partially confined water table unit, which is hosted by the weathered, locally porous sandstones and shales of the Nacimiento Formation and arroyo alluvium. These units merge hydrologically with the San Juan River alluvium to the south. Figures 6 and 7 present generalized cross sections through the refinery site showing the relationship of the arroyo alluvium to bedrock. Major hydrogeologic features of the site are:

- An interconnected water table aquifer hosted by both valley and arroyo fill and the upper parts of the Nacimiento Formation;
- Ground water at a depth of 30 to 70 feet beneath the land surface;
- An upper water table surface generally conforming to topography, with ground water flow from north or northeast to south (towards the San Juan River) through the refinery area;
- Minor, local zones of perched ground water lying 5 to 10 feet above the water table.

Water levels and floating product thicknesses were measured in all wells at the Site during 2019. A record of these measurements is shown in Table 2. A groundwater contour map was prepared based on the static water levels of all the wells at the Site in November 2019 (Figure 8). This map is representative of static conditions of the aquifer because pumping currently is not being performed on wells at the Site. Where floating product was encountered, the product thickness has been multiplied by 0.8 and added to the measured water elevation. This calculation corrects for the difference in density between floating product and water.

12.1 BACKGROUND CONCENTRATIONS

As discussed in the *Stage 1 Abatement Plan* prepared for the Site (LTE, 2020), several constituents are present at the Site at concentrations exceeding NMWQCC standards. However, based on concentrations detected in wells hydrogeologically upgradient of the Site, elevated concentrations of several constituents are present due to the offsite migration of contaminants originating from the Lee Acres Landfill Superfund site. Specifically, chloride, chromium, iron, sulfate, and TDS concentrations are present in groundwater at and downgradient of the Lee Acres Landfill at concentrations above NMWQCC standards; however, these constituents were not considered during the remediation-selection process outlined in the *Record of Decision* for the Superfund site (EPA, 2004). In addition to these constituents, manganese (considered a COC for the Lee Acres Landfill Superfund site) also is found at concentrations above NMWQCC standards. These constituents have long been detected at the Site in upgradient wells GBR-32, GBR-48, GBR-49, and

GBR-50, located hydrogeologically upgradient of the source areas at the Site (identified on Figure 2) and downgradient of the Lee Acres Landfill Superfund site.

In June 2019, LTE performed a statistical analysis using ProUCL software (developed by the United States Environmental Protection Agency, or EPA) to develop "background" concentrations for the following constituents migrating onto the Site: chloride, chromium, iron, manganese, sulfate, and TDS. Table 3 presents the results of the statistical analysis and groundwater analytical results for these constituents detected between 2010 and 2018. Table 3 also presents the cleanup standards (or "remedial goals") established for the Lee Acres Landfill Superfund site in their *Remedial Investigation Report* (BLM, 1992) and *Record of Decision* (EPA, 2004). Appendix B presents the assumptions and inputs used for the statistical analysis. Appendix B also includes a letter prepared by LTE summarizing our findings that was provided to the EPA for their five-year review of the Lee Acres Landfill Superfund site (conducted in 2019).

12.2 FLOODING POTENTIAL

The greatest threat to flooding of the Facility are the San Juan River (located less than one mile south of the site) and the unnamed arroyo located within the Site itself. History suggests flooding potential of the San Juan River is small. From 1904 until 1976, only 23 flood events (on individual streams, not concurrent on all streams) have been recorded. According to a study conducted by the New Mexico Floodplain Managers Association (2003), previous floods of the San Juan River resulted from general rainstorms, snowmelt augmented by rain, and from cloudburst storms. Rain floods usually occur during the months of September and October. This type of flood results from prolonged heavy rainfall over tributary areas and is characterized by high peak flows of moderate duration. Major floods (recurrence interval of 100 or more years) result from excessive snowmelt runoff generated in the watershed upstream from Bloomfield. Flood flows generated by snowmelt generally occur during the period from May through July. Snowmelt flooding is characterized by moderate peak flows, large volume and long duration, and marked diurnal fluctuation in flow. The refinery is elevated above the floodplain of the San Juan River, decreasing the chance of a river flood, such as the ones described above, from reaching the Facility.

The flooding potential of the arroyo is predicted to be low as well. Similar arroyos have been studied in detail near Farmington and are described as ephemeral in character, flowing only during periods of heavy rainfall (New Mexico Floodplain Managers Association, 2003). Furthermore, the arroyo's influence on the Site and Facility has been decreased due to the construction of a new highway located between the arroyo and the refinery.

13.0 MONITORING AND REPORTING

When the Facility is in operation, influent/effluent and water samples will be collected on a monthly basis. Per the *Stage 1 Abatement Plan* (LTE, 2020) prepared for the Site, groundwater conditions also will be monitored through sampling of the existing Site monitoring wells. Based on the results of the Stage 1 sampling, a *Stage 2 Abatement Plan* and/or *Groundwater Monitoring Plan* will be prepared for the Site. At a minimum, appropriate wells will be gauged quarterly, with groundwater sampled for chemical analysis annually when the Facility is in operation. Constituents to be analyzed will be based on the results of the *Stage 1* and *Stage 2 Abatement Plans.*

A report of activities performed at the Facility will be prepared annually. The report will include an update of operations, analytical results, water levels, a potentiometric surface map, and discharge volume history. Reports and associated data will be retained by Western for a period of at least five years.

14.0 FACILITY CLOSURE AND POST CLOSURE PLAN

As described in Section 13.0 above, specific monitoring wells will be gauged quarterly, with groundwater sampled for chemical analysis annually when the Facility is in operation. Constituents to be analyzed will be based on the results of the *Stage 1* and *Stage 2 Abatement Plans.*

After completing abatement of groundwater contaminants originating from the Site to the standards proposed in the *Stage 2 Abatement Plan*, Western will cease active remedial actions and perform appropriate quarterly groundwater monitoring for at least two years (eight quarters) based on results at the time of proposed closure. During this period of monitoring, no maintenance activities are anticipated for the existing remediation system. Western will submit annual reports to the NMOCD documenting monitoring results. Once eight consecutive quarters with groundwater contaminants below applicable standards is documented, facility closure will be requested from the NMOCD that will include the following activities:

- Remove or plug all lines leading to and from groundwater recovery wells and injection lines so that a discharge can no longer occur at the Site.
- Remove all remediation system components from the Site, if applicable.
- Plug and abandon all monitoring wells associated with the Site.

Estimated costs for closure and post-closure activities are presented in Table 4.

15.0 PERMIT RENEWAL

The Facility discharge permit will expire five years after NMOCD approval and notification of this application. Western will prepare and submit an application for discharge permit renewal at least 120 days before the discharge permit expires. If the renewal application is submitted at least 120 day prior to expiration, then the existing discharge permit for the same activity shall not expire until the application for renewal has been approved or disapproved by NMOCD.

16.0 PERMIT MODIFICATIONS

In the case of Facility expansion, increase in discharge, and/or other significant modifications to the discharge of water, Western will notify NMOCD in writing for review and approval prior to implementing the modification. An application and a description of the requested modifications will be included in the written notice.

Modifications to abatement or monitoring plans prepared to address pre-existing contaminants associated with the Site (as of March 2020) also will be submitted to NMOCD in writing for review and approval. These modifications will not require an application and will not be subject to permit fees as described in Table 1 of 20.6.2.3114 NMAC. However, filing and/or review fees may be applied as presented in Table 2 of 20.6.2.3114 NMAC.

17.0 REFERENCES

New Mexico Floodplain Managers Association, 2003, A History of Floods and Flood Problems in New Mexico, LA Bond Associates, High Rolls, New Mexico, 144 p.

United States Bureau of Land Management (BLM). (1992). Remedial Investigation Report for the Lee Acres Landfill. Albuquerque: US Bureau of Land Management.

United States Environmental Protection Agency (EPA). (2004). Record of Decision for the Lee Acres Landfill Superfund Site, Farmington, New Mexico.

18.0 CERTIFICATION

WESTERN REFINING SOUTHWEST, INC.
GIANT BLOOMFIELD REFINERY
BLOOMFIELD, NEW MEXICO

I certify that the information provided in the application is true, accurate, and complete to the best of my knowledge, after reasonable inquiry.

Signature:  May 11, 2020

Gregory McCartney
Senior Environmental Professional
gjmccartney@marathonpetroleum.com

Date

FIGURES

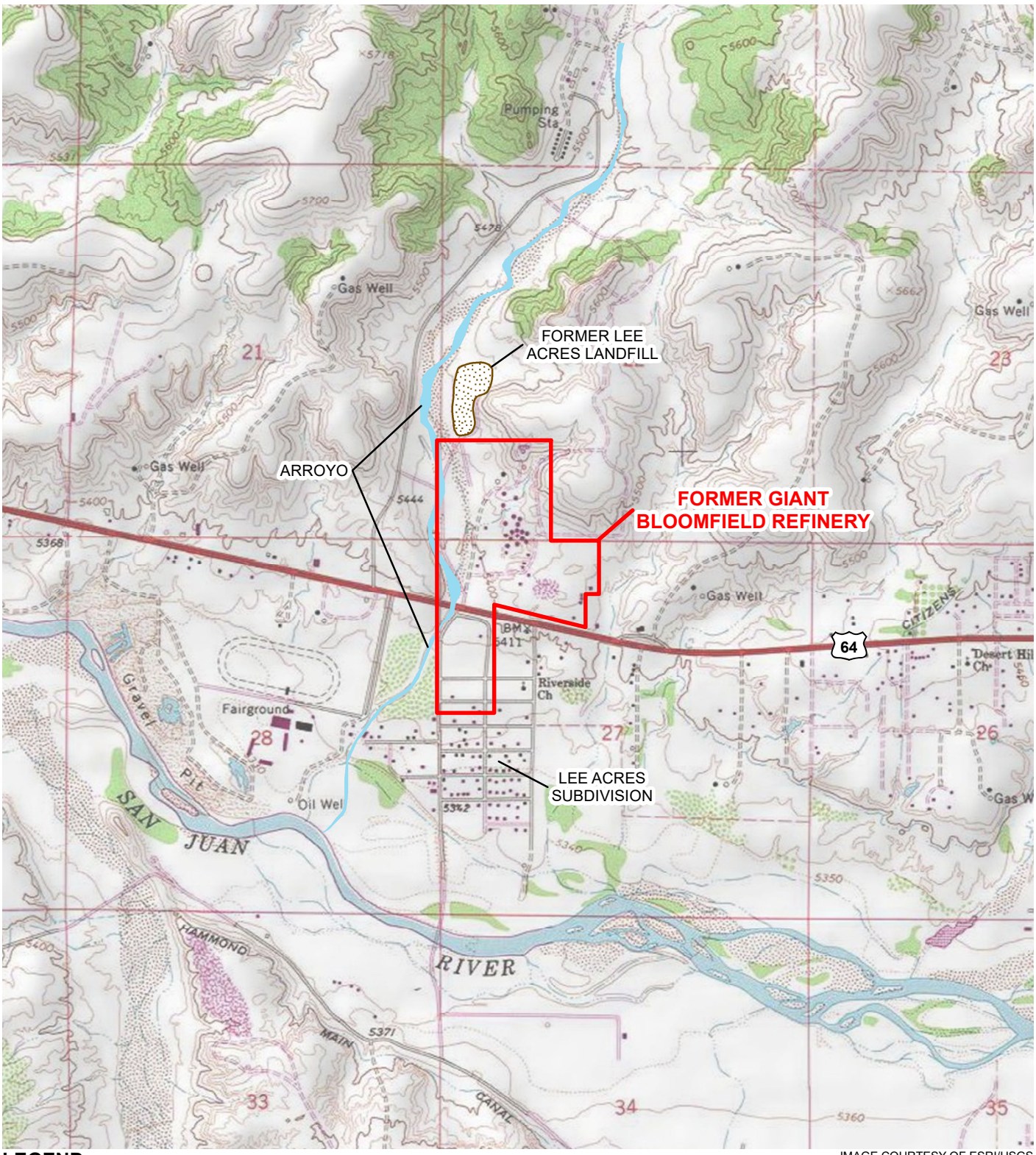

IMAGE COURTESY OF ESRI/USGS

LEGEND

- SITE LOCATION
- ARROYO
- FORMER LEE ACRES LANDFILL

NEW MEXICO

0 2,000 4,000
Feet

N

FIGURE 1
SITE LOCATION MAP
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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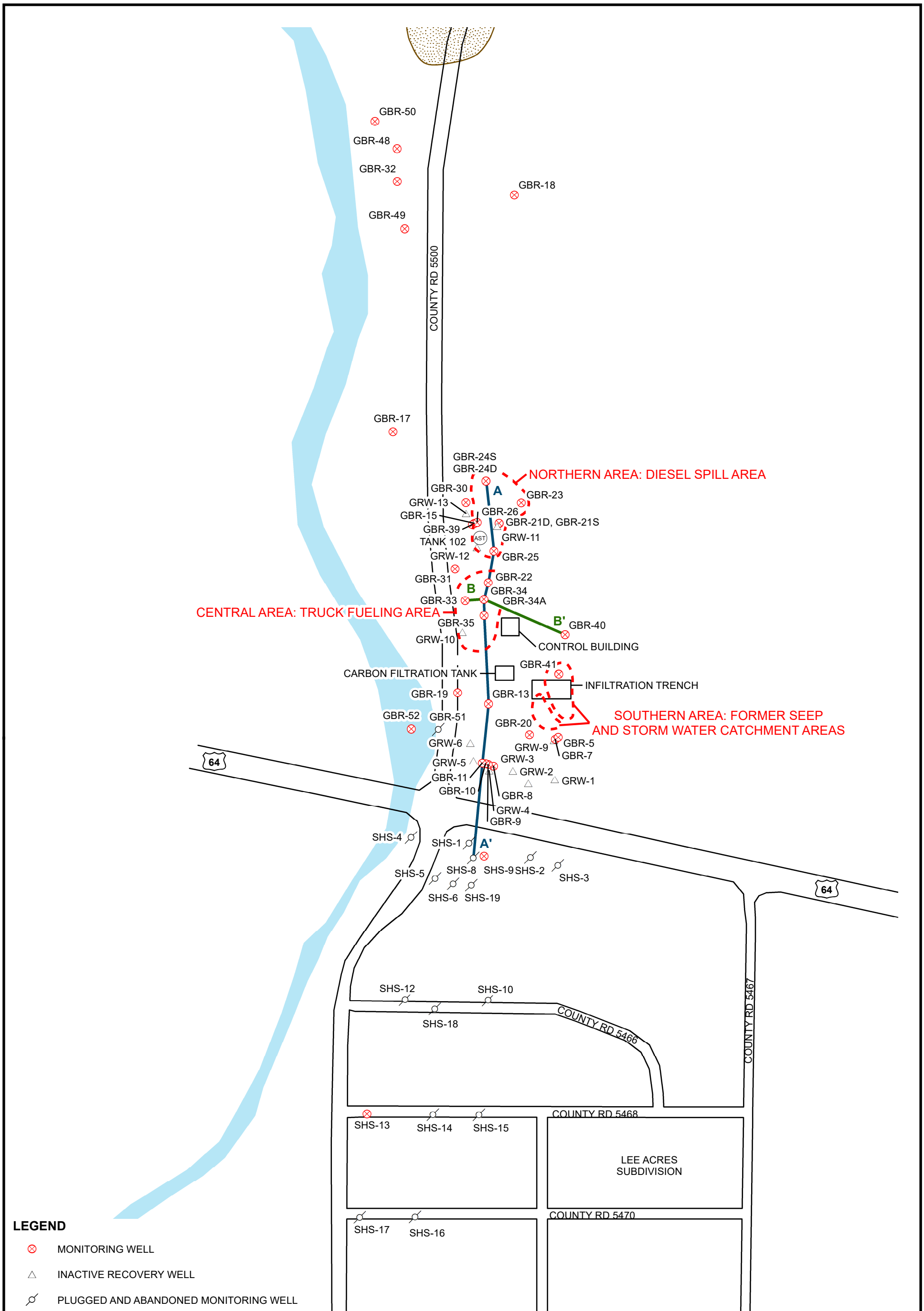

FIGURE 2
SITE MAP
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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FIGURE 3
SIMPLIFIED REPRESENTATION OF THE GROUNDWATER RECOVERY, TREATMENT, AND DISCHARGE SYSTEM
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

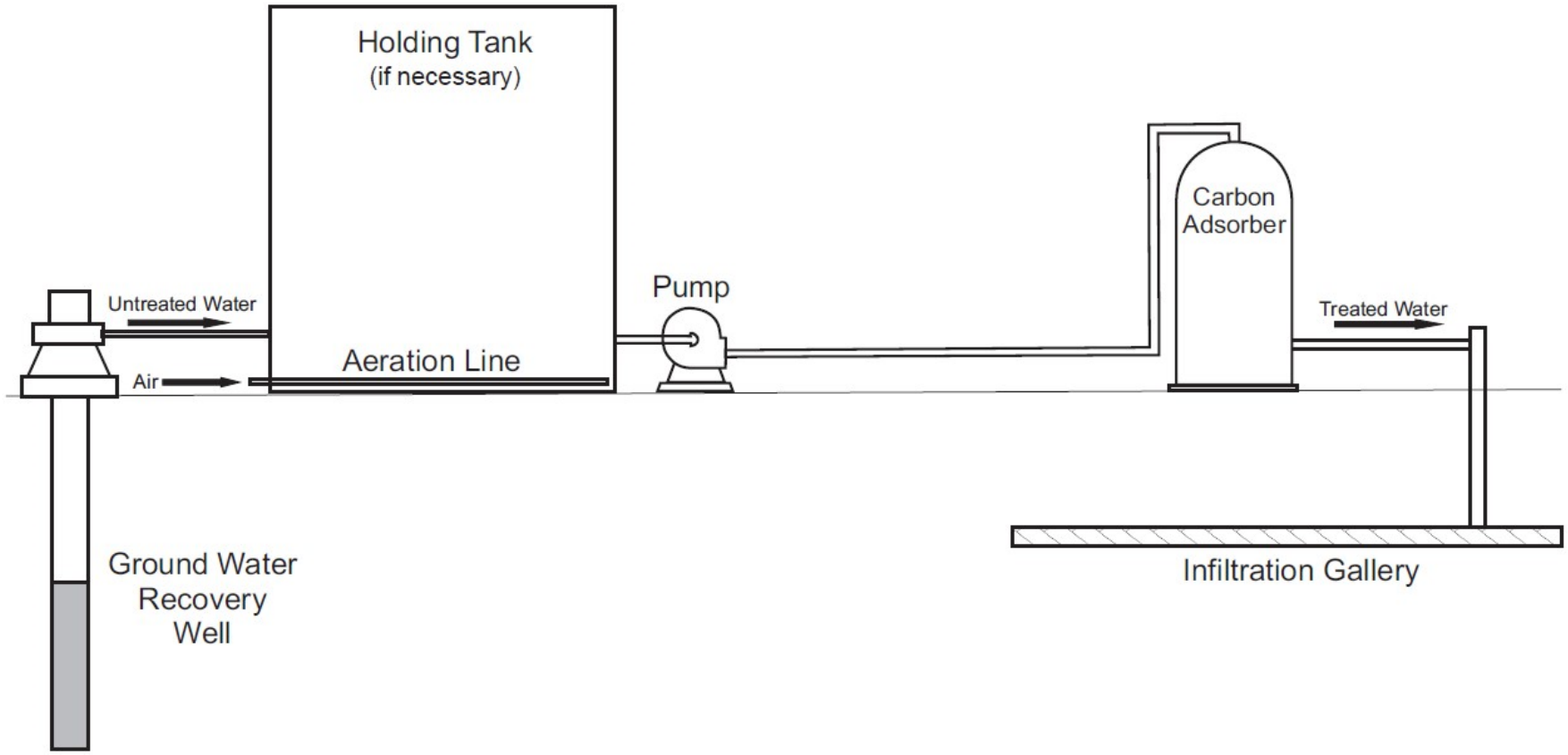


FIGURE 4
THE CARBON ADSORPTION SYSTEM
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

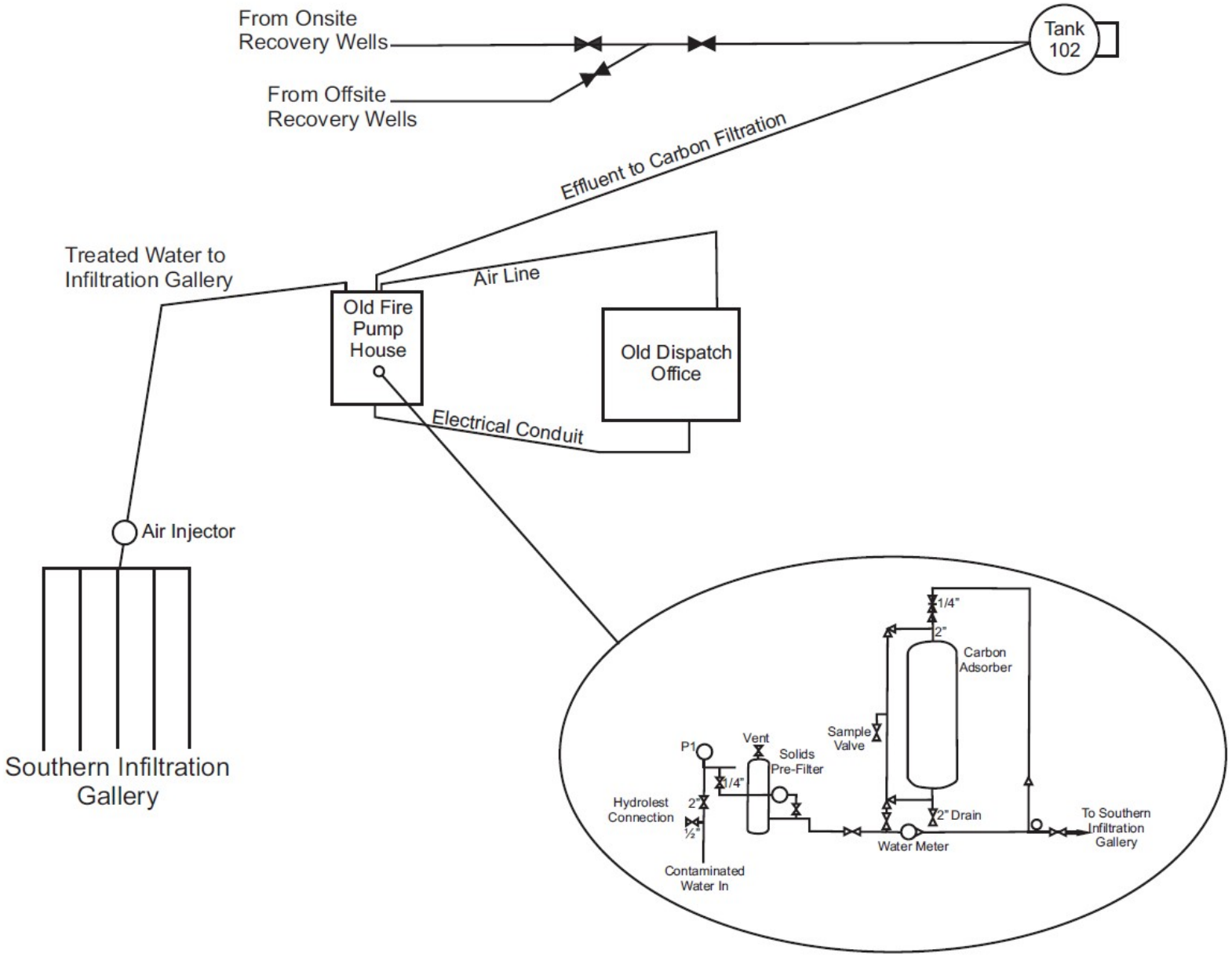
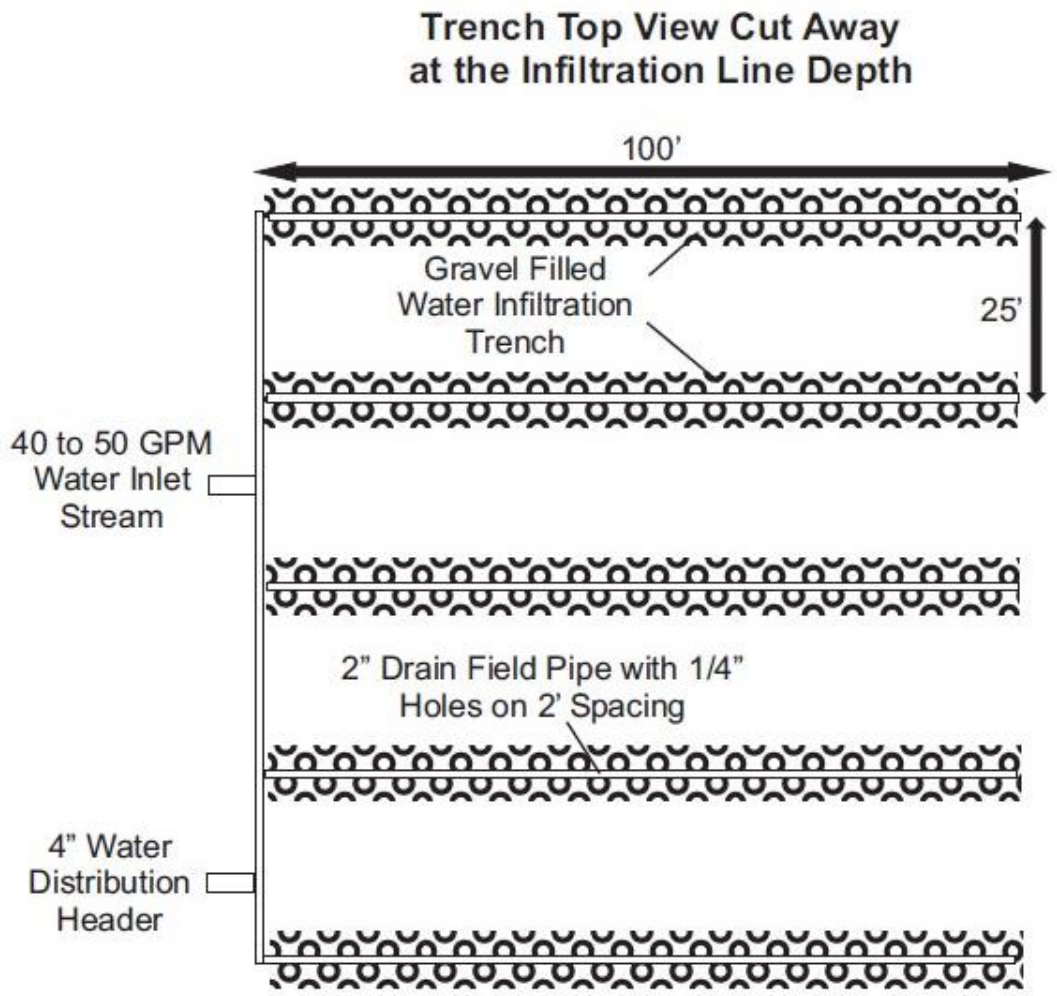
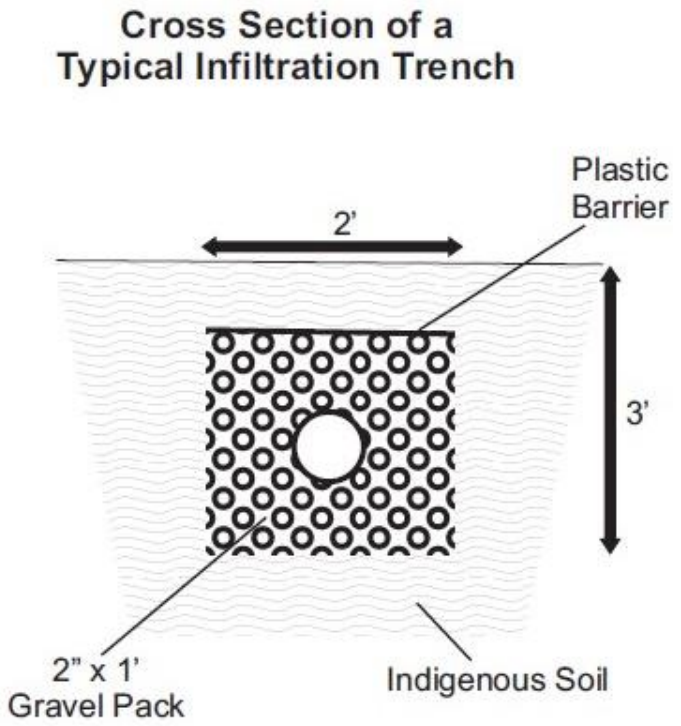
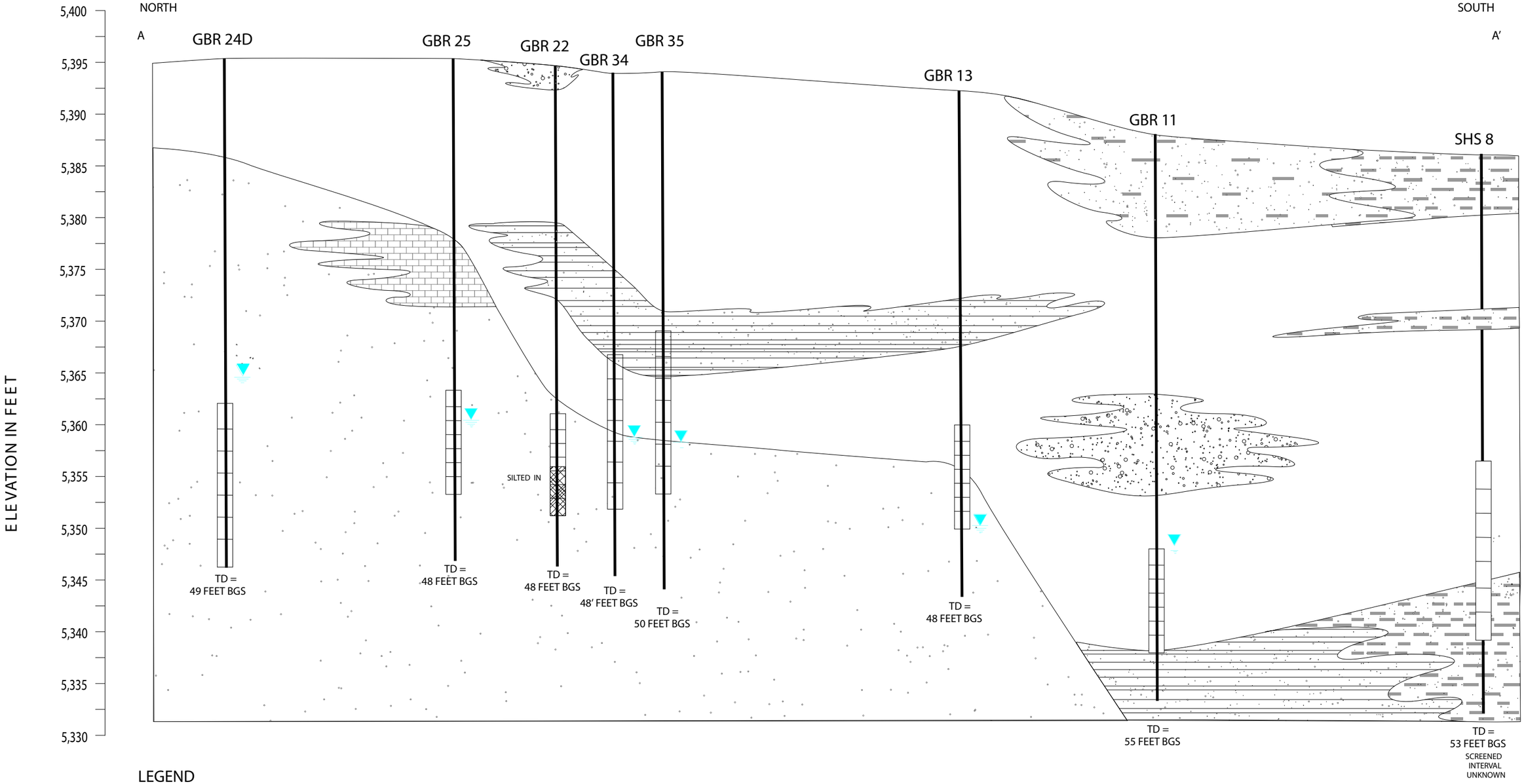


FIGURE 5
INFILTRATION TRENCH DESIGN AND CONSTRUCTION SPECIFICATIONS
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.





2" infiltration lines are designed to handle approximately 10 gal/min each with a maximum length of 100'



LEGEND

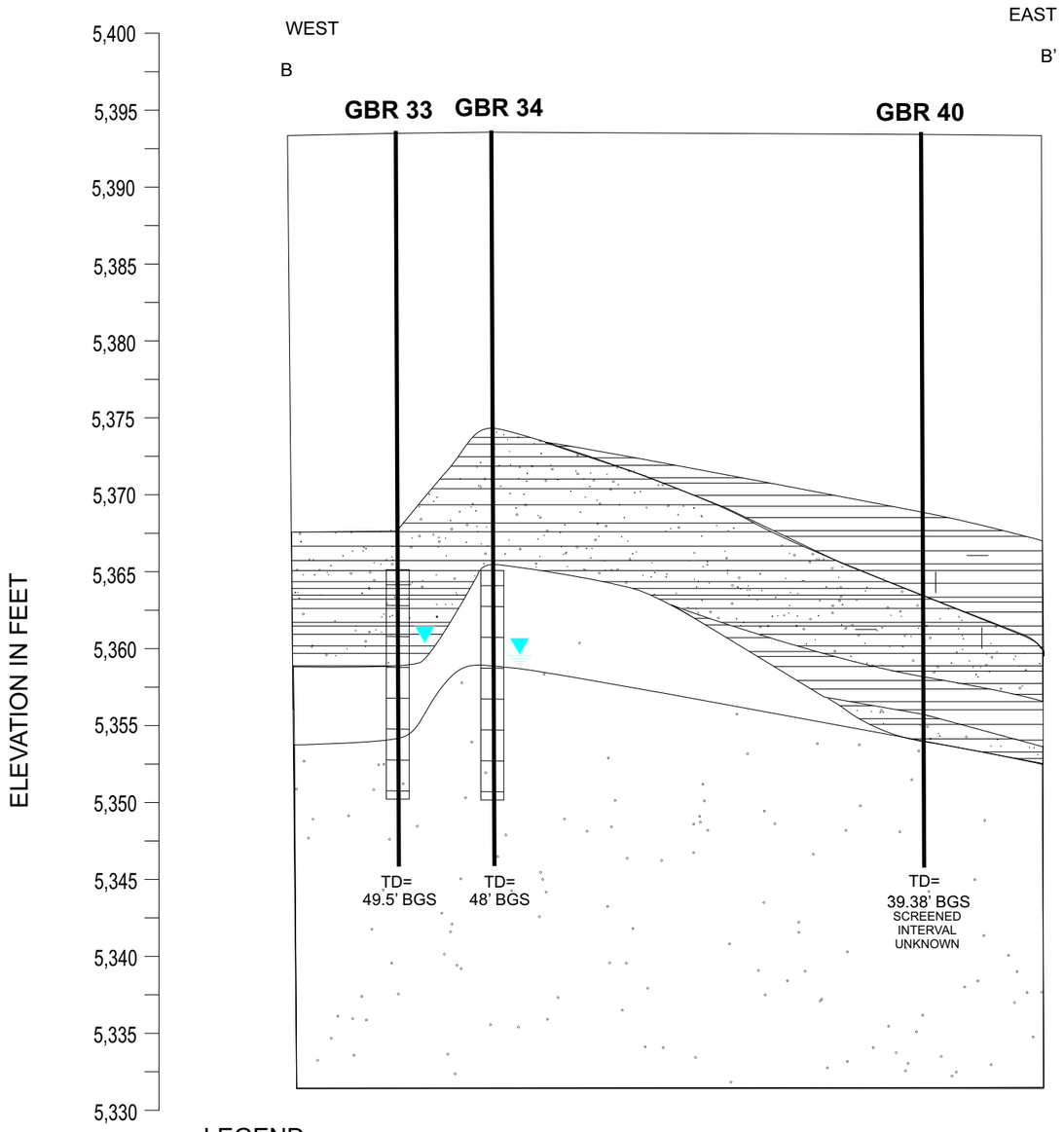
- SANDY SILT
- CLAYEY SAND
- SILTY SAND
- SAND
- PEBBLES/GRAVEL
- NACIMIENTO SHALE
- NACIMIENTO SANDSTONE
- BOREHOLE
- SCREENED INTERVAL
- BGS — BELOW GROUND SURFACE
- TD — TOTAL DEPTH IN FEET
- GROUNDWATER ELEVATION FROM OCTOBER 2018

HORIZONTAL SCALE
1" = 10 FEET

VERTICAL SCALE
1" = 90 FEET

FIGURE 6
CROSS SECTION A-A'
FORMER GIANT BLOOMFIELD REFINERY
SWSW SEC 22 &WNW SEC 27 T29N R12W
WESTERN REFINING SOUTHWEST, INC.

WR1009 1/16



LEGEND

- CLAYEY SAND
- CLAY
- SAND
- NACIMIENTO SANDSTONE
- DRY
- BOREHOLE
- SCREENED INTERVAL
- BGS BELOW GROUND SURFACE
- TD TOTAL DEPTH IN FEET
- GROUNDWATER ELEVATION OCTOBER 2017

HORIZONTAL SCALE
1" = 10 FEET

VERTICAL SCALE
1" = 90 FEET

FIGURE 7
CROSS SECTION B-B'
FORMER GIANT BLOOMFIELD REFINERY
SWSW SEC 22 &WNW SEC 27 T29N R12W
WESTERN REFINING SOUTHWEST, INC.

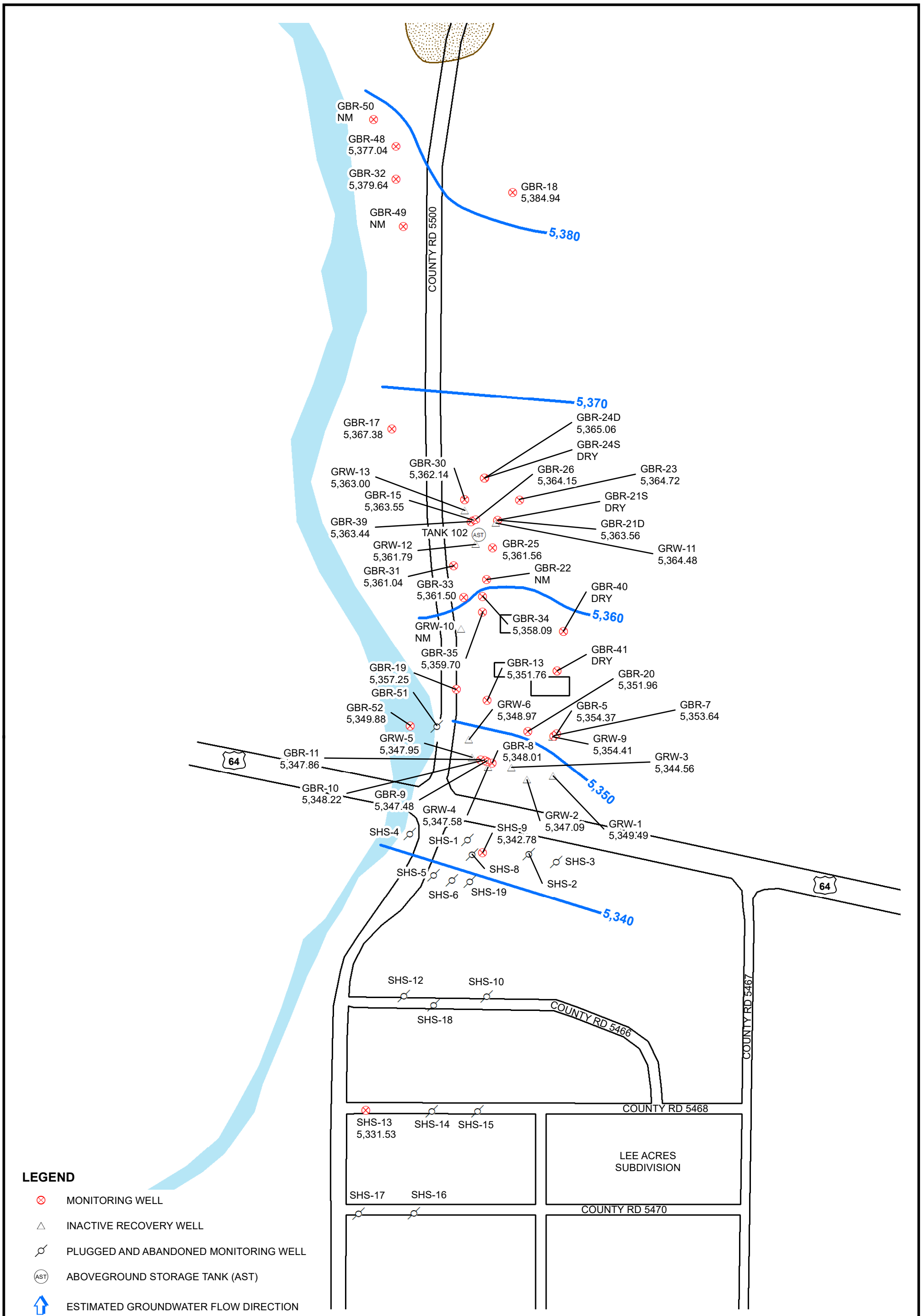


FIGURE 8
GROUNDWATER POTENTIOMETRIC SURFACE MAP (NOVEMBER 2019)
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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TABLES

TABLE 1
2015 INFUENT AND EFFLUENT ANALYTICAL RESULTS

FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.
SAN JUAN COUNTY, NEW MEXICO

Analyte	NMWQCC Standard	Unit	Influent 27-Jan	Effluent 27-Jan	Influent 8-Apr	Effluent 8-Apr	Influent 24-Jul	Effluent 24-Jul	Influent 3-Aug	Effluent 3-Aug
USEPA Method 8260B: Volatiles										
benzene	**10**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
toluene	**750**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
ethylbenzene	**750**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
methyl tert-butyl ether (MTBE)	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-trimethylbenzene	**620**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-trimethylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichloroethane (EDC)	**10**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dibromoethane (EDB)	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
naphthalene	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1-methylnaphthalene	NE	µg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
2-methylnaphthalene	NE	µg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
acetone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
bromobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromodichloromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromoform	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromomethane	NE	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
2-butanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
carbon disulfide	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
carbon tetrachloride	**10**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
chlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
chloroethane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
chloroform	**100**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
chloromethane	NE	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
2-chlorotoluene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-chlorotoluene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-DCE	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dibromo-3-chloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
dibromochloromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
dibromomethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
dichlorodifluoromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-dichloroethane	**25**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-dichloroethene	**5**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichloropropane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-dichloropropane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,2-dichloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

TABLE 1
2015 INFUENT AND EFFLUENT ANALYTICAL RESULTS

FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.
SAN JUAN COUNTY, NEW MEXICO

Analyte	NMWQCC Standard	Unit	Influent 27-Jan	Effluent 27-Jan	Influent 8-Apr	Effluent 8-Apr	Influent 24-Jul	Effluent 24-Jul	Influent 3-Aug	Effluent 3-Aug
hexachlorobutadiene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-hexanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
isopropylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-isopropytoluene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-methyl-2-pentanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
methylene chloride	**100**	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
n-butylbenzene	NE	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
n-propylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
sec-butylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
styrene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-butylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1,2-tetrachloroethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-tetrachloroethane	**10**	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
tetrachloroethene (PCE)	**20**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-DCE	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-trichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-trichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-trichloroethane	**60**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	**10**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trichloroethene (TCE)	**100**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trichlorofluoromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-trichloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
vinyl chloride	**1**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
xylenes, total	**620**	µg/L	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

Notes:

BOLD - indicates concentration exceeds the NMWQCC standard
mg/L - milligrams per liter
NE - not established
NMWQCC - New Mexico Water Quality Control Commission
NT - not tested
µg/L - micrograms per liter
USEPA - United States Environmental Protection Agency

TABLE 2
GROUNDWATER ELEVATIONS AND THICKNESS OF PHASE-SEPARATED HYDROCARBONS

FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.
SAN JUAN COUNTY, NEW MEXICO

Well Number	Wellhead Elevation (feet)	Total Depth (feet)	March 2019				November 2019			
			Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)
GRW-1	5,394.30	73.35	43.33	-	-	5,350.97	44.81	-	-	5,349.49
GRW-2	5,391.28	61.00	44.98	-	-	5,346.30	44.19	-	-	5,347.09
GRW-3	5,388.77	58.30	43.83	-	-	5,344.94	44.21	-	-	5,344.56
GRW-4	5,390.02	60.00	42.19	-	-	5,347.83	42.44	-	-	5,347.58
GRW-5	5,390.56	68.30	42.28	-	-	5,348.28	42.61	-	-	5,347.95
GRW-6	5,390.81	53.80	41.45	-	-	5,349.36	41.84	-	-	5,348.97
GRW-9	5,395.70	54.40	41.10	-	-	5,354.60	41.29	-	-	5,354.41
GRW-10	5,395.02	66.02	36.15	-	-	5,358.87	NM - Well blocked at 5 feet			
GRW-11	5,397.85	64.00	33.18	-	-	5,364.67	33.37	-	-	5,364.48
GRW-12	5,397.24	48.00	35.42	-	-	5,361.82	35.45	-	-	5,361.79
GRW-13	5,396.90	61.30	34.51	-	-	5,362.39	33.90	-	-	5,363.00
GBR-5	5,395.07	47.08	41.41	-	-	5,353.66	40.70	-	-	5,354.37
GBR-7	5,395.85	51.65	41.91	41.74	0.17	5,354.08	42.35	42.18	0.17	5,353.64
GBR-8	5,390.50	50.90	42.30			5,348.20	42.49			5,348.01
GBR-9	5,389.92	67.22	42.25	-	-	5,347.67	42.44	-	-	5,347.48
GBR-10	5,390.57	47.56	42.34	-	-	5,348.23	42.35	-	-	5,348.22
GBR-11	5,389.43	51.87	41.29	-	-	5,348.14	41.57	-	-	5,347.86
GBR-13	5,393.04	45.47	40.98	-	-	5,352.06	41.28	-	-	5,351.76
GBR-15	5,397.99	58.42	34.25	-	-	5,363.74	34.44	-	-	5,363.55
GBR-17	5,402.69	43.20	34.68	-	-	5,368.01	35.31	-	-	5,367.38
GBR-18	5,421.68	47.85	37.29	-	-	5,384.39	37.74	-	-	5,383.94
GBR-19 (1)	5,393.83	46.23	-	-	-	-	-	-	-	-
GBR-20	5,393.47	54.57	41.21	-	-	5,352.26	41.51	-	-	5,351.96
GBR-21D	5,400.19	49.77	36.38	-	-	5,363.81	36.63	-	-	5,363.56
GBR-21S	5,400.65	49.77	Dry				Dry			
GBR-22	5,395.91	38.73	37.60	-	-	5,358.31	NM - Cap glued onto well casing			
GBR-23 (2)	5,403.72	39.45	37.54	-	-	-	39.00	-	-	5,364.72
GBR-24D	5,396.77	51.40	30.66	-	-	5,366.11	31.71	-	-	5,365.06
GBR-24S	5,396.08	37.05	33.38	-	-	5,362.70	Dry			
GBR-25	5,397.03	37.12	35.05	-	-	5,361.98	35.47	-	-	5,361.56
GBR-26	5,396.72	41.29	33.57	-	-	5,363.15	32.57	-	-	5,364.15
GBR-30	5,395.59	41.66	33.04	-	-	5,362.55	33.45	-	-	5,362.14
GBR-31	5,396.58	43.50	Dry				35.54	-	-	5,361.04
GBR-32	5,414.86	47.83	34.56	-	-	5,380.30	35.22	-	-	5,379.64
GBR-33	5,396.28	45.72	-	-	-	-	34.78	-	-	5,361.50
GBR-34	5,394.00	42.20	34.54	-	-	5,359.46	35.91	-	-	5,358.09
GBR-35	5,393.66	42.35	34.57	-	-	5,359.09	34.96	-	-	5,358.70
GBR-39	5,397.55	41.42	34.86	-	-	5,362.69	34.11	-	-	5,363.44
GBR-40	5,400.76	39.38	Dry				Dry			
GBR-41	5,396.35	34.28	34.29	-	-	5,362.06	Dry			
GBR-48	5,413.90	43.54	32.04	-	-	5,381.86	36.86	-	-	5,377.04
GBR-49	(3)	40.30	32.96	-	-	-	33.34	-	-	-
GBR-50	(3)	44.37	32.12	-	-	-	32.59	-	-	-
GBR-51	5,389.68	57.07	39.76	-	-	-	P&A	-	-	-
GBR-52	5,387.74	52.73	37.88	-	-	-	37.86	-	-	5,349.88

TABLE 2
GROUNDWATER ELEVATIONS AND THICKNESS OF PHASE-SEPARATED HYDROCARBONS

FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.
SAN JUAN COUNTY, NEW MEXICO

Well Number	Wellhead Elevation (feet)	Total Depth (feet)	March 2019				November 2019			
			Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)	Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet)
SHS-1	5,383.54	50.40	P&A	-	-	-	P&A	-	-	-
SHS-2	5,381.66	44.56	P&A	-	-	-	P&A	-	-	-
SHS-3 (4)	5,383.33	-	P&A	-	-	-	P&A	-	-	-
SHS-4	5,383.62	52.16	P&A	-	-	-	P&A	-	-	-
SHS-5	5,378.36	47.85	P&A	-	-	-	P&A	-	-	-
SHS-6	5,378.17	52.78	38.05	-	-	5,340.12	P&A	-	-	-
SHS-8	5,380.25	50.92	38.52	-	-	5,341.73	P&A	-	-	-
SHS-9	5,380.79	46.25	Dry				38.01	-	-	5,342.78
SHS-10	5,373.80	45.80	Dry				P&A	-	-	-
SHS-12	5,373.94	52.41	Dry				P&A	-	-	-
SHS-13	5,367.81	47.51	36.03	-	-	5,331.78	36.28	-	-	5,331.53
SHS-14	5,367.07	52.71	34.36	-	-	5,332.71	P&A	-	-	-
SHS-15 (5)	5,366.21	47.78	34.02	-	-	5,332.19	P&A	-	-	-
SHS-16	5,362.58	42.20	31.25	-	-	5,331.33	P&A	-	-	-
SHS-17	5,364.35	46.21	33.87	-	-	5,330.48	P&A	-	-	-
SHS-18	5,373.64	47.36	39.51	-	-	5,334.13	P&A	-	-	-
SHS-19	5,378.89	52.40	37.76	-	-	5,341.13	P&A	-	-	-

Notes:
BTOC - below top of casing
D - designates that the well screen is deep
GWEL - groundwater elevation
NM - not measured
P&A - plugged and abandoned
PSH - phase-separated hydrocarbon
S - designates that the well screen is shallow

(1) Well was paved over in June 2010
(2) Well hit by a vehicle May 2014
(3) Top-of-casing elevation is unknown
(4) Well is damaged by a tree root
(5) Well visibly broken/buried January 2016
- indicates no GWEL or PSH measured
When PSH is detected, the GWEL is corrected using an estimated density correction factor of 0.8

TABLE 3
2010 to 2018 - ANNUAL COMPLIANCE GROUNDWATER LABORATORY ANALYTICAL RESULTS

FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.
SAN JUAN COUNTRY, NEW MEXICO

Exploration Location	Wellhead Elevation (feet)	Well Depth (feet)	Screened Interval (depth in feet)	Well Diameter (inches)	Sample Date	Depth to Water (feet BTOC)	USEPA Method 300.0: Anions		USEPA Method 200.7: Total Metals			USEPA Method SM2540C Modified: Total Dissolved Solids	
							chloride	sulfate	chromium	iron	manganese	total dissolved solids	
NMWQCC Standard							**250**	**600**	**0.05**	**1.0**	**0.2**	**1,000**	
GBR Background Threshold Values (1)							**560**	**2,546**	**1.553**	**97.06**	**6.42**	**4,566**	
Regional Background Levels (Stone, et al. 1983) (2)							**2 - 34,000**	**1.9 - 14,000**	**0.001 - 0.06**	**0.01 - 16**	**0 - 2.6**	NA	
Lee Acres RI Background Concentrations - Alluvial Aquifer (1992) (3)							**6.4 - 404**	**420 - 2,120**	**0.0144 - 0.113**	**0 - 1.48**	**0.0161 - 0.423**	**760 - 3,600**	
Lee Acres RI/ROD Remedial Goals (1992/2004) (4)							**34,000**	**14,000**	**0.06**	**16**	**0.346**	**10,000**	
Units							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Lee Acres Sampling, 1992 RI Report (5)													
Lee Acres Site 1, Subarea 2, OU 2 - Alluvial Aquifer							**8.8 - 730**	**195 - 4,370**	**0.0108 - 0.124**	**0.118 - 1.71**	**0.0161 - 8.62**	**943 - 6,560**	
Lee Acres Site 1, Subarea 3, OU 2 - Southern Area - Alluvial Aquifer							**19 - 2,110**	**830 - 2,610**	**0.0145 - 0.0406**	**0.148 - 23.9**	**0.0214 - 4.23**	**622 - 5,300**	
Lee Acres Site 2, Subarea 4 - Alluvial Aquifer							**3.5 - 604**	**310 - 3,220**	**0.043 - 0.110**	**0.0749 - 64.1**	**0.0131 - 3.4**	**616 - 6,370**	
GBR Sampling, Upgradient Wells (6)													
GBR-32	5,414.86	45	25 - 40	2	Oct 2018	33.95	200	1,700	0.074	2.7	1.9	3,110	
					Dec 2017		290	1,600	0.13	2.3	1.2	3,210	
					Jan 2017		320	2,000	0.33	11	1.2	3,500	
					Aug 2015		370	2,000	0.02	0.26	0.56	3,830	
					Nov 2014		380	1,900	1.4	5.9	0.70	3,800	
					Jan 2013		400	2,200	0.098	1.2	0.40	4,320	
					Jan 2012		500	**2,800**	0.030	0.88	0.50	4,290	
					Jan 2011		420	2,300	0.13	NT	NT	4,010	
					Jan 2010		NT	NT	NT	NT	NT	NT	
GBR-48	5,413.90	43.6	28.4 - 38.4	2	Oct 2018	35.62	300	1,800	0.036	18	0.49	3,580	
					Dec 2017		350	1,900	0.13	40	1.7	3,690	
					Jan 2017		340	2,000	0.42	89	4.8	3,360	
					Aug 2015		370	2,100	0.95	170	6.4	3,730	
					Nov 2014		420	2,100	0.92	52	2.0	4,030	
					Jan 2013		230	2,200	0.52	17	0.94	4,020	
					Jan 2012		200	1,700	0.63	15	0.83	2,940	
					Jan 2011		390	2,200	0.71	9.3	NT	3,510	
					Jan 2010		NT	NT	NT	NT	NT	NT	
GBR-49	*	38.5	25.9 - 36.3	2	Oct 2018	32.06	180	1,800	1.2	23	0.98	3,010	
					Dec 2017		150	1,300	0.018	0.44	0.30	2,720	
					Jan 2017		210	1,900	0.2	11	1.1	3,160	
					Aug 2015		180	1,500	0.38	7.1	0.54	2,840	
					Nov 2014		63	1,400	0.060	41	3.9	2,340	
					Jan 2013		240	1,600	0.041	4.6	1.3	3,290	
					Jan 2012		260	2,000	0.018	0.23	0.34	3,470	
					Jan 2011		310	2,000	0.48	NT	NT	3,390	
					Jan 2010		NT	NT	NT	NT	NT	NT	

Exploration Location	Wellhead Elevation (feet)	Well Depth (feet)	Screened Interval (depth in feet)	Well Diameter (inches)	Sample Date	Depth to Water (feet BTOC)	USEPA Method 300.0: Anions		USEPA Method 200.7: Total Metals			USEPA Method SM2540C Modified: Total Dissolved Solids
							chloride	sulfate	chromium	iron	manganese	total dissolved solids
NMWQCC Standard							**250**	**600**	**0.05**	**1.0**	**0.2**	**1,000**
GBR Background Threshold Values (1)							**560**	**2,546**	**1.553**	**97.06**	**6.42**	**4,566**
Regional Background Levels (Stone, et al. 1983) (2)							**2 - 34,000**	**1.9 - 14,000**	**0.001 - 0.06**	**0.01 - 16**	**0 - 2.6**	NA
Lee Acres RI Background Concentrations - Alluvial Aquifer (1992) (3)							**6.4 - 404**	**420 - 2,120**	**0.0144 - 0.113**	**0 - 1.48**	**0.0161 - 0.423**	**760 - 3,600**
Lee Acres RI/ROD Remedial Goals (1992/2004) (4)							**34,000**	**14,000**	**0.06**	**16**	**0.346**	**10,000**
Units							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GBR-50	*	42.5	26.91 - 37.26		Oct 2018	31.26	59	1,700	0.044	4.0	0.13	2,770
					Dec 2017		54	1,500	0.16	5.8	0.32	2,590
					Jan 2017		59	1,500	0.36	6.8	1.3	2,580
					Aug 2015		44	1,700	0.073	2.2	0.19	2,760
					Nov 2014		52	1,700	0.013	3.6	0.22	2,800
					Jan 2013		49	1,600	<0.0060	1.3	0.12	2,830
					Jan 2012		49	1,800	0.0069	0.72	0.041	2,730
					Jan 2011		46	1,800	0.023	NT	NT	2,640
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR Sampling, Source-Area Wells												
GRW-3/GBR-29 or 43	5,388.77	58.3	34.5 - 50.2	6	Oct 2018	43.13	99	640	NT	18	0.80	2,190
					Dec 2017		74	1,400	NT	54	1.9	2,920
					Jan 2017		74	1,200	NT	150	2.9	2,730
					Aug 2015		38	1,900	NT	0.89	0.69	3,320
					Nov 2014		26	2,200	NT	0.86	0.44	3,680
					Jan 2013		59	1,300	NT	2.8	0.54	2,620
					Jan 2012		54	1,300	NT	2.8	0.67	2,660
					Jan 2011		95	480	NT	NT	NT	1,810
					Jan 2010		NT	NT	NT	NT	NT	NT
GRW-6/GBR-44	5,390.81	58.6	32.6 - 48.3	6	Oct 2018	40.89	100	1,300	NT	**890**	**45**	2,390
					Dec 2017		120	1,200	NT	40	**9.1**	2,570
					Jan 2017		89	1,500	NT	11	**17**	2,580
					Aug 2015		88	1,400	NT	15	**18**	3,220
					Nov 2014		86	1,600	NT	35	**8.5**	3,170
					Jan 2013		100	1,500	NT	2.4	1.2	2,760
					Apr 2012		80	1,900	NT	0.47	1.0	2,740
					Jan 2011		110	1,400	NT	NT	NT	2,490
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR-17	5,402.69	51	31 - 51	2	Oct 2018	34.00	49	1,200	NT	**100**	3.0	2,180
					Dec 2017		50	1,000	NT	9.3	0.25	2,110
					Jan 2017		46	1,100	NT	15	0.35	1,890
					Aug 2015		43	1,100	NT	3.6	<0.00200	1,960
					Nov 2014		44	1,200	NT	3.7	0.13	1,980
					Jan 2013		47	1,300	NT	1.2	0.045	2,700
					Jan 2012		46	1,400	NT	3.9	0.15	2,150
					Jan 2011		47	1,300	NT	NT	NT	2,140
					Jan 2010		NT	NT	NT	NT	NT	NT

Exploration Location	Wellhead Elevation (feet)	Well Depth (feet)	Screened Interval (depth in feet)	Well Diameter (inches)	Sample Date	Depth to Water (feet BTOC)	USEPA Method 300.0: Anions		USEPA Method 200.7: Total Metals			USEPA Method SM2540C Modified: Total Dissolved Solids
							chloride	sulfate	chromium	iron	manganese	total dissolved solids
NMWQCC Standard							**250**	**600**	**0.05**	**1.0**	**0.2**	**1,000**
GBR Background Threshold Values (1)							**560**	**2,546**	**1.553**	**97.06**	**6.42**	**4,566**
Regional Background Levels (Stone, et al. 1983) (2)							**2 - 34,000**	**1.9 - 14,000**	**0.001 - 0.06**	**0.01 - 16**	**0 - 2.6**	NA
Lee Acres RI Background Concentrations - Alluvial Aquifer (1992) (3)							**6.4 - 404**	**420 - 2,120**	**0.0144 - 0.113**	**0 - 1.48**	**0.0161 - 0.423**	**760 - 3,600**
Lee Acres RI/ROD Remedial Goals (1992/2004) (4)							**34,000**	**14,000**	**0.06**	**16**	**0.346**	**10,000**
Units							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GBR-24D	5,396.77	46.3	33 - 43	2	Oct 2018	30.92	130	2,300	NT	9.1	1.8	3,780
					Dec 2017		140	1,800	NT	11	1.8	3,560
					Jan 2017		130	1,900	NT	14	1.8	3,390
					Aug 2015		160	2,100	NT	11	1.8	3,380
					Nov 2014		210	1,800	NT	12	1.7	3,410
					Jan 2013		200	1,700	NT	3.6	1.8	3,430
					Jan 2012		200	2,000	NT	2.4	1.7	3,320
					Jan 2011		170	2,400	NT	NT	NT	3,410
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR-30	5,395.59	45	25 - 40	2	Oct 2018	32.31	250	1,500	NT	28	0.76	3,000
					Dec 2017		220	1,300	NT	38	1.4	2,770
					Jan 2017		220	1,400	NT	64	2.3	2,580
					Aug 2015		310	1,600	NT	7.6	0.5	3,020
					Nov 2014		270	1,400	NT	88	2.2	2,520
					Jan 2013		310	1,500	NT	**130**	6.1	3,340
					Jan 2012		390	1,700	NT	2.9	0.29	3,240
					Jan 2011		320	1,600	NT	NT	NT	3,340
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR-31	5,396.58	45	24.6 - 39.6	2	Oct 2018	32.27	220	1,400	NT	13	3.1	2,660
					Dec 2017		93	1,700	NT	21	4.2	2,940
					Jan 2017		84	1,700	NT	1.9	0.18	2,970
					Aug 2015		250	1,700	NT	2.4	0.45	3,170
					Nov 2014		230	1,500	NT	12	1.6	3,100
					Jan 2013		79	1,600	NT	15	0.77	2,720
					Jan 2012		74	1,700	NT	3.8	0.27	2,760
					Jan 2011		97	1,800	NT	NT	NT	2,740
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR-51	5,389.68	59.5	38.5 - 54.25	6	Oct 2018	NM	54	1,300	NT	0.059	<0.0020	2,330
					Dec 2017		51	1,200	NT	0.080	<0.020	2,250
					Jan 2017		45	990	NT	9.1	0.47	2,080
					Aug 2015		54	1,600	NT	17	0.42	2,430
					Nov 2014		54	1,400	NT	16	0.47	2,320
					Jan 2013		56	1,500	NT	9.7	0.88	2,540
					Jan 2012		53	1,600	NT	3.1	0.16	2,440
					Jan 2011		53	1,600	NT	NT	NT	2,380
					Jan 2010		NT	NT	NT	NT	NT	NT

Exploration Location	Wellhead Elevation (feet)	Well Depth (feet)	Screened Interval (depth in feet)	Well Diameter (inches)	Sample Date	Depth to Water (feet BTOC)	USEPA Method 300.0: Anions		USEPA Method 200.7: Total Metals			USEPA Method SM2540C Modified: Total Dissolved Solids
							chloride	sulfate	chromium	iron	manganese	total dissolved solids
NMWQCC Standard							**250**	**600**	**0.05**	**1.0**	**0.2**	**1,000**
GBR Background Threshold Values (1)							**560**	**2,546**	**1.553**	**97.06**	**6.42**	**4,566**
Regional Background Levels (Stone, et al. 1983) (2)							**2 - 34,000**	**1.9 - 14,000**	**0.001 - 0.06**	**0.01 - 16**	**0 - 2.6**	NA
Lee Acres RI Background Concentrations - Alluvial Aquifer (1992) (3)							**6.4 - 404**	**420 - 2,120**	**0.0144 - 0.113**	**0 - 1.48**	**0.0161 - 0.423**	**760 - 3,600**
Lee Acres RI/ROD Remedial Goals (1992/2004) (4)							**34,000**	**14,000**	**0.06**	**16**	**0.346**	**10,000**
Units							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GBR-52	5,387.74	50.78	30.08 - 45.75	6	Oct 2018	NM	54	1,500	NT	0.12	0.0028	2,580
					Dec 2017		54	1,500	NT	0.048	<0.0020	2,640
					Jan 2017		58	1,400	NT	18	0.46	2,540
					Aug 2015		65	1,400	NT	8.2	0.15	2,840
					Nov 2014		65	1,700	NT	12	0.25	2,540
					Jan 2013		63	1,700	NT	2.3	0.036	2,770
					Jan 2012		60	1,800	NT	2.2	0.032	2,720
					Jan 2011		62	1,900	NT	NT	NT	2,700
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR Sampling, Downgradient Wells												
SHS-1	5,383.54	50.97	35.67 - 45.67	4	June 2017	P&A	100	1,300	NT	NT	NT	2,400
					Jan 2011		NT	NT	NT	NT	NT	NT
SHS-2	5,381.66	41.28	30.98 - 40.98	4	June 2017	P&A	310	2,200	NT	NT	NT	4,100
					Jan 2011		NT	NT	NT	NT	NT	NT
SHS-4	5,383.62	55	37 - 47	2	June 2017	P&A	59	1,600	NT	NT	NT	2,270
SHS-5	5,378.36	53.33	37.62 - 48.0	4	June 2017	P&A	50	1,200	NT	NT	NT	2,030
					Jan 2011		NT	NT	NT	NT	NT	NT
SHS-6	5,378.17	47.88	32.48 - 42.85	4	Jan 2018	37.85	NT	NT	NT	NT	NT	NT
SHS-8	5,380.25	52.5	30.83 - 46.60	4	Oct 2018	38.25	130	890	NT	50	3.1	2,730
SHS-8					Dec 2017		110	1,200	NT	10	3.6	2,730
SHS-8					Jan 2017		100	720	NT	66	3.0	2,210
SHS-8					Aug 2015		120	47	NT	8.6	0.41	1,300
SHS-8					Nov 2014		110	350	NT	**260**	5.0	1,400
SHS-8					Jan 2013		120	770	0.099	**100**	4.7	1,800
SHS-8					Jan 2012		170	430	NT	15	2.3	2,040
SHS-8					Jan 2011		150	150	0.0063	NT	NT	1,440
SHS-8					Jan 2010		NT	NT	NT	NT	NT	NT
SHS-9	5,380.79	49.88	34.46 - 44.46	4	Jan 2018	37.43	NT	NT	NT	NT	NT	NT
SHS-13	5,367.81	47.4	27 - 42	4	Jan 2018	35.85	NT	NT	NT	NT	NT	NT
SHS-14	5,367.07	54	28.70 - 48.70	4	Jan 2018	34.18	NT	NT	NT	NT	NT	NT
SHS-15	5,366.21	47.8	27.40 - 42.40	4	Jan 2018	33.00	NT	NT	NT	NT	NT	NT

Exploration Location	Wellhead Elevation (feet)	Well Depth (feet)	Screened Interval (depth in feet)	Well Diameter (inches)	Sample Date	Depth to Water (feet BTOC)	USEPA Method 300.0: Anions		USEPA Method 200.7: Total Metals			USEPA Method SM2540C Modified: Total Dissolved Solids
							chloride	sulfate	chromium	iron	manganese	total dissolved solids
NMWQCC Standard							**250**	**600**	**0.05**	**1.0**	**0.2**	**1,000**
GBR Background Threshold Values (1)							**560**	**2,546**	**1.553**	**97.06**	**6.42**	**4,566**
Regional Background Levels (Stone, et al. 1983) (2)							**2 - 34,000**	**1.9 - 14,000**	**0.001 - 0.06**	**0.01 - 16**	**0 - 2.6**	NA
Lee Acres RI Background Concentrations - Alluvial Aquifer (1992) (3)							**6.4 - 404**	**420 - 2,120**	**0.0144 - 0.113**	**0 - 1.48**	**0.0161 - 0.423**	**760 - 3,600**
Lee Acres RI/ROD Remedial Goals (1992/2004) (4)							**34,000**	**14,000**	**0.06**	**16**	**0.346**	**10,000**
Units							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SHS-16	5,362.58	42.6	22.2 - 37.2	4	Jan 2018	32.68	NT	NT	NT	NT	NT	NT
SHS-17	5,364.35	46.21	35.67 - 45.67	4	Jan 2018	32.63	NT	NT	NT	NT	NT	NT
SHS-18	5,373.64	47.36	37.36 - 47.36	4	Jan 2018	39.24	NT	NT	NT	NT	NT	NT
SHS-19	5,378.89	52.4	32.40 - 52.40	4	Jan 2018	37.77	NT	NT	NT	NT	NT	NT

Notes

(1) Background Concentrations Proposed for the Giant Bloomfield Refinery Site. Based on Statistical Analysis Prepared by LT Environmental and Submitted to New Mexico Oil Conservation District in an Email Dated June 10, 2019.
(2) Regional Background Concentrations Established in Document Titled *Hydrogeology and Water Resources of San Juan Basin, New Mexico,* Stone et al., dated 1983
(3) "Background" Concentration Proposed in Lee Acres DRAFT *Remedial Investigation Report* Prepared for the US Bureau of Land Management (dated February 1992)
(4) Contaminant Concentrations Established as the "Remedial Goals" or "Background" Concentrations for the Lee Acres Superfund Site. Based on the Lee Acres DRAFT *Remedial Investigation Report* and *Record of Decision* (dated May 2004).
(5) The Lee Acres *Remedial Investigation Report* Presents Analytical Data for Areas of the Site and Not Data for Individual Wells
(6) Well Location Used for Statistical Analysis of Background Concentrations
* Top-of-Casing Elevation is Unknown
NM Not Measured
P&A Plugged and Abandoned
µg/L micrograms per liter
BOLD Indicates Concentration Exceeds the Greater Value of the NMWQCC Water-Quality Standards or Background Threshold Values Proposed for the Giant Bloomfield Refinery
mg/L milligrams per liter
NMWQCC New Mexico Water Quality Control Commission
NT Not Tested
USEPA United States Environmental Protection Agency

TABLE 4
CLOSURE AND POST CLOSURE COST ESTIMATES

FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC
SAN JUAN COUNTY, NEW MEXICO

QUARTERLY GROUNDWATER COMPLIANCE MONITORING					
LABOR COST	**Senior Sci/Eng I**	**Project Sci/Eng II**	**Staff Sci/Eng II**	**CADD/ Designer**	**Admin/ Clerical**
Task 1 -Office (2 Annual Reports)	8	60	16	16	4
Task 2 - Field (8 Sampling Events, 2 Personnel)	4	32	160		4
TOTAL HOURS	12	92	176	16	8
RATE ($)	$150.00	$115.00	$90.00	$70.00	$60.00
	$1,800.00	$10,580.00	$15,840.00	$1,120.00	$480.00
				SUBTOTAL	**$29,820.00**
OTHER DIRECT COSTS		**QTY.**	**UNIT**	**RATE**	**UNIT TOTAL**
Interface Probe		8	day	$60.00	$480.00
Temp/PH/Conductivity Meter		8	day	$35.00	$280.00
Field Vehicle		8	day	$120.00	$960.00
HDPE Disposable Bailers (20 each event)		160	ea.	$7.00	$1,120.00
Misc. Field Equipment		8	ea.	$23.00	$184.00
				SUBTOTAL	**$3,024.00**
OTHER COSTS BILLED DIRECT TO WESTERN		**QTY.**	**UNIT**	**RATE**	**UNIT TOTAL**
Laboratory Analyses (VOCs, PAHs, 20 Wells each event)		160	ea.	$270.00	$43,200.00
				SUBTOTAL	**$43,200.00**
				TOTAL	**$76,044.00**

SYSTEM REMOVAL AND P&A OF WELLS					
LABOR COST	**Senior Sci/Eng I**	**Project Sci/Eng II**	**Staff Sci/Eng II**	**CADD/ Designer**	**Admin/ Clerical**
Task 1 - Follow Up and Documentation/State Engineer Coordination	2	20	10	10	2
Task 2 - Field		8	100		2
TOTAL HOURS	2	28	110	10	4
RATE ($)	$150.00	$115.00	$90.00	$70.00	$60.00
	$300.00	$3,220.00	$9,900.00	$700.00	$240.00
				SUBTOTAL	**$14,360.00**
OTHER DIRECT COSTS		**QTY.**	**UNIT**	**RATE**	**UNIT TOTAL**
Drilling Services, P&A of 47 Monitoring and Recovery Wells		1	ea.	$45,000.00	$45,000.00
Removal of Remediation System Infrastructure and Subsurface Piping		1	ea.	$30,000.00	$30,000.00
Field Vehicle		10	day	$120.00	$1,200.00
Misc. Field Equipment		10	ea.	$23.00	$230.00
				SUBTOTAL	**$76,430.00**
				TOTAL	**$90,790.00**

CLOSURE REPORTING AND NEGOTIATIONS					
LABOR COST	**Senior Sci/Eng I**	**Project Sci/Eng II**	**Staff Sci/Eng II**	**CADD/ Designer**	**Admin/ Clerical**
Task 1 - Closure Reporting and NMOCD Negotiations	8	76	28	16	3
TOTAL HOURS	8	76	28	16	3
RATE ($)	$150.00	$115.00	$90.00	$70.00	$60.00
	$1,200.00	$8,740.00	$2,520.00	$1,120.00	$180.00
				SUBTOTAL	**$13,760.00**
OTHER DIRECT COSTS		**QTY.**	**UNIT**	**RATE**	**UNIT TOTAL**
Field Vehicle		2	day	$120.00	$240.00
				SUBTOTAL	**$240.00**
				TOTAL	**$14,000.00**

SUBTOTAL	**$180,834.00**
CONTINGENCY (10%)	**$18,083.40**
TOTAL ESTIMATED COST	**$198,917.40**

APPENDIX A: BACKGROUND CONCENTRATIONS IN UPGRADIENT WELLS

LT Environmental, Inc.
848 East Second Avenue
Durango, Colorado 81301
970.385.1096

October 4, 2019

Nelly Smith, Remedial Project Manager
Superfund and Emergency Division – Remedial Branch (6SEDRL)
U.S. Environmental Protection Agency – Region 6
1445 Ross Avenue, Suite 1200, Dallas, TX 75202

RE: EPA-Requested Information
Giant Bloomfield Refinery GW-40 Site
Western Refining Southwest, Inc. (Marathon Petroleum Company, LP)
Bloomfield, New Mexico

Dear Ms. Smith:

At the request of the United States Environmental Protection Agency (USEPA), in conjunction with the New Mexico Oil Conservation Division (NMOCD), LT Environmental has prepared the attached table (Table 1) to provide requested well information and analytical data for the former Giant Bloomfield Refinery, "GW-40" site (the "Site"). Specifically, the table provides well information that includes wellhead elevation, well depth, well-screen interval, well diameter, and depth to water measurements. The table also presents analytical results for select constituents requested by the USEPA, collected during annual sampling events between 2010 and 2018 (chloride, sulfate, chromium, iron, manganese, and total dissolved solids). In addition, the *2018 Annual Report* prepared for the Site is attached for your review. The report includes analytical results for the 2018 groundwater-sampling event, as well as figures presenting well locations, cross sections, and groundwater potentiometric surface maps with interpreted groundwater-flow directions. We understand that this information will be used as part of the upcoming five-year review for the upgradient Lee Acres Superfund Site.

Please contact us if you have questions regarding the attached information.

Sincerely,

LT ENVIRONMENTAL, INC.

Devin Hencmann
Project Geologist

Stuart Hyde, LG
Project Geologist

cc: Greg McCartney, Marathon Petroleum Company, LP
Carl Chavez, NMOCD

TABLE 1
2010 to 2018 - ANNUAL COMPLIANCE GROUNDWATER LABORATORY ANALYTICAL RESULTS

FORMER GIANT BLOOMFIELD REFINERY
SAN JUAN COUNTRY, NEW MEXICO
WESTERN REFINING PIPELINE, LLC.

Exploration Location	Wellhead Elevation (feet)	Well Depth (feet)	Screened Interval (depth in feet)	Well Diameter (inches)	Sample Date	Depth to Water (feet BTOC)	USEPA Method 300.0: Anions		USEPA Method 200.7: Total Metals			USEPA Method SM2540C Modified: Total Dissolved Solids
							chloride	sulfate	chromium	iron	manganese	total dissolved solids
NMWQCC Standard							**250**	**600**	**0.05**	**1.0**	**0.2**	**1,000**
GBR Background Threshold Values (1)							**560**	**2,546**	**1.553**	**97.06**	**6.42**	**4,566**
Regional Background Levels (Stone, et al. 1983) (2)							**2 - 34,000**	**1.9 - 14,000**	**0.001 - 0.06**	**0.01 - 16**	**0 - 2.6**	NA
Lee Acres RI Background Concentrations - Alluvial Aquifer (1992) (3)							**6.4 - 404**	**420 - 2,120**	**0.0144 - 0.113**	**0 - 1.48**	**0.0161 - 0.423**	**760 - 3,600**
Lee Acres RI/ROD Remedial Goals (1992/2004) (4)							**34,000**	**14,000**	**0.06**	**16**	**0.346**	**10,000**
Units							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Lee Acres Sampling, 1992 RI Report (5)												
Lee Acres Site 1, Subarea 2, OU 2 - Alluvial Aquifer							**8.8 - 730**	**195 - 4,370**	**0.0108 - 0.124**	**0.118 - 1.71**	**0.0161 - 8.62**	**943 - 6,560**
Lee Acres Site 1, Subarea 3, OU 2 - Southern Area - Alluvial Aquifer							**19 - 2,110**	**830 - 2,610**	**0.0145 - 0.0406**	**0.148 - 23.9**	**0.0214 - 4.23**	**622 - 5,300**
Lee Acres Site 2, Subarea 4 - Alluvial Aquifer							**3.5 - 604**	**310 - 3,220**	**0.043 - 0.110**	**0.0749 - 64.1**	**0.0131 - 3.4**	**616 - 6,370**
GBR Sampling, Upgradient Wells (6)												
GBR-32	5,414.86	45	25 - 40	2	Oct 2018	33.95	200	1,700	0.074	2.7	1.9	3,110
					Dec 2017		290	1,600	0.13	2.3	1.2	3,210
					Jan 2017		NT	NT	NT	NT	NT	NT
					Aug 2015		NT	NT	NT	NT	NT	NT
					Nov 2014		380	1,900	1.4	5.9	0.70	3,800
					Jan 2013		400	2,200	0.098	1.2	0.40	4,320
					Jan 2012		500	**2,800**	0.030	0.88	0.50	4,290
					Jan 2011		420	2,300	0.13	NT	NT	4,010
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR-48	5,413.90	43.6	28.4 - 38.4	2	Oct 2018	35.62	300	1,800	0.036	18	0.49	3,580
					Dec 2017		350	1,900	0.13	40	1.7	3,690
					Jan 2017		NT	NT	NT	NT	NT	NT
					Aug 2015		NT	NT	NT	NT	NT	NT
					Nov 2014		420	2,100	0.92	52	2.0	4,030
					Jan 2013		230	2,200	0.52	17	0.94	4,020
					Jan 2012		200	1,700	0.63	15	0.83	2,940
					Jan 2011		390	2,200	0.71	9.3	NT	3,510
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR-49	*	38.5	25.9 - 36.3	2	Oct 2018	32.06	180	1,800	1.2	23	0.98	3,010
					Dec 2017		150	1,300	0.018	0.44	0.30	2,720
					Jan 2017		NT	NT	NT	NT	NT	NT
					Aug 2015		NT	NT	NT	NT	NT	NT
					Nov 2014		63	1,400	0.060	41	3.9	2,340
					Jan 2013		240	1,600	0.041	4.6	1.3	3,290
					Jan 2012		260	2,000	0.018	0.23	0.34	3,470
					Jan 2011		310	2,000	0.48	NT	NT	3,390
					Jan 2010		NT	NT	NT	NT	NT	NT

Exploration Location	Wellhead Elevation (feet)	Well Depth (feet)	Screened Interval (depth in feet)	Well Diameter (inches)	Sample Date	Depth to Water (feet BTOC)	USEPA Method 300.0: Anions		USEPA Method 200.7: Total Metals			USEPA Method SM2540C Modified: Total Dissolved Solids
							chloride	sulfate	chromium	iron	manganese	total dissolved solids
NMWQCC Standard							**250**	**600**	**0.05**	**1.0**	**0.2**	**1,000**
GBR Background Threshold Values (1)							**560**	**2,546**	**1.553**	**97.06**	**6.42**	**4,566**
Regional Background Levels (Stone, et al. 1983) (2)							**2 - 34,000**	**1.9 - 14,000**	**0.001 - 0.06**	**0.01 - 16**	**0 - 2.6**	NA
Lee Acres RI Background Concentrations - Alluvial Aquifer (1992) (3)							**6.4 - 404**	**420 - 2,120**	**0.0144 - 0.113**	**0 - 1.48**	**0.0161 - 0.423**	**760 - 3,600**
Lee Acres RI/ROD Remedial Goals (1992/2004) (4)							**34,000**	**14,000**	**0.06**	**16**	**0.346**	**10,000**
Units							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GBR-50	*	42.5	26.91 - 37.26		Oct 2018	31.26	59	1,700	0.044	4.0	0.13	2,770
					Dec 2017		54	1,500	0.16	5.8	0.32	2,590
					Jan 2017		NT	NT	NT	NT	NT	NT
					Aug 2015		NT	NT	NT	NT	NT	NT
					Nov 2014		52	1,700	0.013	3.6	0.22	2,800
					Jan 2013		49	1,600	<0.0060	1.3	0.12	2,830
					Jan 2012		49	1,800	0.0069	0.72	0.041	2,730
					Jan 2011		46	1,800	0.023	NT	NT	2,640
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR Sampling, Source-Area Wells												
GRW-3/GBR-29 or 43	5,388.77	58.3	34.5 - 50.2	6	Oct 2018	43.13	99	640	NT	18	0.80	2,190
					Dec 2017		74	1,400	NT	54	1.9	2,920
					Aug 2015		NT	NT	NT	NT	NT	NT
					Jan 2017		NT	NT	NT	NT	NT	NT
					Nov 2014		26	2,200	NT	0.86	0.44	3,680
					Jan 2013		59	1,300	NT	2.8	0.54	2,620
					Jan 2012		54	1,300	NT	2.8	0.67	2,660
					Jan 2011		95	480	NT	NT	NT	1,810
					Jan 2010		NT	NT	NT	NT	NT	NT
GRW-6/GBR-44	5,390.81	58.6	32.6 - 48.3	6	Oct 2018	40.89	100	1,300	NT	**890**	**45**	2,390
					Dec 2017		120	1,200	NT	40	**9.1**	2,570
					Jan 2017		NT	NT	NT	NT	NT	NT
					Aug 2015		NT	NT	NT	NT	NT	NT
					Nov 2014		86	1,600	NT	35	**8.5**	3,170
					Jan 2013		100	1,500	NT	2.4	1.2	2,760
					Apr 2012		80	1,900	NT	0.47	1.0	2,740
					Jan 2011		110	1,400	NT	NT	NT	2,490
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR-17	5,402.69	51	31 - 51	2	Oct 2018	34.00	49	1,200	NT	**100**	3.0	2,180
					Dec 2017		50	1,000	NT	9.3	0.25	2,110
					Jan 2017		NT	NT	NT	NT	NT	NT
					Aug 2015		NT	NT	NT	NT	NT	NT
					Nov 2014		44	1,200	NT	3.7	0.13	1,980
					Jan 2013		47	1,300	NT	1.2	0.045	2,700
					Jan 2012		46	1,400	NT	3.9	0.15	2,150
					Jan 2011		47	1,300	NT	NT	NT	2,140
					Jan 2010		NT	NT	NT	NT	NT	NT

Exploration Location	Wellhead Elevation (feet)	Well Depth (feet)	Screened Interval (depth in feet)	Well Diameter (inches)	Sample Date	Depth to Water (feet BTOC)	USEPA Method 300.0: Anions		USEPA Method 200.7: Total Metals			USEPA Method SM2540C Modified: Total Dissolved Solids
							chloride	sulfate	chromium	iron	manganese	total dissolved solids
NMWQCC Standard							**250**	**600**	**0.05**	**1.0**	**0.2**	**1,000**
GBR Background Threshold Values (1)							**560**	**2,546**	**1.553**	**97.06**	**6.42**	**4,566**
Regional Background Levels (Stone, et al. 1983) (2)							**2 - 34,000**	**1.9 - 14,000**	**0.001 - 0.06**	**0.01 - 16**	**0 - 2.6**	NA
Lee Acres RI Background Concentrations - Alluvial Aquifer (1992) (3)							**6.4 - 404**	**420 - 2,120**	**0.0144 - 0.113**	**0 - 1.48**	**0.0161 - 0.423**	**760 - 3,600**
Lee Acres RI/ROD Remedial Goals (1992/2004) (4)							**34,000**	**14,000**	**0.06**	**16**	**0.346**	**10,000**
Units							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GBR-24D	5,396.77	46.3	33 - 43	2	Oct 2018	30.92	130	2,300	NT	9.1	1.8	3,780
					Dec 2017		140	1,800	NT	11	1.8	3,560
					Jan 2017		NT	NT	NT	NT	NT	NT
					Aug 2015		NT	NT	NT	NT	NT	NT
					Nov 2014		210	1,800	NT	12	1.7	3,410
					Jan 2013		200	1,700	NT	3.6	1.8	3,430
					Jan 2012		200	2,000	NT	2.4	1.7	3,320
					Jan 2011		170	2,400	NT	NT	NT	3,410
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR-30	5,395.59	45	25 - 40	2	Oct 2018	32.31	250	1,500	NT	28	0.76	3,000
					Dec 2017		220	1,300	NT	38	1.4	2,770
					Jan 2017		NT	NT	NT	NT	NT	NT
					Aug 2015		NT	NT	NT	NT	NT	NT
					Nov 2014		270	1,400	NT	88	2.2	2,520
					Jan 2013		310	1,500	NT	**130**	6.1	3,340
					Jan 2012		390	1,700	NT	2.9	0.29	3,240
					Jan 2011		320	1,600	NT	NT	NT	3,340
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR-31	5,396.58	45	24.6 - 39.6	2	Oct 2018	32.27	220	1,400	NT	13	3.1	2,660
					Dec 2017		93	1,700	NT	21	4.2	2,940
					Jan 2017		NT	NT	NT	NT	NT	NT
					Aug 2015		NT	NT	NT	NT	NT	NT
					Nov 2014		230	1,500	NT	12	1.6	3,100
					Jan 2013		79	1,600	NT	15	0.77	2,720
					Jan 2012		74	1,700	NT	3.8	0.27	2,760
					Jan 2011		97	1,800	NT	NT	NT	2,740
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR-51	5,389.68	59.5	38.5 - 54.25	6	Oct 2018	NM	54	1,300	NT	0.059	<0.0020	2,330
					Dec 2017		51	1,200	NT	0.080	<0.020	2,250
					Jan 2017		NT	NT	NT	NT	NT	NT
					Aug 2015		NT	NT	NT	NT	NT	NT
					Nov 2014		54	1,400	NT	16	0.47	2,320
					Jan 2013		56	1,500	NT	9.7	0.88	2,540
					Jan 2012		53	1,600	NT	3.1	0.16	2,440
					Jan 2011		53	1,600	NT	NT	NT	2,380
					Jan 2010		NT	NT	NT	NT	NT	NT

Exploration Location	Wellhead Elevation (feet)	Well Depth (feet)	Screened Interval (depth in feet)	Well Diameter (inches)	Sample Date	Depth to Water (feet BTOC)	USEPA Method 300.0: Anions		USEPA Method 200.7: Total Metals			USEPA Method SM2540C Modified: Total Dissolved Solids
							chloride	sulfate	chromium	iron	manganese	total dissolved solids
NMWQCC Standard							**250**	**600**	**0.05**	**1.0**	**0.2**	**1,000**
GBR Background Threshold Values (1)							**560**	**2,546**	**1.553**	**97.06**	**6.42**	**4,566**
Regional Background Levels (Stone, et al. 1983) (2)							**2 - 34,000**	**1.9 - 14,000**	**0.001 - 0.06**	**0.01 - 16**	**0 - 2.6**	NA
Lee Acres RI Background Concentrations - Alluvial Aquifer (1992) (3)							**6.4 - 404**	**420 - 2,120**	**0.0144 - 0.113**	**0 - 1.48**	**0.0161 - 0.423**	**760 - 3,600**
Lee Acres RI/ROD Remedial Goals (1992/2004) (4)							**34,000**	**14,000**	**0.06**	**16**	**0.346**	**10,000**
Units							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GBR-52	5,387.74	50.78	30.08 - 45.75	6	Oct 2018	NM	54	1,500	NT	0.12	0.0028	2,580
					Dec 2017		54	1,500	NT	0.048	<0.0020	2,640
					Jan 2017		NT	NT	NT	NT	NT	NT
					Aug 2015		NT	NT	NT	NT	NT	NT
					Nov 2014		65	1,700	NT	12	0.25	2,540
					Jan 2013		63	1,700	NT	2.3	0.036	2,770
					Jan 2012		60	1,800	NT	2.2	0.032	2,720
					Jan 2011		62	1,900	NT	NT	NT	2,700
					Jan 2010		NT	NT	NT	NT	NT	NT
GBR Sampling, Downgradient Wells												
SHS-1	5,383.54	50.97	35.67 - 45.67	4	June 2017	P&A	100	1,300	NT	NT	NT	2,400
					Jan 2011		NT	NT	NT	NT	NT	NT
SHS-2	5,381.66	41.28	30.98 - 40.98	4	June 2017	P&A	310	2,200	NT	NT	NT	4,100
					Jan 2011		NT	NT	NT	NT	NT	NT
SHS-4	5,383.62	55	37 - 47	2	June 2017	P&A	59	1,600	NT	NT	NT	2,270
SHS-5	5,378.36	53.33	37.62 - 48.0	4	June 2017	P&A	50	1,200	NT	NT	NT	2,030
					Jan 2011		NT	NT	NT	NT	NT	NT
SHS-6	5,378.17	47.88	32.48 - 42.85	4	Jan 2018	37.85	NT	NT	NT	NT	NT	NT
SHS-8	5,380.25	52.5	30.83 - 46.60	4	Oct 2018	38.25	130	890	NT	50	3.1	2,730
SHS-8					Jan 2018		NT	NT	NT	NT	NT	NT
SHS-8					Dec 2017		110	1,200	NT	10	3.6	2,730
SHS-8					Jan 2017		NT	NT	NT	NT	NT	NT
SHS-8					Aug 2015		NT	NT	NT	NT	NT	NT
SHS-8					Nov 2014		110	350	NT	**260**	5.0	1,400
SHS-8					Jan 2013		120	770	0.099	**100**	4.7	1,800
SHS-8					Jan 2012		170	430	NT	15	2.3	2,040
SHS-8					Jan 2011		150	150	0.0063	NT	NT	1,440
SHS-8					Jan 2010		NT	NT	NT	NT	NT	NT
SHS-9	5,380.79	49.88	34.46 - 44.46	4	Jan 2018	37.43	NT	NT	NT	NT	NT	NT
SHS-13	5,367.81	47.4	27 - 42	4	Jan 2018	35.85	NT	NT	NT	NT	NT	NT
SHS-14	5,367.07	54	28.70 - 48.70	4	Jan 2018	34.18	NT	NT	NT	NT	NT	NT
SHS-15	5,366.21	47.8	27.40 - 42.40	4	Jan 2018	33.00	NT	NT	NT	NT	NT	NT

Exploration Location	Wellhead Elevation (feet)	Well Depth (feet)	Screened Interval (depth in feet)	Well Diameter (inches)	Sample Date	Depth to Water (feet BTOC)	USEPA Method 300.0: Anions		USEPA Method 200.7: Total Metals			USEPA Method SM2540C Modified: Total Dissolved Solids
							chloride	sulfate	chromium	iron	manganese	total dissolved solids
NMWQCC Standard							**250**	**600**	**0.05**	**1.0**	**0.2**	**1,000**
GBR Background Threshold Values (1)							**560**	**2,546**	**1.553**	**97.06**	**6.42**	**4,566**
Regional Background Levels (Stone, et al. 1983) (2)							**2 - 34,000**	**1.9 - 14,000**	**0.001 - 0.06**	**0.01 - 16**	**0 - 2.6**	NA
Lee Acres RI Background Concentrations - Alluvial Aquifer (1992) (3)							**6.4 - 404**	**420 - 2,120**	**0.0144 - 0.113**	**0 - 1.48**	**0.0161 - 0.423**	**760 - 3,600**
Lee Acres RI/ROD Remedial Goals (1992/2004) (4)							**34,000**	**14,000**	**0.06**	**16**	**0.346**	**10,000**
Units							mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SHS-16	5,362.58	42.6	22.2 - 37.2	4	Jan 2018	32.68	NT	NT	NT	NT	NT	NT
SHS-17	5,364.35	46.21	35.67 - 45.67	4	Jan 2018	32.63	NT	NT	NT	NT	NT	NT
SHS-18	5,373.64	47.36	37.36 - 47.36	4	Jan 2018	39.24	NT	NT	NT	NT	NT	NT
SHS-19	5,378.89	52.4	32.40 - 52.40	4	Jan 2018	37.77	NT	NT	NT	NT	NT	NT

Notes

(1) Background Concentrations Proposed for the Giant Bloomfield Refinery Site. Based on Statistical Analysis Prepared by LT Environmental and Submitted to New Mexico Oil Conservation District in an Email Dated June 10, 2019.
(2) Regional Background Concentrations Established in Document Titled *Hydrogeology and Water Resources of San Juan Basin, New Mexico,* Stone et al., dated 1983
(3) "Background" Concentration Proposed in Lee Acres DRAFT *Remedial Investigation Report* Prepared for the US Bureau of Land Management (dated February 1992)
(4) Contaminant Concentrations Established as the "Remedial Goals" or "Background" Concentrations for the Lee Acres Superfund Site. Based on the Lee Acres DRAFT *Remedial Investigation Report* and *Record of Decision* (dated May 2004).
(5) The Lee Acres *Remedial Investigation Report* Presents Analytical Data for Areas of the Site and Not Data for Individual Wells
(6) Well Location Used for Statistical Analysis of Background Concentrations
* Top-of-Casing Elevation is Unknown
NM Not Measured
P&A Plugged and Abandoned
µg/L micrograms per liter
BOLD Indicates Concentration Exceeds the Greater Value of the NMWQCC Water-Quality Standards or Background Threshold Values Proposed for the Giant Bloomfield Refinery
mg/L milligrams per liter
NMWQCC New Mexico Water Quality Control Commission
NT Not Tested
USEPA United States Environmental Protection Agency

PROPOSED FACILITY-SPECIFIC BACKGROUND THRESHOLD VALUES FOR INORGANICS IN GROUNDWATER
FORMER GIANT BLOOMFIELD REFINERY
BLOOMFIELD, NEW MEXICO

												Original Reported UTL	NDs replaced with PQL - Analyzed as Detections (per Agency's request)				Original Dataset with NDs (Statistic based on Gamma distribution for previously lognormal cases)					
Analyte	**Units**	**Number of Samples**	**Percent ND**	**Non-Detects**	**Detections**	**ND EM**	**Distribution**	**Min**	**Max**	**Mean**	**Std Deviation**	**95%UTL 95% Coverage**	**CV**	**ND EM**	**Distribution**	**95%UTL 95% Coverage**	**CV**	**ND EM**	**Distribution**	**95%UTL 95% Coverage**	**Proposed Background Threshold Values (BTVs)**	**Comments**
Chloride	mg/L	40	0	0	40	NA	Non-Parametric\Max	44	560	232.3	153.4	560									560	No Change. Dataset do not follow a discernible distribution, use Max value as UTL
Chromium	mg/L	32	3.125	1	31	ROS	Lognormal	0.006	1.4	0.318	0.379	4.46	1.19	PQL	Gamma-WH	1.59	0.145	KM	Gamma-WH	1.553	1.553	Calculated UTL based on lognormal distribution is disproportionately high when compared to maximum detection= 1.4 due to highly variable sample data, recommend using UTL based on Gamma distribution with WH approximation
Iron	mg/L	33	6	2	31	ROS	Lognormal	0.1	170	16.62	33.37	261.7	2.008	PQL	Gamma-HW	100.1	1168	KM	Gamma-HW	97.06	97.06	Calculated UTL based on lognormal distribution is disproportionately high when compared to maximum detection= 170 due to highly variable sample data, recommend using UTL based on Gamma distribution with HW approximation
Manganese	mg/L	24	0	0	24	NA	Lognormal	0.041	6.4	0.765	1.578	10.63					1.226	NA	Gamma-HW	6.42	6.42	Calculated UTL based on lognormal distribution is disproportionately high when compared to maximum detection= 6.4 due to highly variable sample data, recommend using UTL based on Gamma distribution with HW approximation
Sulfate	mg/L	40	0	0	40	NA	Normal	698	2800	1801	351.9	2546									2546	Low coefficient of variation, use UTL based on normal distribution
Total Dissolved Solids	mg/L	40	0	0	40	NA	Normal	1460	4320	3234	629	4566									4566	Low coefficient of variation, use UTL based on normal distribution

Notes:
CV - Coefficient of Variation
HW - Hawkins–Wixley approximation
KM - Kaplan-Meier method
NA - Not Applicable
ND - Non-detect
ND EM - Non-detect estimation method
ROS - Regression on order statistics
WH - Wilson-Hilferty approximation

From:	Stuart Hyde
To:	Chavez, Carl J, EMNRD
Cc:	Devin Hencmann; McCartney, Gregory J.
Subject:	[EXT] RE: Question: Marathon Petroleum Company, L.P. Former Giant Bloomfield Refinery (GW-40) in San Juan County: WQCC Application Administratively Complete
Date:	Thursday, July 16, 2020 9:17:48 AM
Attachments:	2020-7-15_GW-040_Corrigendum to Discharge Permit Application.pdf

Carl,

Please find attached the corrigendum with the replacement sheet and the correct reference to Appendix A. Please let me know if you need anything else regarding this issue. Thanks.

Stuart Hyde, LG
Project Geologist
970.385.1096 *direct*
970.903.1607 *cell*

From: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Sent: Tuesday, July 14, 2020 3:11 PM
To: Stuart Hyde <shyde@ltenv.com>
Cc: Devin Hencmann <dhencmann@ltenv.com>
Subject: RE: Question: Marathon Petroleum Company, L.P. Former Giant Bloomfield Refinery (GW-40) in San Juan County: WQCC Application Administratively Complete

Stuart:

Hi. Just send me an e-mail with the page addendums for the admin. record. I will place them in front of the application and the page numbers should coincide with the report, i.e., table of contents with appendix B removed, pg. with appendix B referenced.

Thx.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division (Albuquerque Office)
Energy Minerals and Natural Resources Department
5200 Oakland Avenue, NE
Albuquerque, New Mexico 87113
Ph. (505) 660-7923
E-mail: CarlJ.Chavez@state.nm.us
"Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?" (To see how, go to: http://www.emnrd.state.nm.us/OCD **and see "Publications")**

From: Stuart Hyde <shyde@ltenv.com>
Sent: Tuesday, July 14, 2020 3:06 PM
To: Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
Cc: Devin Hencmann <dhencmann@ltenv.com>
Subject: [EXT] RE: Question: Marathon Petroleum Company, L.P. Former Giant Bloomfield Refinery (GW-40) in San Juan County: WQCC Application Administratively Complete

LT Environmental, Inc.
848 East Second Avenue
Durango, Colorado 81301
970.385.1096

July 15, 2020

Mr. Carl Chavez
New Mexico Oil Conservation Division
5200 Oakland Avenue NE
Albuquerque, NM 87113

RE: Corrigendum to the May 2020 Discharge Permit Application
Former Giant Bloomfield Refinery
Western Refining Southwest, Inc.
Bloomfield, New Mexico

Dear Mr. Chavez:

On behalf of Western Refining Southwest, Inc. (Western), LT Environmental (LTE) is submitting this corrigendum for the Former Giant Bloomfield Refinery *Discharge Permit Application* submitted to the New Mexico Oil Conservation Division (NMOCD) in May 2020. Page 14 of the *Discharge Permit Application* contains a reference to "Appendix B", which is in error and should be replaced by a reference to "Appendix A". Other references in the document to Appendix A are correct. Attached is page 14 of the *Discharge Permit Application* that includes the corrected reference.

If you have any questions or comments regarding this corrigendum, please do not hesitate to contact LTE at (970) 385-1096 or via email at shyde@ltenv.com.

Sincerely,

LT ENVIRONMENTAL, INC.

Stuart Hyde, LG
Project Geologist

Ashley Ager, P.G.
Senior Geologist

cc: Greg McCartney, Western Refining Southwest, Inc.

Attachments:

Page 14 Replacement Sheet

ATTACHMENT 1: PAGE 14 REPLACEMENT SHEET

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

FIGURES

TABLES

APPENDICES

GBR-50, located hydrogeologically upgradient of the source areas at the Site (identified on Figure 2) and downgradient of the Lee Acres Landfill Superfund site.

In June 2019, LTE performed a statistical analysis using ProUCL software (developed by the United States Environmental Protection Agency, or EPA) to develop "background" concentrations for the following constituents migrating onto the Site: chloride, chromium, iron, manganese, sulfate, and TDS. Table 3 presents the results of the statistical analysis and groundwater analytical results for these constituents detected between 2010 and 2018. Table 3 also presents the cleanup standards (or "remedial goals") established for the Lee Acres Landfill Superfund site in their *Remedial Investigation Report* (BLM, 1992) and *Record of Decision* (EPA, 2004). Appendix A presents the assumptions and inputs used for the statistical analysis. Appendix A also includes a letter prepared by LTE summarizing our findings that was provided to the EPA for their five-year review of the Lee Acres Landfill Superfund site (conducted in 2019).

12.2 FLOODING POTENTIAL

The greatest threat to flooding of the Facility are the San Juan River (located less than one mile south of the site) and the unnamed arroyo located within the Site itself. History suggests flooding potential of the San Juan River is small. From 1904 until 1976, only 23 flood events (on individual streams, not concurrent on all streams) have been recorded. According to a study conducted by the New Mexico Floodplain Managers Association (2003), previous floods of the San Juan River resulted from general rainstorms, snowmelt augmented by rain, and from cloudburst storms. Rain floods usually occur during the months of September and October. This type of flood results from prolonged heavy rainfall over tributary areas and is characterized by high peak flows of moderate duration. Major floods (recurrence interval of 100 or more years) result from excessive snowmelt runoff generated in the watershed upstream from Bloomfield. Flood flows generated by snowmelt generally occur during the period from May through July. Snowmelt flooding is characterized by moderate peak flows, large volume and long duration, and marked diurnal fluctuation in flow. The refinery is elevated above the floodplain of the San Juan River, decreasing the chance of a river flood, such as the ones described above, from reaching the Facility.

The flooding potential of the arroyo is predicted to be low as well. Similar arroyos have been studied in detail near Farmington and are described as ephemeral in character, flowing only during periods of heavy rainfall (New Mexico Floodplain Managers Association, 2003). Furthermore, the arroyo's influence on the Site and Facility has been decreased due to the construction of a new highway located between the arroyo and the refinery.

GW - 40

UIC CLASS V WELL

From: Stuart Hyde
To: Chavez, Carl J, EMNRD
Cc: Devin Hencmann; McCartney, Gregory J.
Subject: [EXT] GBR UIC Forms
Date: Tuesday, July 7, 2020 12:34:09 PM
Attachments: image004.png
image006.png
image008.png
GBR_UIC Class V Well System Forms.pdf

Carl,

Thanks for the call earlier. Attached are the forms with the revisions that we went over.

Also, I spoke to Devin and looked at our old data when the system was in operation and the treatment system (GAC tanks) can treat approximately 15 to 20 gallons/minute. The infiltration gallery can handle up to 50 gallons/minute if we were to discharge treated water from holding tanks. Let me know if you have any additional information.

A proud member of WSP

Stuart Hyde, LG
Project Geologist
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970.903.1607 *cell*
848 East Second Avenue Durango, CO 81301
www.ltenv.com

FOR SAMPLE USE ONLY – COMPARABLE FORMAT ACCEPTABLE

UNDERGROUND DISCHARGE SYSTEM (CLASS V) INVENTORY SHEET

(see instructions on back)

1. Name of facility: Former Giant Bloomfield Refinery

   Address of facility: 748 Road 350

   City/Town: Farmington State: NM Zip Code: 87401

   County: San Juan Location: Northeast corner of Hwy 64 and CR350

   Contact Person: Greg McCartney Phone Number: 419-421-2338

2. Name of Owner or Operator: Western Refining Southwest, Inc.

   Address of Owner or Operator: 539 South Main Street, Room M-7081

   City/Town: Findlay State: OH Zip Code: 45840

3. Type & number of system(s): ____Drywell(s) ____Septic System(s) __X__Other(describe): Infiltration Gallery
   Attach a schematic of the system. Attach a map or sketch of the location of the system at the facility.

4. Source of discharge into system: Discharge effluent will be derived from groundwater pumped from recovery wells on the property. Recovered water is expected to be impacted by petroleum hydrocarbons and will be treated prior to discharge using activated carbon.

5. Fluids discharged: Discharged fluids will consist of treated groundwater.

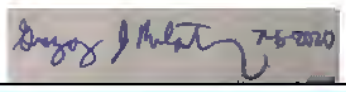
6. Treatment before discharge: Activated carbon adsorption

7. Status of underground discharge system: ☒ Existing ☐ Unused/Abandoned ☐ Under Construction ☐ Proposed

   Approved/Permitted by: NMOCD 1988 (original), 2012, 2020 (most recent) Date constructed: 1988

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).

Signature:  Date: 7/6/2020

Name (printed): Greg McCartney

Official Title: Senior Environmental Professional

APPROVED

By Carl Chavez at 3:44 pm, Jul 07, 2020

Conditions of Approval: Must follow GW-40 Permit Conditions

OCD UIC QA Officer

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

UNDERGROUND DISCHARGE SYSTEM (CLASS V) INVENTORY SHEET INSTRUCTIONS

Complete one sheet for each different kind of underground discharge or drainage system (Class V well) at your facility or location. For example, several storm water drainage wells of a similar construction can all go on one sheet. Another example could be a business with a single septic system (septic tank with drainfield) that accepts fluids from a paint shop sink in one area, their vehicle maintenance garage floor drains in another area and also serves the employee kitchenette and washroom: this can all go on one form.

The numbers below correspond to the numbers on the front of the sheet.

1. Supply the name and street address of the facility where the Class V well(s) is located. Please be sure to include the County name. If available, provide the Latitude/Longitude of the discharge system. If there is no street address for the discharge system(s), provide a description of the location and show the location on a map. Include the name and phone number of a person to contact if there are any questions regarding the underground discharge system(s) and/or the wastewaters discharged at the facility.

2. Provide the name and mailing address of the owner of the facility or if the facility is operated by lease, the operator of the facility.

3. Provide the number of underground discharge systems at the facility (or location) for the type of system that is described on this sheet. Please use a separate sheet for each different type of system present. If the type of system is "Other", please describe (e.g., french drain, leachfield, improved sinkhole, cesspool, etc.).

   Provide a sketch, diagram or blueprints of the construction of the system including the depth below the ground surface that the fluids are released into the soil, sediment or formation. Also provide a map or sketch of the layout of the pluming or drainage system, including all the connections, and if applicable, indicate each fluid source connection (i.e., floor drains, shop sink, process tank discharge, restrooms, etc.) and any pre-treatment, etc.

4. Describe the kind of business practice that generates the fluids being discharged into the underground system (e.g., body shop, drycleaner, carwash, print shop, restaurant, etc.), and/or if more appropriate, the source of the fluids (e.g., employee & customer restrooms, parking lot drainage, etc.). If available, include the Standard Industrial Classification (SIC) Codes for this facility.

5. List the kinds of fluids that can enter the underground system (e.g., storm water run-off, sanitary waste, solvents, biodegradable soap wash & rinse water, snowmelt from trucks, photo developing fluids, ink, paint & thinner, non-contact cooling water, etc.). Please be as specific as you can about the kinds of fluids or products that can be drained into the system. Generally, good sources for this information are the Material Safety Data Sheets (MSDS) (copies of MSDS could be attached instead of listing all the products). If available, also attach a copy of any chemical analysis for the fluids discharged.

6. Describe the kinds of treatment (if any) that the fluids go through before disposal. Examples of treatment are: grease trap, package plant, oil/water separator, catch basin, metal recovery unit, sand filter, grit cleanser, etc.

7. Select the status of the underground discharge system and include the date the system was constructed. If the status is “Existing” but it is not being used, is unusable, will not be used, or is temporarily abandoned, mark the box for “Unused/Abandoned”. If state or local government approval was given for construction of the system, or a permit was issued for the system, please provide the name of the approving authority. Provide an estimated date of construction if the actual date is unknown.

The person signing the submittal should read the certification statement before signing and dating the sheet.

If you have any questions about whether or not you may have an EPA regulated system, or about how to complete this sheet, please call (312) 886-1492. You may also try our website at www.epa.gov/r5water/uic/uic.htm for information.

Please send completed sheets to: U.S. EPA Region 5
Underground Injection Control Branch
ATTN: Lisa Perenchio (WU-16J)
77 W. Jackson Blvd.
Chicago, IL 60604

8/02

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance __XX__Disposal _____Storage
Application qualifies for administrative approval? _____Yes _____No

II. OPERATOR: Western Refining Southwest, Inc.

ADDRESS: 539 South Main Street Room M-7081, Findlay, OH 45840

CONTACT PARTY: Greg McCartney PHONE: 419-421-2338

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? __XX__Yes _____No
If yes, give the Division order number authorizing the project: Discharge Permit GW-040

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review. See Attached Figure 1

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail. See Tables 1 and 2 for water and oil/gas well information

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected; See attached Section 7.0 from the Discharge Permit
2. Whether the system is open or closed; open, See attached Section 8.0 and Figures 3, 4, and 5 from the Discharge Permit
3. Proposed average and maximum injection pressure; System is gravity fed with a maximum 50 gallons per minute injection rate.
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, See attached Tables for influent and effluent analytical results.
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.). See attached tables for groundwater analytical information.

VIII. VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval. See attached Section 12.0 from the Discharge Permit and Figure 6 and 7.

IX. Describe the proposed stimulation program, if any. Not applicable

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

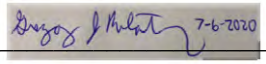
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken. See attached tables and Figure 2.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Greg McCartney TITLE: Senior Environmental Professional

SIGNATURE:  DATE: 7/6/2020

E-MAIL ADDRESS: gjmccartney@marathonpetroleum.com

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

Side 2

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Side 1

INJECTION WELL DATA SHEET

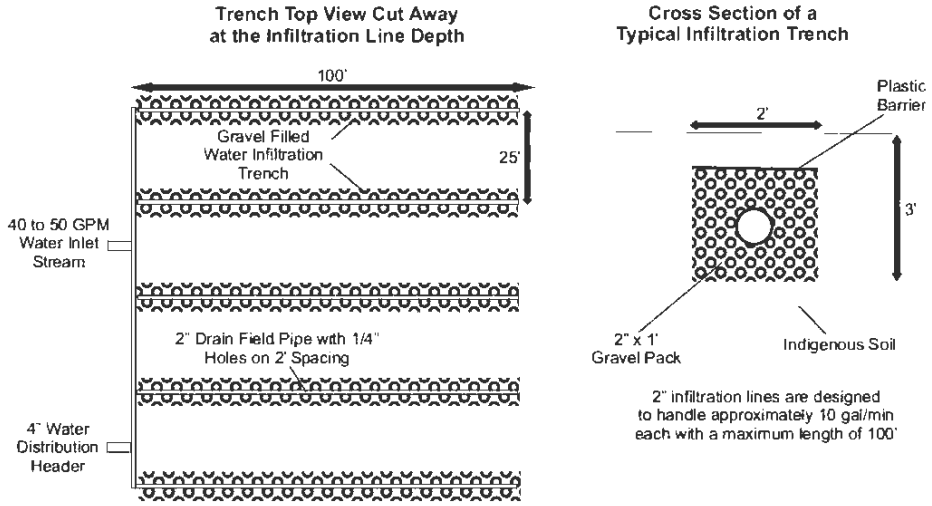
OPERATOR: Western Refining Southwest, Inc.

WELL NAME & NUMBER: Infiltration Trench

WELL LOCATION:	36.703061, -108.093532 NAD83	D	NWNW 27	29N	12W
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

Infiltration Gallery Design



Description: Effluent from the treatment system is discharged by gravity to the infiltration gallery. The gallery consists of five horizontally placed perforated pipes that are approximately 1 to 2 feet below ground surface and surrounded by crushed gravel. Each 2-inch diameter infiltration pipe is designed to handle approximately 10 gallons/minute (system total 50 gallons/minute).

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 8 inch entry point Casing Size: 4 inch (above ground entry)

Cemented with: N/A sx. ***or*** _____ ft^3

Top of Cement: N/A Method Determined: _____

Intermediate Casing

Hole Size: 2'(w) x 3'(d) x 100' (l) each pipe trench Casing Size: 2 inch piping

Cemented with: N/A sx. ***or*** _____ ft^3

Top of Cement: N/A Method Determined: _____

Production Casing

Hole Size: 2'(w) x 3' (d) x 100' (l) each pipe trench Casing Size: 2 inch

Cemented with: N/A sx. ***or*** _____ ft^3

Top of Cement: N/A Method Determined: _____

Total Depth: 3 feet

Injection Interval

1 feet to 3

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: 2 inch Lining Material: PVC

Type of Packer: NA

Packer Setting Depth: NA

Other Type of Tubing/Casing Seal (if applicable): NA

Additional Data

1. Is this a new well drilled for injection? X Yes ___ ___No

   If no, for what purpose was the well originally drilled? __ _

   _____

2. Name of the Injection Formation: quaternary alluvium

3. Name of Field or Pool (if applicable): NA

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. __N/A, infiltration gallery_____

5. _____

   Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: NA

   _____

   _____

   _____

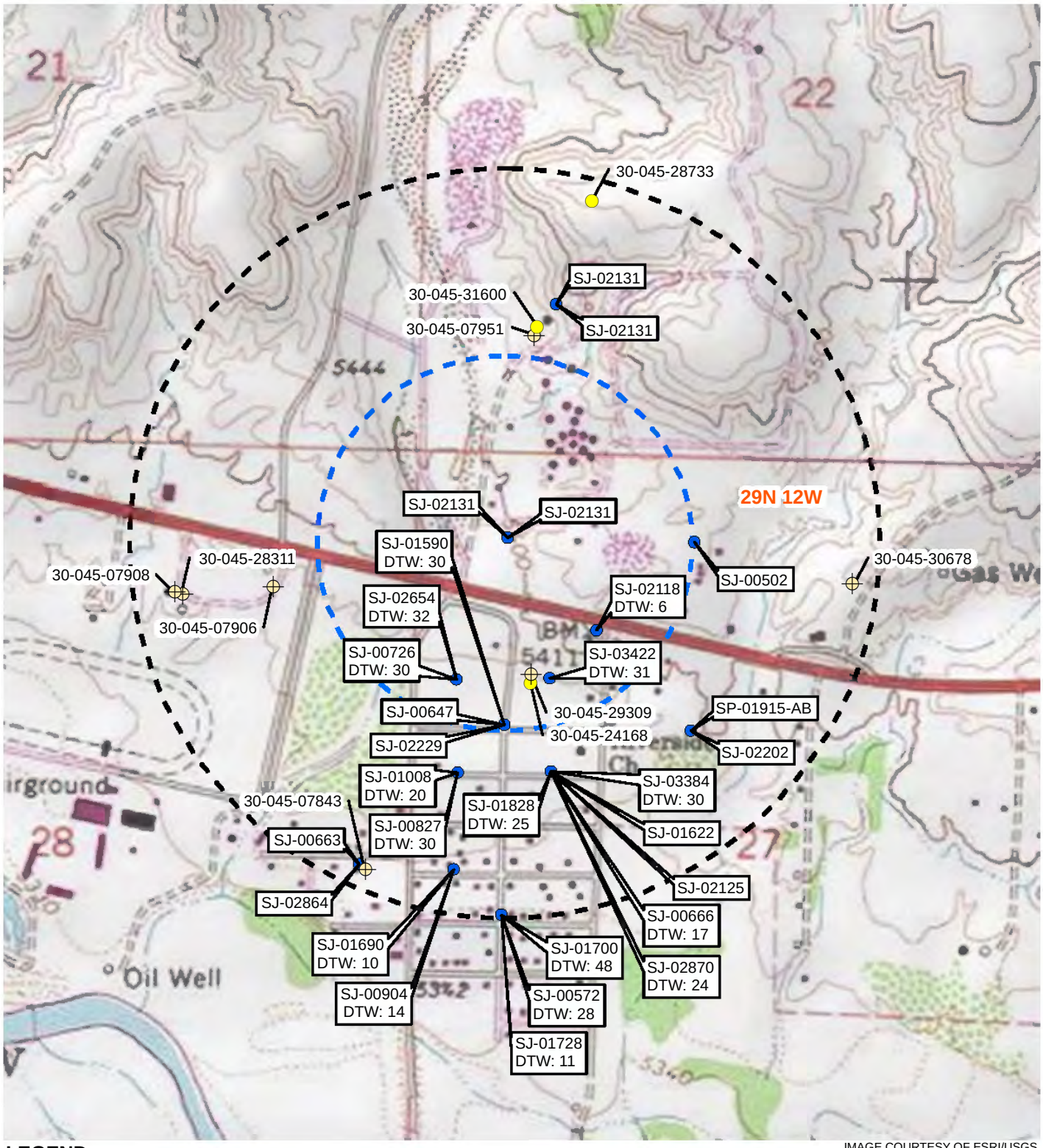


IMAGE COURTESY OF ESRI/USGS

LEGEND

- WATER WELL
- ACTIVE OIL & GAS WELL
- PLUGGED OIL & GAS WELL
- HALF-MILE RADIUS
- QUARTER-MILE RADIUS

DTW: DEPTH TO WATER

0 1,000 2,000
Feet

N

FIGURE 1
WELL LOCATION MAP
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

P:\Marathon Petroleum\GIS\MXD\095820002_GBR\095820002_GIANT_FIG01_WELL LOC_2020.mxd

DISCHARGE PERMIT APPLICATION

FORMER GIANT BLOOMFIELD REFINERY
BLOOMFIELD, NEW MEXICO

MAY 2020

Prepared for:

WESTERN REFINING SOUTHWEST, INC.
111 COUNTY ROAD 4990
BLOOMFIELD, NEW MEXICO 87413

Prepared by:

LT ENVIRONMENTAL, INC.
848 East Second Avenue
Durango, Colorado 81301
970.385.1096

A proud member of WSP

7.0 EFFLUENT SOURCES

The effluent will be derived from groundwater pumped from a series of recovery wells at the Site. Groundwater in several areas of the Site is impacted by petroleum hydrocarbons. However, the recovered water will be treated prior to discharge (see Section 8.0). Table 1 presents the analytical results of the influent and effluent water in 2015 prior to shut-down of the remediation system. Up to 420,000 gallons of water was previously treated and discharged per month.

8.0 WATER COLLECTION, TREATMENT, AND DISPOSAL

8.1 WATER COLLECTION

At the Facility, petroleum hydrocarbon-impacted groundwater and phase-separated hydrocarbons (PSH) may be pumped from the shallow aquifer through a series of recovery wells located within the formerly defined contaminant plume associated with the Site. Locations of previously used recovery wells are shown in Figure 2 and are identified by the acronym GRW (Giant Recovery Well), followed by a numerical designation. There may be solid filters in each recovery well enclosure to control deposition of solid contaminants in the system. Flow meters will be installed to monitor volumes of groundwater recovered.

8.2 WATER TREATMENT

Recovered water exhibiting dissolved phase contaminants and/or PSH above New Mexico Water Quality Control Commission (NMWQCC) regulatory standards require treatment to within applicable guidelines prior to discharge. A carbon adsorption process formerly was utilized for water treatment prior to discharge and is available for future use, if appropriate. This process removes contaminants from the groundwater by forcing it through tanks containing activated carbon treated to attract the contaminants. Figure 3 presents a simplified representation of the groundwater recovery and treatment system at the Site. Figure 4 details the carbon adsorption tank and associated piping used at the refinery.

8.2.1 Tank 102

Depending on the volume recovered, Tank 102 (capacity of 500 barrels, or 21,000 gallons) may be used as an intermediate storage tank for the water treatment system. The tank can store water before it is treated.

8.3 WATER DISCHARGE

Once treated, water can be discharged to an infiltration trench located within the Site boundary. Infiltration trenches consist of subsurface distribution systems placed within gravel packs. Water infiltrates into the surrounding strata and eventually makes its way to the shallow aquifer. Figure 5 illustrates a typical infiltration gallery. The return of treated water to the aquifer serves to recharge the aquifer.

12.0 GEOLOGICAL/HYDROLOGICAL INFORMATION

The Facility and Site are located on weathered outcrops of Nacimiento Formation, which is comprised of shales, sandstones and siltstones of Cretaceous-Tertiary age. Immediately to the west of the Facility and on Western's property is a large unnamed arroyo, which is underlain by 30 to 60 feet of Quaternary alluvial sediments. Older Quaternary terrace deposits of cobbles and boulders are observed on the interfluvial ridges adjacent to the arroyo. These terrace deposits may have been utilized as fill on the refinery site. The San Juan River Valley is located south of the site and contains up to several hundred feet of alluvial fill.

The uppermost zone of ground water in the refinery area is unconfined to partially confined water table unit, which is hosted by the weathered, locally porous sandstones and shales of the Nacimiento Formation and arroyo alluvium. These units merge hydrologically with the San Juan River alluvium to the south. Figures 6 and 7 present generalized cross sections through the refinery site showing the relationship of the arroyo alluvium to bedrock. Major hydrogeologic features of the site are:

- An interconnected water table aquifer hosted by both valley and arroyo fill and the upper parts of the Nacimiento Formation;
- Ground water at a depth of 30 to 70 feet beneath the land surface;
- An upper water table surface generally conforming to topography, with ground water flow from north or northeast to south (towards the San Juan River) through the refinery area;
- Minor, local zones of perched ground water lying 5 to 10 feet above the water table.

Water levels and floating product thicknesses were measured in all wells at the Site during 2019. A record of these measurements is shown in Table 2. A groundwater contour map was prepared based on the static water levels of all the wells at the Site in November 2019 (Figure 8). This map is representative of static conditions of the aquifer because pumping currently is not being performed on wells at the Site. Where floating product was encountered, the product thickness has been multiplied by 0.8 and added to the measured water elevation. This calculation corrects for the difference in density between floating product and water.

12.1 BACKGROUND CONCENTRATIONS

As discussed in the *Stage 1 Abatement Plan* prepared for the Site (LTE, 2020), several constituents are present at the Site at concentrations exceeding NMWQCC standards. However, based on concentrations detected in wells hydrogeologically upgradient of the Site, elevated concentrations of several constituents are present due to the offsite migration of contaminants originating from the Lee Acres Landfill Superfund site. Specifically, chloride, chromium, iron, sulfate, and TDS concentrations are present in groundwater at and downgradient of the Lee Acres Landfill at concentrations above NMWQCC standards; however, these constituents were not considered during the remediation-selection process outlined in the *Record of Decision* for the Superfund site (EPA, 2004). In addition to these constituents, manganese (considered a COC for the Lee Acres Landfill Superfund site) also is found at concentrations above NMWQCC standards. These constituents have long been detected at the Site in upgradient wells GBR-32, GBR-48, GBR-49, and

GBR-50, located hydrogeologically upgradient of the source areas at the Site (identified on Figure 2) and downgradient of the Lee Acres Landfill Superfund site.

In June 2019, LTE performed a statistical analysis using ProUCL software (developed by the United States Environmental Protection Agency, or EPA) to develop "background" concentrations for the following constituents migrating onto the Site: chloride, chromium, iron, manganese, sulfate, and TDS. Table 3 presents the results of the statistical analysis and groundwater analytical results for these constituents detected between 2010 and 2018. Table 3 also presents the cleanup standards (or "remedial goals") established for the Lee Acres Landfill Superfund site in their *Remedial Investigation Report* (BLM, 1992) and *Record of Decision* (EPA, 2004). Appendix B presents the assumptions and inputs used for the statistical analysis. Appendix B also includes a letter prepared by LTE summarizing our findings that was provided to the EPA for their five-year review of the Lee Acres Landfill Superfund site (conducted in 2019).

12.2 FLOODING POTENTIAL

The greatest threat to flooding of the Facility are the San Juan River (located less than one mile south of the site) and the unnamed arroyo located within the Site itself. History suggests flooding potential of the San Juan River is small. From 1904 until 1976, only 23 flood events (on individual streams, not concurrent on all streams) have been recorded. According to a study conducted by the New Mexico Floodplain Managers Association (2003), previous floods of the San Juan River resulted from general rainstorms, snowmelt augmented by rain, and from cloudburst storms. Rain floods usually occur during the months of September and October. This type of flood results from prolonged heavy rainfall over tributary areas and is characterized by high peak flows of moderate duration. Major floods (recurrence interval of 100 or more years) result from excessive snowmelt runoff generated in the watershed upstream from Bloomfield. Flood flows generated by snowmelt generally occur during the period from May through July. Snowmelt flooding is characterized by moderate peak flows, large volume and long duration, and marked diurnal fluctuation in flow. The refinery is elevated above the floodplain of the San Juan River, decreasing the chance of a river flood, such as the ones described above, from reaching the Facility.

The flooding potential of the arroyo is predicted to be low as well. Similar arroyos have been studied in detail near Farmington and are described as ephemeral in character, flowing only during periods of heavy rainfall (New Mexico Floodplain Managers Association, 2003). Furthermore, the arroyo's influence on the Site and Facility has been decreased due to the construction of a new highway located between the arroyo and the refinery.

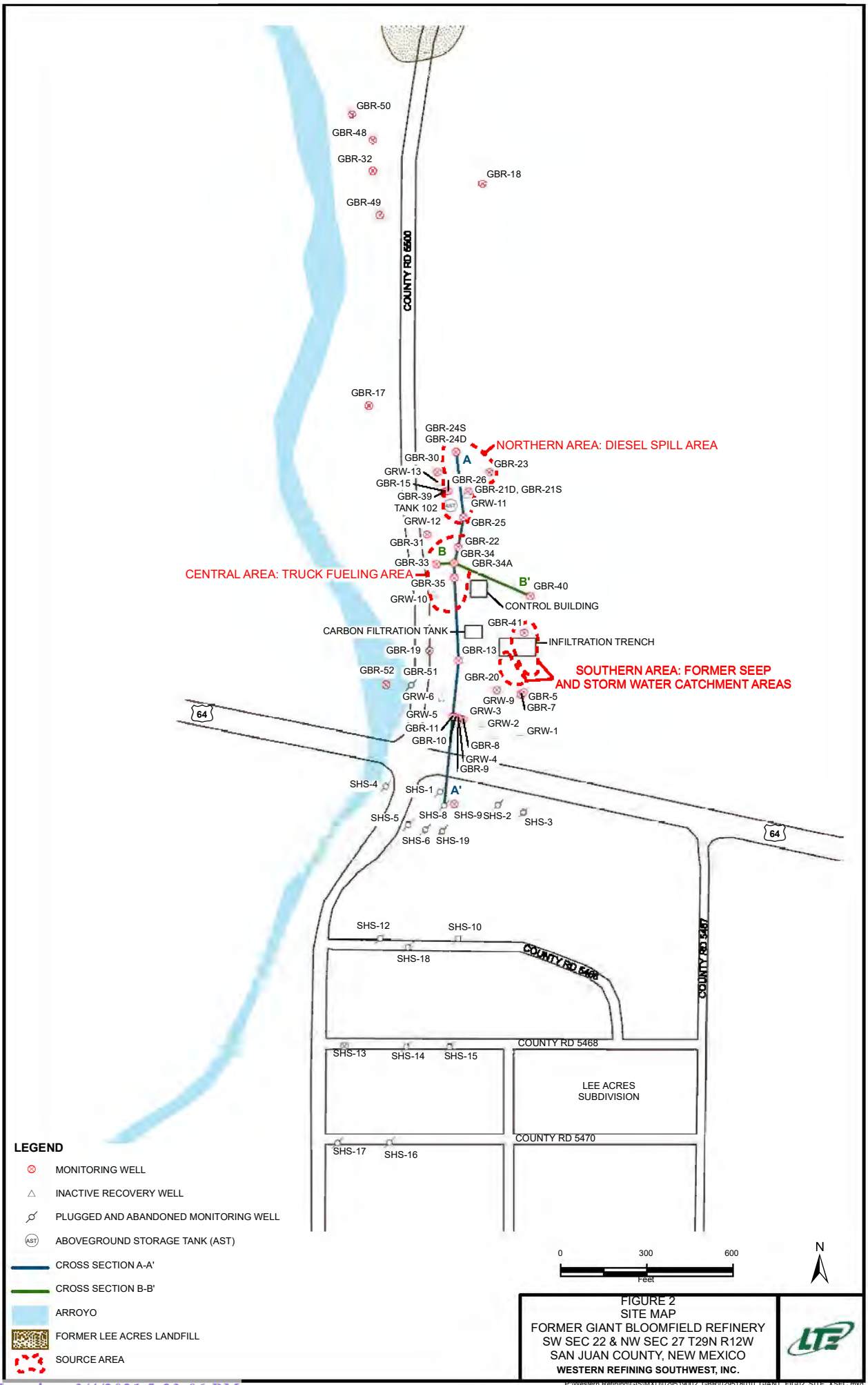


FIGURE 2
SITE MAP
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

P:\Western Refining\GIS\MXD\029519002_GBR\029518010_GIANT_FIG02_SITE_XSEC.mxd

FIGURE 3
SIMPLIFIED REPRESENTATION OF THE GROUNDWATER RECOVERY, TREATMENT, AND DISCHARGE SYSTEM
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

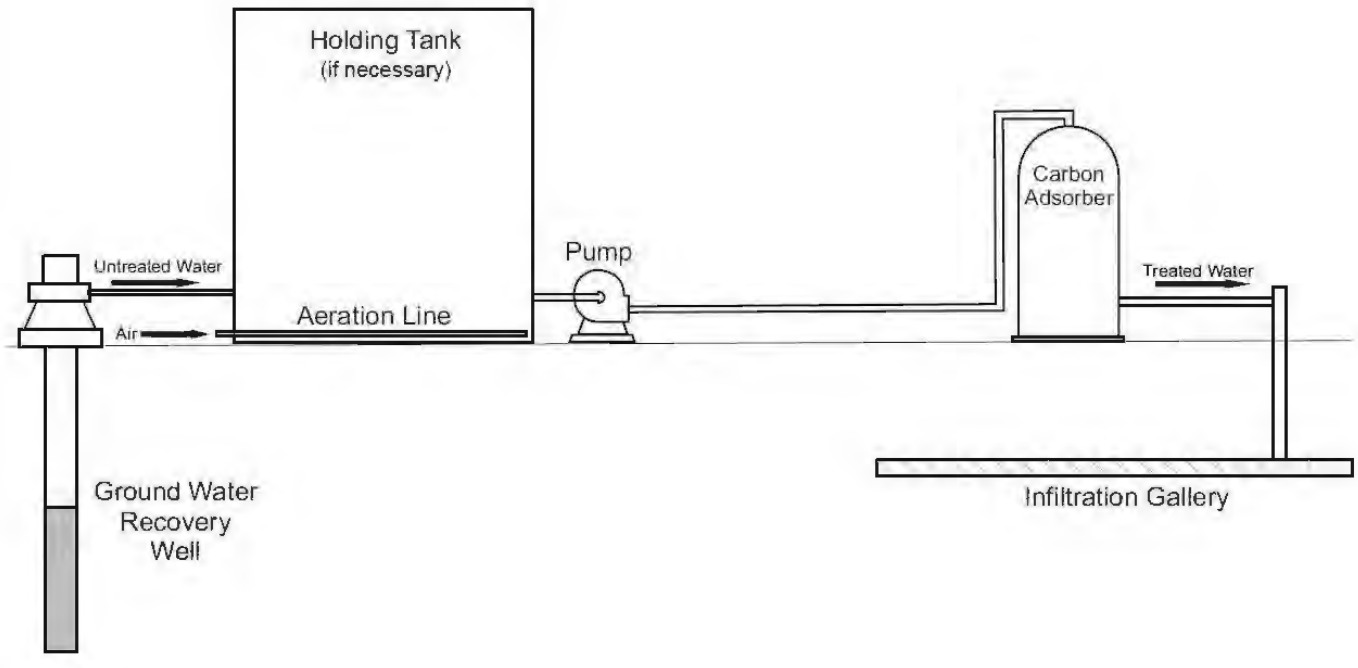


FIGURE 4
THE CARBON ADSORPTION SYSTEM
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

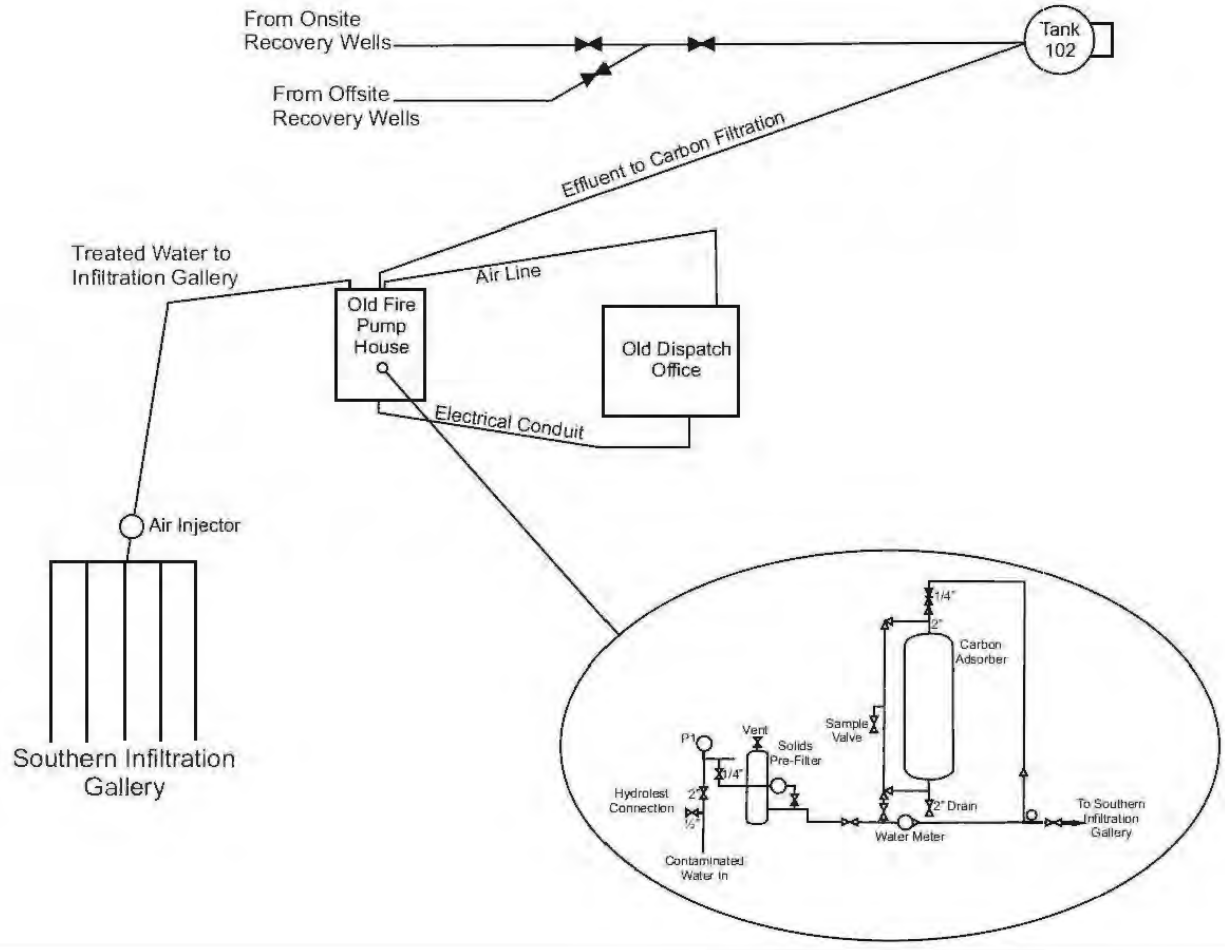
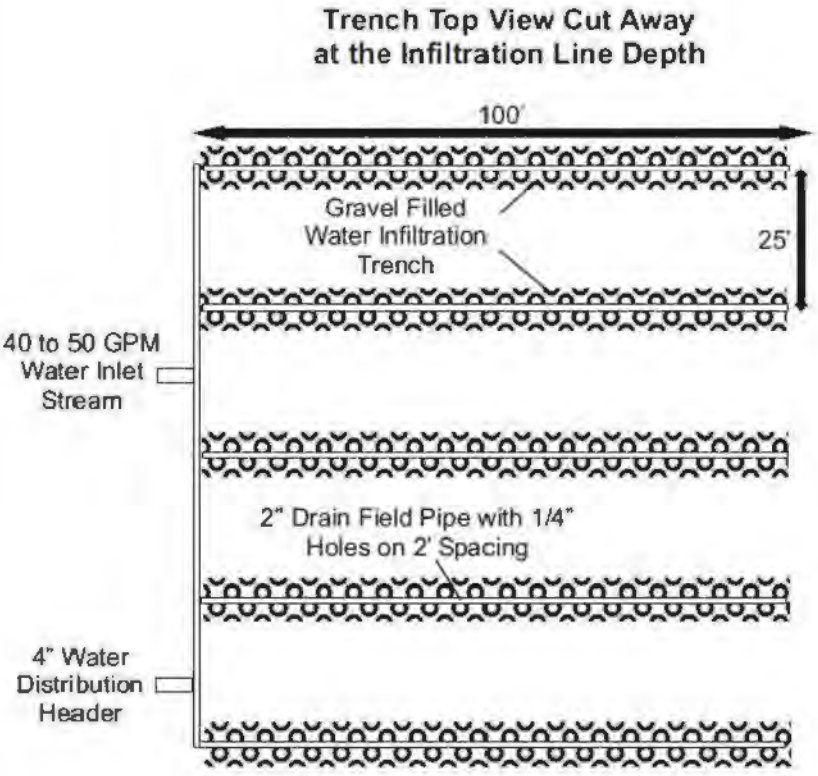
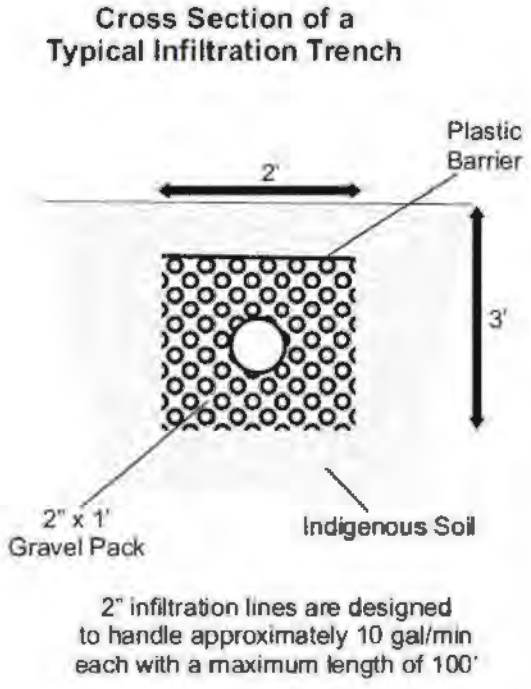
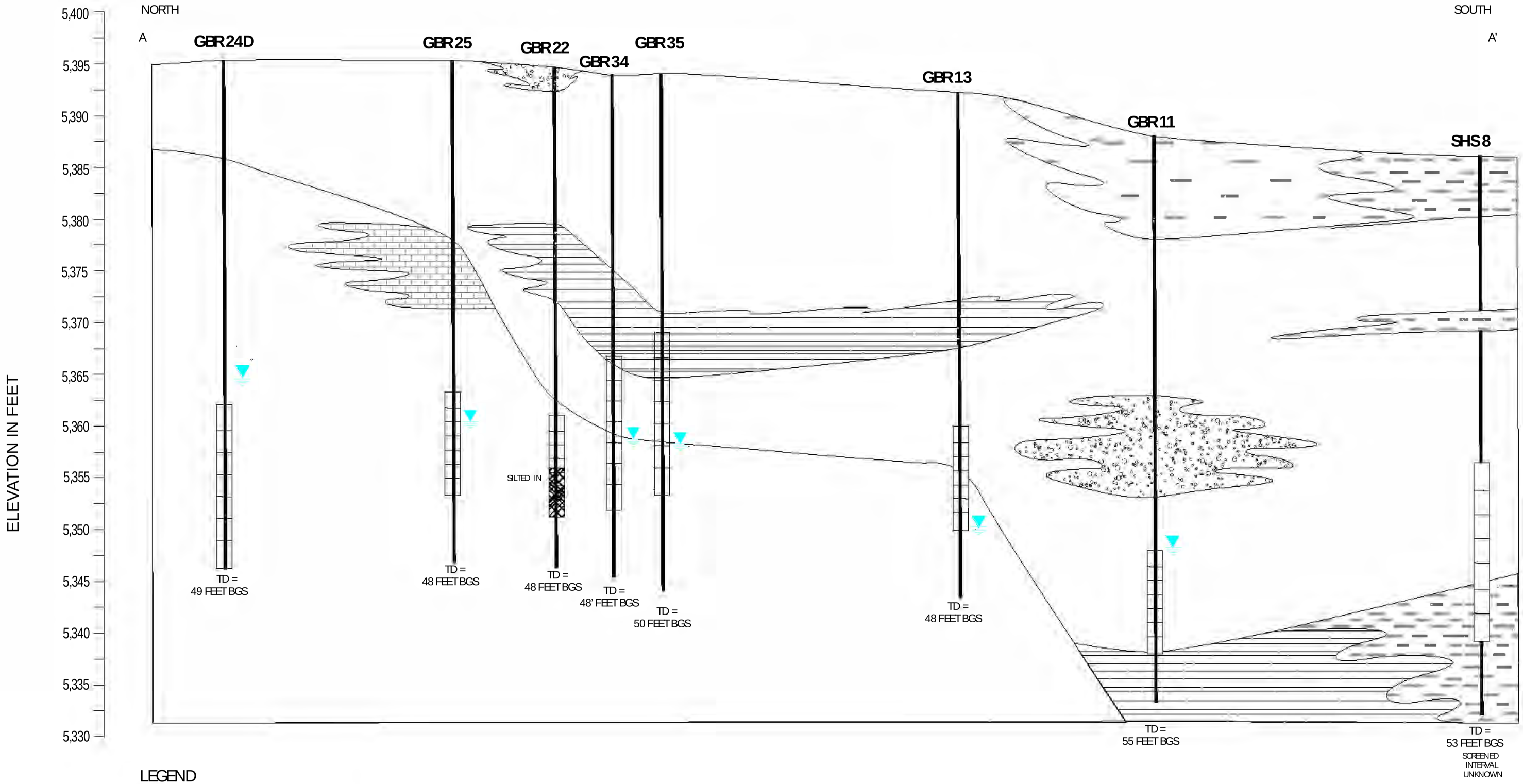


FIGURE 5
INFILTRATION TRENCH DESIGN AND CONSTRUCTION SPECIFICATIONS
FORMER GIANT BLOOMFIELD REFINERY
SW SEC 22 & NW SEC 27 T29N R12W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.







LEGEND

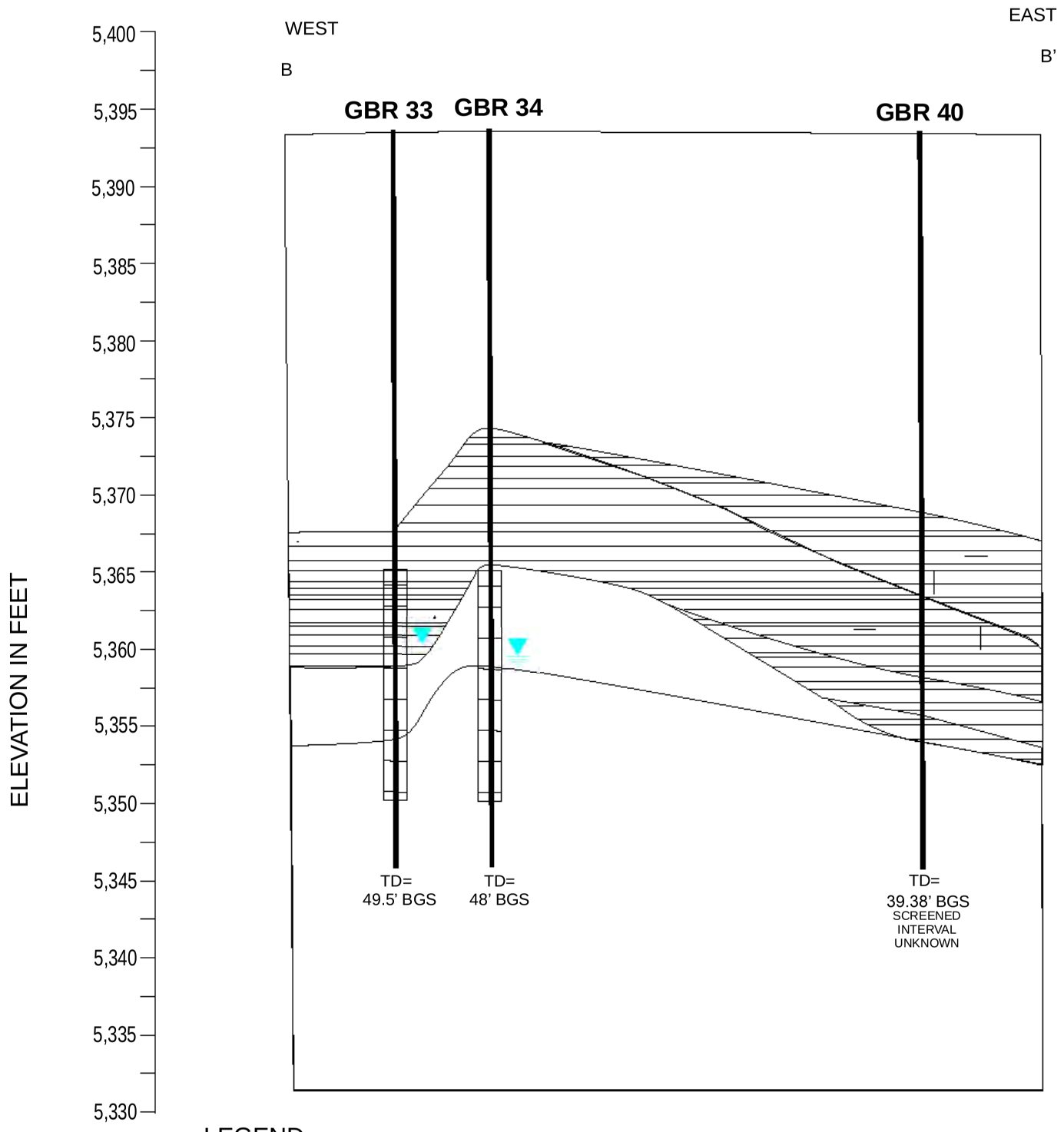
- SANDY SILT
- CLAYEY SAND
- SILTY SAND
- SAND
- PEBBLES/GRAVEL
- NACIMIENTO SHALE
- NACIMIENTO SANDSTONE
- BOREHOLE
- SCREENED INTERVAL
- BGS — BELOW GROUND SURFACE
- TD — TOTAL DEPTH IN FEET
- GROUNDWATER ELEVATION FROM OCTOBER 2018

HORIZONTAL SCALE
1" = 10 FEET

VERTICAL SCALE
1" = 90 FEET

FIGURE 6
CROSS SECTION A-A'
FORMER GIANT BLOOMFIELD REFINERY
SWSW SEC 22 &WNW SEC 27 T29N R12W
WESTERN REFINING SOUTHWEST, INC.

WR1009 1/16



HORIZONTAL SCALE
1" = 10 FEET

VERTICAL SCALE
1" = 90 FEET

FIGURE 7
CROSS SECTION B-B'
FORMER GIANT BLOOMFIELD REFINERY
SWSW SEC 22 &WNW SEC 27 T29N R12W
WESTERN REFINING SOUTHWEST, INC.

TABLE 1
2015 INFUENT AND EFFLUENT ANALYTICAL RESULTS

FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.
SAN JUAN COUNTY, NEW MEXICO

Analyte	NMWQCC Standard	Unit	Influent 27-Jan	Effluent 27-Jan	Influent 8-Apr	Effluent 8-Apr	Influent 24-Jul	Effluent 24-Jul	Influent 3-Aug	Effluent 3-Aug
USEPA Method 8260B: Volatiles										
benzene	**10**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
toluene	**750**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
ethylbenzene	**750**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
methyl tert-butyl ether (MTBE)	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-trimethylbenzene	**620**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-trimethylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichloroethane (EDC)	**10**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dibromoethane (EDB)	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
naphthalene	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1-methylnaphthalene	NE	µg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
2-methylnaphthalene	NE	µg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
acetone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
bromobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromodichloromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromoform	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromomethane	NE	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
2-butanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
carbon disulfide	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
carbon tetrachloride	**10**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
chlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
chloroethane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
chloroform	**100**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
chloromethane	NE	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
2-chlorotoluene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-chlorotoluene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-DCE	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dibromo-3-chloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
dibromochloromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
dibromomethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
dichlorodifluoromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-dichloroethane	**25**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-dichloroethene	**5**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichloropropane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-dichloropropane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,2-dichloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

TABLE 1
2015 INFUENT AND EFFLUENT ANALYTICAL RESULTS

FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.
SAN JUAN COUNTY, NEW MEXICO

Analyte	NMWQCC Standard	Unit	Influent 27-Jan	Effluent 27-Jan	Influent 8-Apr	Effluent 8-Apr	Influent 24-Jul	Effluent 24-Jul	Influent 3-Aug	Effluent 3-Aug
hexachlorobutadiene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-hexanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
isopropylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-isopropytoluene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-methyl-2-pentanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10
methylene chloride	**100**	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
n-butylbenzene	NE	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
n-propylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
sec-butylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
styrene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-butylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1,2-tetrachloroethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-tetrachloroethane	**10**	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
tetrachloroethene (PCE)	**20**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-DCE	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-trichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-trichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-trichloroethane	**60**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	**10**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trichloroethene (TCE)	**100**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trichlorofluoromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-trichloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
vinyl chloride	**1**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
xylenes, total	**620**	µg/L	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

Notes:

BOLD - indicates concentration exceeds the NMWQCC standard
mg/L - milligrams per liter
NE - not established
NMWQCC - New Mexico Water Quality Control Commission
NT - not tested
µg/L - micrograms per liter
USEPA - United States Environmental Protection Agency

TABLE 1
2019 ANNUAL COMPLIANCE - GROUNDWATER LABORATORY ANALYTICAL RESULTS

FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.
SAN JUAN COUNTRY, NEW MEXICO

Analyte	NMWQCC Standard	Unit	GRW-3	GRW-6	GBR-17	GBR-24D	GBR-30	GBR-31	GBR-32	GBR-48	GBR-49	GBR-50	GBR-52	SHS-9
			7-Nov	7-Nov	5-Nov	6-Nov	6-Nov	7-Nov	5-Nov	5-Nov	5-Nov	5-Nov	5-Nov	5-Nov
USEPA Method 8260B - Volatiles														
benzene	**10**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5
toluene	**750**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
ethylbenzene	**750**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	18
methyl tert-butyl ether (MTBE)	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,2,4-trimethylbenzene	**620**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,3,5-trimethylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,2-dichloroethane (EDC)	**10**	µg/L	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,2-dibromoethane (EDB)	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
naphthalene	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10
1-methylnaphthalene	NE	µg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<20
2-methylnaphthalene	NE	µg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<20
acetone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<50
bromobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
bromodichloromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
bromoform	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
bromomethane	NE	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<15
2-butanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<50
carbon disulfide	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<50
carbon tetrachloride	**10**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
chlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
chloroethane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10
chloroform	**100**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
chloromethane	NE	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<15
2-chlorotoluene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
4-chlorotoluene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
cis-1,2-DCE	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
cis-1,3-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,2-dibromo-3-chloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10
dibromochloromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
dibromomethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,2-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,3-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,4-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
dichlorodifluoromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,1-dichloroethane	**25**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,1-dichloroethene	**5**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,2-dichloropropane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,3-dichloropropane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
2,2-dichloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10

TABLE 1
2019 ANNUAL COMPLIANCE - GROUNDWATER LABORATORY ANALYTICAL RESULTS

FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.
SAN JUAN COUNTRY, NEW MEXICO

Analyte	NMWQCC Standard	Unit	GRW-3	GRW-6	GBR-17	GBR-24D	GBR-30	GBR-31	GBR-32	GBR-48	GBR-49	GBR-50	GBR-52	SHS-9
			7-Nov	7-Nov	5-Nov	6-Nov	6-Nov	7-Nov	5-Nov	5-Nov	5-Nov	5-Nov	5-Nov	5-Nov
1,1-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
hexachlorobutadiene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
2-hexanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<50
isopropylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.1
4-isopropytoluene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
4-methyl-2-pentanone	NE	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<50
methylene chloride	**100**	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<15
n-butylbenzene	NE	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<15
n-propylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.1
sec-butylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
styrene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
tert-butylbenzene	NE	µg/L	2.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,1,1,2-tetrachloroethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,1,2,2-tetrachloroethane	**10**	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10
tetrachloroethene (PCE)	**20**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
trans-1,2-DCE	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
trans-1,3-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,2,3-trichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,2,4-trichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,1,1-trichloroethane	**60**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,1,2-trichloroethane	**10**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
trichloroethene (TCE)	**100**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
trichlorofluoromethane	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
1,2,3-trichloropropane	NE	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<10
vinyl chloride	**1**	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0
xylenes, total	**620**	µg/L	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<7.5
USEPA Method 8270C: Polycylic Aromatic Hydrocarbons														
naphthalene	**30**	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
1-methylnaphthalene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	NT	NT	NT	NT
2-methylnaphthalene	NE	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NT	NT	NT	NT	NT	NT
acenaphthylene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
acenaphthene	NE	µg/L	0.98	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
fluorene	NE	µg/L	4.3	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
phenanthrene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
anthracene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
fluoranthene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
pyrene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
benz(a)anthracene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
chrysene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT

TABLE 1
2019 ANNUAL COMPLIANCE - GROUNDWATER LABORATORY ANALYTICAL RESULTS

FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.
SAN JUAN COUNTRY, NEW MEXICO

Analyte	NMWQCC Standard	Unit	GRW-3 7-Nov	GRW-6 7-Nov	GBR-17 5-Nov	GBR-24D 6-Nov	GBR-30 6-Nov	GBR-31 7-Nov	GBR-32 5-Nov	GBR-48 5-Nov	GBR-49 5-Nov	GBR-50 5-Nov	GBR-52 5-Nov	SHS-9 5-Nov
benzo(b)fluoranthene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
benzo(k)fluoranthene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
benzo(a)pyrene	**0.7**	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
dibenz(a,h)anthracene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
benzo(g,h,i)perylene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
indeno(1,2,3-cd)pyrene	NE	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	NT	NT	NT	NT	NT	NT
USEPA Method 300.0: Anions														
bromide	NE	mg/L	0.53	<0.50	<0.50	<0.50	<0.50	0.98	<0.50	<0.50	<0.50	<0.50	<0.50	0.78
chloride	**250**	mg/L	100	94	55	170	**280**	**290**	190	**270**	97	69	60	130
sulfate	**600**	mg/L	450	**1,200**	**1,200**	**2,100**	**1,700**	**1,600**	**1,700**	**2,000**	**1,500**	**1,700**	**1,500**	35
fluoride	**1.6**	mg/L	<0.50	0.60	<0.50	0.58	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.70
nitrate + nitrite as N	NE	mg/L	<0.50	<0.50	5.2	<1.0	1.4	<0.50	<1.0	1.9	<1.0	6.9	6.9	<1.0
phosphorus, orthophosphate (As P)	NE	mg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
USEPA Method 200.7: Total Metals														
barium	NE	mg/L	NT	NT	NT	NT	NT	NT	0.034	0.31	0.021	0.018	NT	NT
beryllium	NE	mg/L	NT	NT	NT	NT	NT	NT	<0.010	0.0038	<0.0020	<0.0020	NT	NT
cadmium	**0.01**	mg/L	NT	NT	NT	NT	NT	NT	<0.010	<0.0020	<0.0020	<0.0020	NT	NT
calcium	NE	mg/L	180	370	450	470	540	530	470	550	400	530	470	150
chromium	**0.05**	mg/L	NT	NT	NT	NT	NT	NT	**0.097**	**0.23**	**0.10**	0.039	NT	NT
iron	**1.0**	mg/L	**2.3**	**8.0**	**120**	**8.3**	**43**	**15**	**3.6**	**48**	**1.4**	**2.2**	**1.4**	**74**
magnesium	NE	mg/L	53	39	53	40	52	49	48	58	37	39	36	36
manganese	**0.2**	mg/L	**1.4**	**5.9**	**3.8**	**1.4**	**4.2**	**2.7**	**2.1**	**1.8**	**0.87**	0.14	0.026	**0.91**
nickel	**0.2**	mg/L	NT	NT	NT	NT	NT	NT	0.074	0.098	0.12	0.055	NT	NT
potassium	NE	mg/L	<5.0	2.1	9.4	7.0	7.0	3.4	<5.0	10	2.9	2.3	1.2	4.7
silver	**0.05**	mg/L	NT	NT	NT	NT	NT	NT	<0.025	<0.0050	0.0063	0.0079	NT	NT
sodium	NE	mg/L	480	380	240	7.0	490	430	480	560	410	330	310	450
zinc	**10**	mg/L	NT	NT	NT	NT	NT	NT	<0.050	0.097	0.013	<0.010	NT	NT
USEPA Method 200.8: Total Metals														
antimony	NE	mg/L	NT	NT	NT	NT	NT	NT	<0.0050	<0.0010	<0.0010	<0.0010	NT	NT
arsenic	**0.1**	mg/L	NT	NT	NT	NT	NT	NT	<0.0010	0.0076	<0.0010	<0.0010	NT	NT
copper	**1.0**	mg/L	NT	NT	NT	NT	NT	NT	0.0085	0.048	0.0043	0.0024	NT	NT
lead	**0.05**	mg/L	NT	NT	NT	NT	NT	NT	0.0012	0.031	0.00083	0.00096	NT	NT
selenium	**0.05**	mg/L	NT	NT	NT	NT	NT	NT	0.0029	0.018	0.0011	0.0083	NT	NT
thallium	NE	mg/L	NT	NT	NT	NT	NT	NT	<0.00050	0.00053	<0.00050	<0.00050	NT	NT
USEPA Method 245.1: Mercury														
mercury	**0.002**	mg/L	NT	NT	NT	NT	NT	NT	<0.00020	<0.00020	<0.00020	<0.00020	NT	NT

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FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, INC.
SAN JUAN COUNTRY, NEW MEXICO

Analyte	NMWQCC Standard	Unit	GRW-3	GRW-6	GBR-17	GBR-24D	GBR-30	GBR-31	GBR-32	GBR-48	GBR-49	GBR-50	GBR-52	SHS-9
			7-Nov	7-Nov	5-Nov	6-Nov	6-Nov	7-Nov	5-Nov	5-Nov	5-Nov	5-Nov	5-Nov	5-Nov
SM 2340B: Hardness														
hardness (as CaCO3)	NE	mg/L	680	1,100	1,300	1,300	1,600	1,500	1,400	1,600	1,200	1,500	1,300	520
USEPA Method SM 2320B: Alkalinity														
alkalinity, total (As CaCO3)	NE	mg/L CaCO3	1,083	342.8	208.8	238.8	259.1	300.8	267.7	272.6	244.2	195.3	210.1	1128
carbonate	NE	mg/L CaCO3	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<5.000
bicarbonate	NE	mg/L CaCO3	1,083	342.8	208.8	238.8	259.1	300.8	267.7	272.6	244.2	195.3	210.1	1128
USEPA Method 120.1: Specific Conductance														
specific conductance	NE	µmhos/cm	2,900	3,100	2,700	4,300	4,000	4,000	3,900	4,400	3,400	3,400	3,100	2,500
USEPA Method SM4500-H+B: pH														
pH	**6-9**	pH units	7.89	7.97	7.75	7.87	7.76	7.75	7.73	7.66	7.58	7.65	7.83	7.91
USEPA Method SM2540C Modified: Total Dissolved Solids														
total dissolved solids	**1,000**	mg/L	**1,990**	**2,470**	**2,150**	**3,420**	**3,040**	**3,220**	**3,200**	**3,450**	**2,710**	**2,910**	**2,600**	**1,470**

Notes:
µg/L - micrograms per liter
BOLD - indicates concentration exceeds the NMWQCC standard
mg/L - milligrams per liter
NE - not established
NMWQCC - New Mexico Water Quality Control Commission
NT - not tested
USEPA - United States Environmental Protection Agency

Oil/Gas Well ID	API Number	SPUD Date	Plug Date	Effective Date	Last Produced	Last Inspection
GALLEGOS CANYON UNIT #153	30-045-07908	1964-03-16	1996-09-24	2000-01-01	1995-03-31	2000-08-15
GALLEGOS CANYON UNIT #510	30-045-28311	1991-01-22	2015-12-22	2003-02-18	2015-06-01	2013-11-26
PRE-ONGARD WELL #069	30-045-07906	1954-09-14	2013-11-12	2000-01-01	1999-12-31	2013-11-08
PRE-ONGARD WELL #001	30-045-07843	1999-12-31	1944-05-20	1940-07-10	1999-12-31	1999-12-31
GALLEGOS CANYON UNIT #150	30-045-07951	1964-03-25	1994-02-23	2000-01-01	1989-03-31	2006-01-24
GALLEGOS CANYON UNIT #154E	30-045-24168	1980-03-11	1999-12-31	2020-04-02	2020-04-01	2020-03-03
GALLEGOS CANYON UNIT #542	30-045-29309	1996-10-08	2011-12-07	1996-10-04	2010-10-01	2016-11-15
GALLEGOS CANYON UNIT #598	30-045-31600	2003-06-07	1999-12-31	2020-04-02	2020-04-01	2019-01-29
GALLEGOS CANYON UNIT #533	30-045-28733	1992-10-06	1999-12-31	2020-06-30	2017-11-01	2019-01-29
GALLEGOS CANYON UNIT #578	30-045-30678	2001-09-04	2004-07-06	2001-06-21	2002-08-01	2004-03-05

Well Type	Well Status	OGRID	OGRID Name	OCD District Code	OCD District Office	County FIPS Code
Gas	Plugged (site released)	778	BP AMERICA PRODUCTION COMPANY	3	Aztec	45
Gas	Plugged (site released)	778	BP AMERICA PRODUCTION COMPANY	3	Aztec	45
Gas	Plugged (site released)	214263	PRE-ONGARD WELL OPERATOR	3	Aztec	45
Gas	Plugged (site released)	214263	PRE-ONGARD WELL OPERATOR	3	Aztec	45
Gas	Plugged (site released)	778	BP AMERICA PRODUCTION COMPANY	3	Aztec	45
Gas	Active	329736	SIMCOE LLC	3	Aztec	45
Gas	Plugged (site released)	778	BP AMERICA PRODUCTION COMPANY	3	Aztec	45
Gas	Active	329736	SIMCOE LLC	3	Aztec	45
Gas	Active	329736	SIMCOE LLC	3	Aztec	45
Gas	Plugged (site released)	778	BP AMERICA PRODUCTION COMPANY	3	Aztec	45

County	PLSS Location (ULSTR)	Y-Coordinate (Latitude)	X-Coordinate (Longitude)	Datum	Well Bore Direction	*not used*	Lease Type
San Juan	B-28-29N-12W	36.7020035	-108.1014709	NAD83	V	No Data	Federal
San Juan	B-28-29N-12W	36.7019768	-108.1012802	NAD83	V	No Data	Federal
San Juan	A-28-29N-12W	36.7021446	-108.0990982	NAD83	V	No Data	Federal
San Juan	I-28-29N-12W	36.6966934	-108.0967407	NAD83	No Data	No Data	Private
San Juan	M-22-29N-12W	36.7071228	-108.092926	NAD83	V	No Data	Private
San Juan	E-27-29N-12W	36.7003708	-108.0928497	NAD83	V	No Data	Private
San Juan	E-27-29N-12W	36.7005348	-108.0928345	NAD83	V	No Data	Private
San Juan	M-22-29N-12W	36.7072868	-108.0928574	NAD83	V	No Data	Private
San Juan	L-22-29N-12W	36.7097511	-108.0915909	NAD83	V	No Data	Federal
San Juan	B-27-29N-12W	36.7024193	-108.0851288	NAD83	V	No Data	Federal

Measured Depth	Vertical Depth	Associated Pools
No Data	6021	[71599] BASIN DAKOTA (PRORATED GAS)
1456	1456	[79680] KUTZ PICTURED CLIFFS, WEST (GAS); [82920] PINON FRUITLAND SAND, NORTH (GAS)
1372	1372	[79680] KUTZ PICTURED CLIFFS, WEST (GAS)
No Data	No Data	No Data
99999	6113	[71599] BASIN DAKOTA (PRORATED GAS)
6106	6106	[71599] BASIN DAKOTA (PRORATED GAS)
1600	1600	[79680] KUTZ PICTURED CLIFFS, WEST (GAS)
2673	2673	[82329] OTERO CHACRA (GAS)
1700	1700	[79680] KUTZ PICTURED CLIFFS, WEST (GAS)
1620	1620	[71629] BASIN FRUITLAND COAL (GAS)

Link to Well Details

https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-045-07908&GISReferenceSource=ArcGISOnline
https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-045-28311&GISReferenceSource=ArcGISOnline
https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-045-07906&GISReferenceSource=ArcGISOnline
https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-045-07843&GISReferenceSource=ArcGISOnline
https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-045-07951&GISReferenceSource=ArcGISOnline
https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-045-24168&GISReferenceSource=ArcGISOnline
https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-045-29309&GISReferenceSource=ArcGISOnline
https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-045-31600&GISReferenceSource=ArcGISOnline
https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-045-28733&GISReferenceSource=ArcGISOnline
https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/WellDetails.aspx?api=30-045-30678&GISReferenceSource=ArcGISOnline

Water Well ID	Installation Date	Well Depth	Depth to Water	Estimated Yield (gallons per minute)	Use of Well	Subdivision Name
SJ-01700	1983-05-07	87	48	10	DOMESTIC	SUBURBAN HEIGHTS
SJ-01728	1983-05-25	25	11	20	DOMESTIC	LEE ACRES #2
SJ-00572	1978-03-01	35	28	0	DOMESTIC	N/A
SJ-00904	1979-04-01	32	14	15	DOMESTIC/LIVESTOCK	LEE ACRES
SJ-01690	1983-04-02	25	10	20	DOMESTIC	LEE ACRES
SJ-00663	N/A	N/A	N/A	0	DOMESTIC	N/A
SJ-02864	N/A	50	N/A	0	DOMESTIC	F. L. LEE NO. 2
SJ-00827	1978-10-29	55	30	8	DOMESTIC	SUBURBAN HEIGHTS
SJ-01008	1979-07-05	51	20	20	DOMESTIC	SUBURBAN HEIGHTS
SJ-01622	N/A	N/A	N/A	0	DOMESTIC	SUBURBAN
SJ-02125	N/A	N/A	N/A	0	DOMESTIC	SUBURBAN HEIGHTS
SJ-00666	1978-06-03	35	17	40	DOMESTIC	SUBURBAN HEIGHTS
SJ-02870	1998-11-07	39	24	20	DOMESTIC	SUBURBAN HEIGHTS
SJ-01828	1984-05-03	45	25	30	DOMESTIC/LIVESTOCK	SUBURBAN HEIGHTS
SJ-03384	2003-07-20	41	30	12	DOMESTIC	SUBURBAN HEIGHTS
SP-01915-AB	N/A	N/A	N/A	0	IRRIGATION	N/A
SJ-02202	N/A	N/A	N/A	0	DOMESTIC	N/A
SJ-01590	1982-06-20	63	30	10	DOMESTIC	SUBURBAN HEIGHTS
SJ-00647	N/A	N/A	N/A	0	DOMESTIC	SUBURBAN HEIGHTS
SJ-02229	N/A	N/A	N/A	0	DOMESTIC	LEE ACRES
SJ-00726	1978-07-22	50	30	7	DOMESTIC	SUBURBAN HEIGHTS
SJ-02654	1995-07-30	62	32	10	DOMESTIC	SUBURBAN HEIGHTS
SJ-03422	2004-02-08	41	31	15	DOMESTIC	SUBURBAN HEIGHTS
SJ-02118	1987-06-17	29	6	7	DOMESTIC	LEE ACRES #2
SJ-00502	N/A	N/A	N/A	0	DOMESTIC	N/A
SJ-02131-EXPL 2	N/A	N/A	N/A	0	COMMERCIAL	N/A
SJ-02131-EXPL 1	N/A	N/A	N/A	0	COMMERCIAL	N/A
SJ-02131-S	N/A	400	N/A	50	COMMERCIAL	N/A
SJ-02131	N/A	80	N/A	6	COMMERCIAL	N/A

Water Well ID	Casing Size	UTM Zone	Easting	Northing	Datum	UTM Source	Groundwater Basin
SJ-01700	6.63	13	223627.0	4065598.0	NAD83	G	San Juan
SJ-01728	6.00	13	223627.0	4065598.0	NAD83	G	San Juan
SJ-00572	0.00	13	223627.0	4065598.0	NAD83	G	San Juan
SJ-00904	6.63	13	223526.0	4065697.0	NAD83	G	San Juan
SJ-01690	6.00	13	223526.0	4065697.0	NAD83	G	San Juan
SJ-00663	0.00	13	223323.0	4065711.0	NAD83	G	San Juan
SJ-02864	6.00	13	223323.0	4065711.0	NAD83	G	San Juan
SJ-00827	6.63	13	223537.0	4065905.0	NAD83	G	San Juan
SJ-01008	6.00	13	223537.0	4065905.0	NAD83	G	San Juan
SJ-01622	0.00	13	223737.0	4065905.0	NAD83	G	San Juan
SJ-02125	0.00	13	223737.0	4065905.0	NAD83	G	San Juan
SJ-00666	0.00	13	223737.0	4065905.0	NAD83	G	San Juan
SJ-02870	6.00	13	223737.0	4065905.0	NAD83	G	San Juan
SJ-01828	6.00	13	223737.0	4065905.0	NAD83	G	San Juan
SJ-03384	6.00	13	223737.0	4065905.0	NAD83	G	San Juan
SP-01915-AB	0.00	13	224039.0	4065988.0	NAD83	G	San Juan
SJ-02202	0.00	13	224039.0	4065988.0	NAD83	G	San Juan
SJ-01590	6.00	13	223638.0	4066006.0	NAD83	G	San Juan
SJ-00647	0.00	13	223638.0	4066006.0	NAD83	G	San Juan
SJ-02229	0.00	13	223638.0	4066006.0	NAD83	G	San Juan
SJ-00726	6.63	13	223537.0	4066105.0	NAD83	G	San Juan
SJ-02654	6.00	13	223537.0	4066105.0	NAD83	G	San Juan
SJ-03422	6.00	13	223737.0	4066105.0	NAD83	G	San Juan
SJ-02118	7.00	13	223839.0	4066207.0	NAD83	G	San Juan
SJ-00502	0.00	13	224052.0	4066393.0	NAD83	G	San Juan
SJ-02131-EXPL 2	0.00	13	223651.0	4066408.0	NAD83	G	San Juan
SJ-02131-EXPL 1	0.00	13	223651.0	4066408.0	NAD83	G	San Juan
SJ-02131-S	8.63	13	223762.0	4066908.0	NAD83	G	San Juan
SJ-02131	6.00	13	223762.0	4066908.0	NAD83	G	San Juan

Water Well ID	Last Name	First Name	Address	City	State	Zip
SJ-01700	HARMON	DOUGLAS A.	CPO BOX 7142	FARMINGTON	NM	87401
SJ-01728	PALMER	CHARLIE W.	CPO 7120	FARMINGTON	NM	87401
SJ-00572	BENCOMO	JOE	BOX 120-T	FARMINGTON	NM	87401
SJ-00904	ORELLANO	REYNALDO W.	RT. 3, BOX 126K	FARMINGTON	NM	87401
SJ-01690	CLARK	DORIS	P. O. BOX 7134	FARMINGTON	NM	87401
SJ-00663	STALLINGS	RAYMOND M.	ST. RT. 3, BOX 119-B	FARMINGTON	NM	87401
SJ-02864	BARELA	ALBINO	30 ROAD 5474	FARMINGTON	NM	87401
SJ-00827	CHACON	ALFONSO J.	1220 FAIRGROUNDS RD., SP. 58	FARMINGTON	NM	87401
SJ-01008	KAISER	CHARLES	P. O. BOX 215	FARMINGTON	NM	87401
SJ-01622	HILL	KENNETH	LEE ACRES CPO - BOX 7131	FARMINGTON	NM	87401
SJ-02125	KESTER	MICHAEL & LAURETTE	C.P.O. 7043 LEE HERES	FARMINGTON	NM	87401
SJ-00666	TORRES	RICHARD	517 N. DUSTIN	FARMINGTON	NM	87401
SJ-02870	KESTER	LAURETTE	P. O. BOX 5631	FARMINGTON	NM	87401
SJ-01828	PALMER	ALLEN M.	ROUTE 3, BOX 525-10	FARMINGTON	NM	87401
SJ-03384	MONTOYA	EDWARD	4304 KNOLLCREST DRIVE	FARMINGTON	NM	87402
SP-01915-AB	OFFERLE	TYLER W	5803 US HIGHWAY 64	FARMINGTON	NM	87401
SJ-02202	HUNTER	RALPH	P. O. BOX 5075	FARMINGTON	NM	87499
SJ-01590	BUSTOS	DANIEL	RT. 3, BOX 536	FARMINGTON	NM	87401
SJ-00647	MONTOYA	EDWARD	BOX 672	FLORA VISTA	NM	87415
SJ-02229	VAUGHT	KENNETH	C.P.O. BOX 7222	FARMINGTON	NM	87410
SJ-00726	REYNOLDS	RONALD	RT. 3, BOX 125C	FARMINGTON	NM	87401
SJ-02654	MONTOYA	BONNIE R.	P. O. BOX 3468	FARMINGTON	NM	87401
SJ-03422	TORRES	GILBERT	9B CR 5467	FARMINGTON	NM	87401
SJ-02118	ASHBROOK	THORNTON L.	P. O. BOX 2193	FARMINGTON	NM	87499
SJ-00502	HIGGINS	DON O.	BOX 1214	BLOOMFIELD	NM	87413
SJ-02131-EXPL 2	GIANT INDUSTRIES INC.		7227 N 16TH STREET BLDG. A	PHOENIX	AZ	85020
SJ-02131-EXPL 1	GIANT INDUSTRIES INC.		7227 N 16TH STREET BLDG. A	PHOENIX	AZ	85020
SJ-02131-S	GIANT INDUSTRIES INC.		7227 N 16TH STREET BLDG. A	PHOENIX	AZ	85020
SJ-02131	GIANT INDUSTRIES INC.		7227 N 16TH STREET BLDG. A	PHOENIX	AZ	85020

Water Well ID	nmwrrs_wrs
SJ-01700	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=01700&suffix=
SJ-01728	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=01728&suffix=
SJ-00572	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=00572&suffix=
SJ-00904	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=00904&suffix=
SJ-01690	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=01690&suffix=
SJ-00663	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=00663&suffix=
SJ-02864	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=02864&suffix=
SJ-00827	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=00827&suffix=
SJ-01008	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=01008&suffix=
SJ-01622	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=01622&suffix=
SJ-02125	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=02125&suffix=
SJ-00666	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=00666&suffix=
SJ-02870	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=02870&suffix=
SJ-01828	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=01828&suffix=
SJ-03384	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=03384&suffix=
SP-01915-AB	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SP&nbr=01915&suffix=AB
SJ-02202	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=02202&suffix=
SJ-01590	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=01590&suffix=
SJ-00647	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=00647&suffix=
SJ-02229	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=02229&suffix=
SJ-00726	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=00726&suffix=
SJ-02654	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=02654&suffix=
SJ-03422	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=03422&suffix=
SJ-02118	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=02118&suffix=
SJ-00502	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=00502&suffix=
SJ-02131-EXPL 2	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=02131&suffix=
SJ-02131-EXPL 1	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=02131&suffix=
SJ-02131-S	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=02131&suffix=
SJ-02131	http://nmwrrs.ose.state.nm.us/ReportDispatcher?type=WR&name=WaterRightSummary.jrxml&basin=SJ&nbr=02131&suffix=

State of New Mexico
Energy, Minerals and Natural Resources Department

Sent via e-mail only

June 19, 2020

Gregory McCartney
Senior Environmental Professional
Marathon Petroleum Company LP
539 South Main Street, Room M-7081
Findlay, OH 45840

RE: New Discharge Permit
Former Giant Bloomfield Refinery (GW-40) NW/4 of Section 27, and SW/4 of Section 22, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico

Dear Mr. McCartney:

The New Mexico Oil Conservation Division (OCD) has received Marathon Petroleum Company LP's (Western) application and initial filing fee dated May11, 2020, for a new discharge permit (GW-40) for the former Giant Bloomfield Refinery (GBR) located on the northeast corner of United States Highway 64 and County Road 3500, approximately five miles west of Bloomfield, New Mexico.

The initial submittal for an Abatement of Groundwater and Vadose Zone Contamination under 20.6.2.3114 NMAC Discharge Permit provided the required information in order to deem the application "**administratively complete**."

Therefore, the New Mexico Water Quality Control Commission regulations (WQCC) notice requirements of 20.6.2.3108 NMAC must be satisfied and demonstrated to the OCD. OCD will provide public notice pursuant to the WQCC notice requirements of 20.6.2.3108 NMAC to determine if there is any public interest.

If you have any questions or comments in this regard, please contact me at (505) 660-7923 or by email at *carlj.chavez@state.nm.us*. Thank you.

Respectfully,

Carl J. Chavez
Environmental Engineer

NEW DISCHARGE PERMIT GW-40

1. GENERAL PROVISIONS

1. A. Permittee and Permitted Facility: The Director of the Oil Conservation Division (OCD) within the Energy, Minerals and Natural Resources Department issues Discharge Permit GW-40 (Permit) for Abatement of Groundwater and Vadose Zone Contamination to Western Refining SW, Inc. (Permittee) with an address of 539 South Main Street, Room M-7081, Findlay, OH 45840, regarding the Former Giant Bloomfield Refinery (GBR) located in the NW/4 of Section 27, and SW/4 of Section 22, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. The facility may be found driving toward the northeast corner of United States Highway 64 and County Road 3500, approximately five miles west of Bloomfield.

The facility consists of the former Giant Bloomfield Refinery storage tanks and equipment, as well as the remedial equipment installed for recovery, treatment, and discharge of groundwater from the Site (pumps, piping, and treatment system). The refinery operated from 1974 to 1982 and is presently inactive.

The Permittee installed a remedial system in stages beginning in 1988 and has gradually been simplified over time. The remediation system was designed to treat groundwater affected by various diesel fuel releases during operation of the former refinery and periodic spills at the truck unloading facility. The remediation system consists of a series of groundwater monitoring wells, groundwater recovery wells, water treatment equipment, and infiltration gallery (treated-water infiltration trenches). During prior years of operation, the treatment system could process up to an estimated 5,000,000 gallons of water per year based on estimated usage of the system.

The Permittee will update its Stage 2 Abatement Plan (see Section 6.A.1) to focus on facility monitoring, remediation of remaining contaminated groundwater and vadose zone source contamination at the facility. Groundwater that may be affected by a spill, leak, or accidental discharge occurs at a depth of approximately 40 feet below ground surface with a total dissolved solids concentration of approximately 1,500 milligrams per liter (mg/l).

The issuance of this Discharge Permit does not relieve the Permittee from the responsibility of complying with the provisions of the Water Quality Act, any applicable regulations or water quality standards of the Water Quality Control Commission (WQCC), or any applicable federal laws, regulations, or standards.

1. B. Scope of Permit: OCD has been granted authority to administer the Water Quality Act (Chapter 74, Article 6 NMSA 1978) as it applies to refineries by statute and by delegation from the Water Quality Control Commission pursuant to Section 74-6-4(E) NMSA 1978.

The Water Quality Act and the rules issued under the Act protect groundwater and surface water of the State of New Mexico by providing that unless otherwise allowed by rule, no person shall cause or allow effluent or leachate to discharge to migrate directly or indirectly into groundwater unless such a discharge is pursuant to an approved discharge permit (20.6.2.3104 and 3106 NMAC).

This new Permit authorizes the Permittee to capture, store and dispose of Phase Separated Hydrocarbons (PSH) from groundwater. When the disposal system is in operation, to discharge between 0 – 50 gallons per minute of treated (Granular Activated Carbon- GAC) contaminated dissolved phase groundwater into an Underground Injection Control (UIC) Class V Remediation Injection Well System (infiltration gallery) at the facility (see Section 3) until such time as injection capacity into a permitted Class V disposal system, is required on an "as needed" basis upon permit issuance. This new Permit includes requirements for annual groundwater monitoring and for the abatement of vadose zone and groundwater contamination resulting from historical releases of diesel fuel along with any other historical facility releases of vadose zone and groundwater contaminants.

This Permit does not authorize on-site disposal of any materials, product, by-product, or oil field waste. This Permit does not convey any property rights of any sort nor any exclusive privilege and does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of state, federal, or local laws, rules or regulations.

The Permittee shall operate in accordance with the Permit conditions to comply with the Water Quality Act and the rules issued pursuant to the Act, so neither a hazard to public health nor undue risk to property will result (20.6.2.3109 C NMAC); so no discharge will cause or may cause any stream standard to be violated (20.6.2.3109 H (2) NMAC); so no discharge of any water contaminant will result in a hazard to public health (20.6.2.3109 H (3) NMAC); and numerical standards specified of 20.6.2.3103 NMAC are not exceeded.

1. C. Discharge Permit: This is a new Permit effective for 5-years. Replacement of a prior permit, when one exists, does not relieve the Permittee of its responsibility to comply with the terms of the prior permit while that permit was in effect.

1. D. Definitions: Terms not specifically defined in this Permit shall have the same meanings as those in the Water Quality Act or the rules adopted pursuant to the Act, as the context requires.

1. E. Fees: Every facility that submits a discharge permit application for initial approval or renewal must pay the permit fees specified in Table 1 and the filing fee specified in Table 2 of 20.6.2.3114 NMAC. OCD has received the required $100.00 filing fee. The permit fee for Abatement of Groundwater and Vadose Zone Contamination of $2,600.00 is due within 30-days of permit issuance. There may also be a fee under 20.6.2.3114 NMAC associated with approval of financial assurance (Table 2) of the greater of $250.00 or 0.01% of the financial assurance amount, if required. Checks must be payable to the "Water Quality Management Fund" and not the OCD.

1. F. Effective Date, Expiration, Renewal Conditions, and Penalties for Operating Without a Permit: This Permit is effective immediately from the date the Permittee receives this discharge permit when all fees are paid, renewed, or until the permit is terminated. This new Permit **will expire on July 12, 2025,** which is beyond the cessation of the surface discharge described in Section 1. B as abatement of vadose zone and groundwater contamination resulting

from the discharge(s) may continue under provisions of this Permit. The Permittee shall submit an application for subsequent renewal no later than 120 days before the expiration date (20.6.2.3106 F NMAC). If a Permittee submits a renewal application at least 120 calendar days before the Permit expires and complies with the approved Permit, then the existing Permit will not expire until OCD has approved or disapproved the renewal application. A discharge permit continued under this provision remains fully effective and enforceable. Operating with an expired Permit may subject the Permittee to civil and/or criminal penalties (74-6-10.1 and 10.2 NMSA 1978).

1. G. Modifications: The Permittee shall notify the OCD of any facility expansion, production increase, or process modification that would result in any significant modification in the discharge of water contaminants (20.6.2.3107 C NMAC). OCD may require the Permittee to submit a permit modification pursuant to 20.6.2.3109E NMAC and may modify or terminate a permit pursuant to Section 74-6-5(M) through (N) NMSA 1978.

1. H. Transfer of Permit: Prior to any transfer of ownership, control, or possession of the facility (whether by lease, conveyance or otherwise), the transferor shall notify the transferee in writing of the existence of this Permit, and shall deliver to OCD a copy of such notification, together with a certification or other proof that such notification has been received by the transferee pursuant to 20.6.2.3111 NMAC. Upon receipt of such notification, the transferee shall inquire into all the provisions and requirements contained in the Permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the OCD's file or files concerning the Permit. Upon assuming either ownership or possession of the Facility the transferee shall have the same rights and responsibilities under the Permit as were applicable to the transferor (20.6.2.3111 NMAC).

Transfer of the ownership, control, or possession of the Facility does not relieve the transferor of responsibility or liability for any act or omission which occurred while the transferor owned, controlled, or was in possession of the Facility (20.6.2.3111E NMAC).

1. I. Closure Plan and Financial Assurance: A closure plan is hereby required, unless received with the application, within 60 days under 20.6.2.3107 A. (11) NMAC along with financial assurance, if requested by OCD, to implement such a plan. The plan shall provide, at a minimum, for the removal or plugging of all lines leading to the discharge locations to eliminate discharge(s). As abatement of vadose zone and groundwater contamination resulting from the discharge progresses, modification of the closure plan and financial assurance will be required to incorporate the abatement effort including possibly post-closure monitoring.

1. J. Compliance and Enforcement: If the Permittee violates or is violating a condition of this Permit, OCD may issue a compliance order requiring compliance immediately or within a specified period, suspending or terminating this Permit, and/or assessing a civil penalty (74-6-10 NMSA 1978). OCD may also commence a civil action in district court for appropriate relief, including injunctive relief (74-6-10 (A) (2) and 11 NMSA 1978). The Permittee may be subject to criminal penalties for discharging a water contaminant without a discharge permit or in violation of a condition of a permit; making any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document

filed, submitted or required to be maintained under the Water Quality Act; falsifying, tampering with or rendering inaccurate any monitoring device, method or record required to be maintained under the Water Quality Act; or failing to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation (74-6-10.2 NMSA 1978).

2. GENERAL FACILITY OPERATIONS

2. A. Contingency Plan: The Permittee shall implement its contingency plan to cope with failure of the Permit or system. The Permittee shall follow the "off-line" OCD technical guidelines for "Releases" to address the contingency plan or other OCD approved alternative guidelines on a case-by-case basis only.

2. B. Record Keeping: The Permittee shall maintain records of all inspections required by this Permit at its Facility office for a minimum of five years and shall make those records available for inspection by OCD.

2. C. Release Reporting: The Permittee shall comply with the following permit conditions, pursuant to 20.6.2.1203 NMAC, and may report a release using an OCD form C-141, if it determines that a release of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, has occurred. The Permittee shall report unauthorized releases of water contaminants in accordance with any additional commitments made in its approved Contingency Plan. If the Permittee determines that any constituent exceeds the standards specified at 20.6.2.3103 NMAC, then it shall report a release to OCD.

1. **Oral Notification:** As soon as possible after learning of such a release, but in no event, more than twenty-four (24) hours thereafter, the Permittee shall notify OCD of a release. The Permittee shall provide the following:

    - the name, address, and telephone number of the person or persons in charge of the facility, as well as of the Permittee;
    - the name and location of the facility;
    - the date, time, location (including NAD83 Lat./Long. Decimal to at least 5 places), and duration of the release;
    - the source and cause of release;
    - a description of the release, including its chemical composition;
    - the estimated volume of the release; and,
    - any corrective or abatement actions taken to mitigate immediate environmental damage from the release.

2. **Written Notification:** Within one week after the Permittee has discovered a release, the Permittee shall send initial written notification (may use an OCD form C-141 with attachments) to OCD off-line verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.

3. **Corrective Action:** The Permittee shall undertake such corrective actions as are necessary and appropriate to contain and remove or mitigate the damage caused by the release along with the filing of subsequent corrective action reports with the OCD.

2 D. Other Requirements:

1. **Inspection and Entry:** Pursuant to 20.6.2.4107A NMAC, the Permittee shall allow any authorized representative of the OCD Director, upon the presentation of proper credentials, to:

   - enter the facility at reasonable times;
   - inspect and copy records required by this Permit;
   - inspect any treatment works, monitoring, and analytical equipment;
   - sample any wastes, discharge, groundwater, surface water, stream sediment, plants, animals, or vadose-zone material including vadose-zone vapor;
   - use the Permittee's monitoring systems and wells to collect samples; and,
   - gain access to off-site property not owned or controlled by the Permittee but accessible to the Permittee through an access agreement if allowed by the agreement.

2. **Advance Notice:** Pursuant to 20.6.2.4107B NMAC, the Permittee shall provide OCD with at least four working days advance notice of any environmental sampling to be performed pursuant to this Permit, or of any monitoring well plugging or abandonment.

3. **Plugging and Abandonment:** Pursuant to 20.6.2.4107C NMAC, the Permittee shall propose to plug and abandon a monitoring well or UIC Class V Well to the OCD for approval. The proposed action shall be designed to prevent water pollution that could result from water contaminants migrating through the well or borehole. The proposed action shall not take place without written approval from both OCD and the Office of the State Engineer.

2. E. Annual Report: The Permittee shall submit a single report to the OCD on or before June 15th of each year pursuant to 20.6.2.3107 NMAC. The annual report shall include the following:

1. A summary of all major refinery activities or events;

2. A summary of the discharge activities, including the quality and volume of the discharge;

3. A summary of all leaks, spills, and releases and corrective actions taken;

4. A summary of the discovery of any new vadose zone or groundwater contamination including any plume expansion(s);

5. A summary of all waste, wastewater and PSH disposed of, sold, or treated on-site, including a refinery wastewater balance sheet and mass balance of the waste effluents;

6. Documentation regarding the closure of UIC Class V wells, if any, used for the disposal of industrial wastes or a mixture of industrial wastes, ~~and~~ domestic wastes, ~~other than~~ and treated groundwater or effluent (see Section 3 below);

7. Documentation regarding the plug and abandonment of any monitor and/or recovery wells;

8. Documentation of untreated effluent volume, recovered PSH volume, treated and injected effluent volume, injection flow rates (min., max. and avg.), treated effluent water quality verified by environmental analytical laboratory data results before injection, and certification that WQCC water quality standards were met, and/or instances where standards were not met and corrective actions taken to correct such a situation.

9. A description of ground water monitoring and remediation activities conducted throughout the year, including sample collection procedures, decontamination procedures, sample handling procedures, and management of associated wastes;

10. Summary tables of groundwater data including water quality, purging parameters, groundwater elevation, and thickness of any PSH;

11. Copies of laboratory analytical data sheets with quality assurance/quality control information;

12. Contour maps for each aquifer depicting the potentiometric gradient for each monitoring event;

13. Iso-concentration maps of major constituents of concern for each monitoring event (to include all groundwater quality standards historically and currently detected through monitoring above water quality standards of 20.6.2.3103 NMAC);

14. PSH thickness isopleth maps for each monitoring event;

15. Plots of static water elevation versus time in key wells, specifically those that contain PSH;

16. Tabulation of the volumes of PSH removed from recovery wells or monitoring wells throughout the year; and

17. Conclusions and recommendations.

3. CLASS V WELLS

Pursuant to 20.6.2.5002 B NMAC, leach fields and other wastewater disposal systems at OCD regulated facilities injecting non-hazardous fluid into or above an underground source of drinking water are Underground Injection Control (UIC) Class V injection wells. This Permit does not authorize the Permittee to use a UIC Class V injection well for the disposal of industrial waste at the Facility. Pursuant to 20.6.2.5005 NMAC, the Permittee shall close any UIC Class V industrial waste injection wells at its Facility that inject non-hazardous industrial wastes or a

mixture of industrial wastes and domestic wastes (*e.g.*, septic systems, leach fields, dry wells, *etc*.) other than contaminated groundwater within 90 calendar days of the issuance of this Permit. The Permittee shall document the closure of any UIC Class V wells used for the disposal of non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes other than contaminated groundwater in its annual report (see Section 2. E. 6 above).

The Permittee must obtain a permit from the New Mexico Environment Department for other Class V wells, including wells used only for the injection of domestic wastes.

3.A. UIC Class V Well or Infiltration Gallery: The Permittee will operate the treated effluent injection system or remedial system on an "as needed" basis in the most efficient manner possible with the proper operation, monitoring and maintenance required to protect groundwater, public health, and the environment.

1. **Operation:** Permittee shall activate the infiltration gallery in accordance with the approved Stage 2 Abatement Plan (see section 6.A.1).

2. **Monitoring:** Permittee shall propose remedial system monitoring and frequency of monitoring in accordance with the approved Stage 2 Abatement Plan (see Section 6.A.1) to ensure groundwater contaminants do not exceed WQCC 20.6.2.3103 NMAC water quality standards in treated effluent discharged into the infiltration gallery.

3. **Maintenance:** Permittee shall perform maintenance on the remedial system in accordance with the approved Stage 2 Abatement Plan (see Section 6.A.1) to ensure the remedial system functions properly.

4. DISCHARGE OF TREATED EFFLUENT

The Permittee began discharging treated effluent into the UIC Class V Well or Infiltration Gallery in 1988. This discharge has continued "as needed" at the facility under permit conditions until the permit expired and the remedial system was idled. The discharge occurred at the following location:

- The "Infiltration Gallery" comprised of 100 square feet (five 2 in. lateral perforated pipes set in pea gravel near surface) with a discharge end-of-pipe located at the approximate latitude of 36.703061 degrees, and longitude of -108.093532 degrees (NAD83).

The Permittee shall continue discharging "as needed" into the infiltration gallery at the above location upon OCD approval of the Stage 2 Abatement Plan (see Section 6.A.1).

- The Permittee shall fully restore the infiltration gallery or remedial system back into operation within 90-days of OCD approval of the Stage 2 Abatement Plan (see Section 6.A.1).

The restored remedial system shall be designed, constructed, and operated to contain liquids and solids in a manner that will protect fresh water, public health, safety, and the environment for the

foreseeable future. The Permittee shall operate the remedial system in accordance with the OCD approved Stage 2 Abatement Plan (see Section 6.A.1.).

4.A. Discharge Rate and Location: The Permittee is authorized to discharge no more than 1,715 barrels per day of treated effluent to the UIC Class V Well (see Section 3) within the Facility at the location cited above. Discharge at any other locations is expressly prohibited.

4.B. Sampling and Analysis: The Permittee shall characterize the discharge fluids as follows:

1. The Permittee shall comply with U.S. Environmental Protection Agency Quality Assurance/Quality Control and Data Quality Objectives for all facility environmental sampling and analytical laboratory methods and procedures.

2. The Permittee shall sample and analyze using the methods specified in the Permittee's Annual Report (see Section 2.E.).

3. The Permittee shall retain all environmental sampling and analytical laboratory quality assurance/quality control documentation for at least the last four years.

4. The Permittee shall monitor and record the discharge and/or injection flow(s) weekly and tabulate a monthly, yearly, and cumulative volume summary record. This should include the dates and flow rates when the UIC Class V Well is in operation.

5. The Permittee shall ensure the sampling and flow measurements are representative of the volume and nature of the discharge.

6. The Permittee shall submit all sample data, analytical results, and flow measurements in the annual report (see Section 2.E.).

5. GROUNDWATER MONITORING

The Permittee shall conduct all facility monitoring in accordance with the OCD approved Stage 2 Abatement Plan (see Section 6.A.1.).

The Permittee shall continue to monitor and report facility groundwater and treated effluent quality at the facility in accordance with the Annual Report (see Section 2.E) and any conclusions with recommendations to add or abandon monitoring, recovery, etc. systems. The Permittee shall propose all facility monitoring in the updated Stage 2 Abatement Plan (see Section 6.A.1).

6. ABATEMENT

There are indications that abatement of vadose zone and groundwater contamination is required due to the historic discharge of diesel fuel. Typically, persons responsible for abatement must

act in accordance with 20.6.2.4104 and 4106 NMAC. However, pursuant to 20.6.2.4105A(6) NMAC, abatement can proceed as part of a discharge plan.

6.A.1. Stage 2 Abatement Plan: The Permittee shall submit an updated Stage 2 Abatement Plan (plan) within 90-days of permit issuance for facility abatement of vadose zone and groundwater contamination associated with historical releases of diesel fuel based on historical and current contaminant hydrogeological conditions at the facility. The plan shall adequately address facility groundwater monitoring, contaminant source control, remedial system monitoring (i.e., remedial system operation, monitoring, and maintenance), and/or other remedial actions as required to comply with applicable WQCC regulations of 20.6.2 et seq. NMAC and 20.6.4 et seq. NMAC.

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3108 NMAC), the following discharge permit renewal application has been submitted to the Director of the New Mexico Oil Conservation Division ("OCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-40) Marathon Petroleum Company LP, Greg McCartney, Representative, at (419) 421-2338 has submitted a new discharge permit application for "Abatement of Groundwater and Vadose Zone Contamination" for the Western Refining SW, Inc., "Former Giant Bloomfield Refinery" located in the NW/4 of Section 27, and SW/4 of Section 22, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. The facility may be found driving toward the northeast corner of United States Highway 64 and County Road 3500, approximately five miles west of Bloomfield. Groundwater monitoring and remediation activities have been ongoing since 1988. Limited areas of impacted groundwater remain at the Site and will be addressed under an updated Stage 2 Abatement Plan required under the permit. Groundwater may be collected in recovery wells at the Site, then discharged after treatment. Groundwater most likely to be affected by a spill, leak or accidental discharge is at a depth of approximately 40 ft. below ground level with a TDS concentration of approximately 1,500 ppm. The new permit will address monitoring, remediation, closure, risk and management of potential spills, leaks, and other accidental discharges to the surface during groundwater abatement.

The OCD has determined the application is administratively complete and has prepared a draft permit renewal. The OCD will accept comments and statements of interest regarding this application and will create a facility-specific mailing list for persons who wish to receive future notices. Persons interested in obtaining further information, submitting comments, or requesting to be on a facility-specific mailing list may contact the Environmental Bureau Chief of the OCD at the address given above. The permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday, or at the OCD web site http://www.emnrd.state.nm.us/ocd/. Persons interested in obtaining a copy of the application and draft permit may contact the OCD at the address given above. Prior to ruling on any proposed permit, the Director shall allow a period of at least thirty (30) days after the date of publication of this notice, during which interested persons may submit comments or request that OCD hold a public hearing. Requests for a hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no hearing is held, the Director will approve the proposed permit based on information available, including all comments received. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit application and information submitted at the hearing.

Para obtener más información sobre esta solicitud en español, sirvase comunicarse por favor: New Mexico Energy, Minerals and Natural Resources Department (Depto. Del Energia, Minerals y Recursos Naturales de Nuevo México), Oil Conservation Division (Depto. Conservación Del Petróleo), 1220 South St. Francis Drive, Santa Fe, New México (Contacto: Laura Tulk, 575-748-1283 Ext. 100).

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 12th day of July 2020.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

S E A L

Adrienne Sandoval, Director

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Sarah Cottrell Propst
Cabinet Secretary

Todd E. Leahy, JD, PhD
Deputy Secretary

Adrienne Sandoval
Director, Oil Conservation Division

BY ELECTRONIC MAIL ONLY

January 6, 2021

Ms. Nancy Ho
Superfund & Emergency Management Division
U.S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, TX 75270
Ho.Nancy@epa.gov

Re: Proposed Discharge Permit GW-40 for Western Refining Southwest, Inc., Former Giant Bloomfield Refinery, NW/4 Section 27 & SW/4 Section 22, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico

Ms. Ho,

The New Mexico Oil Conservation Division (OCD), pursuant to 20.6.2.3109B NMAC, provides this response to the comments submitted by the EPA on August 10, 2020 regarding OCD's proposed discharge permit for the Western Refining Southwest, Inc. (Western) Former Giant Bloomfield Refinery. Although the OCD has not made any changes to the proposed permit in response to EPA's comments, the OCD took them into consideration during the implementation process.

EPA Comment 1:
Background Concentrations (Section 12.1 Pages 13-14) – The first paragraph of this section states,"…elevated concentrations of several constituents are present due to the offsite migration of contaminants originating from the Lee Acres Landfill Superfund site."

EPA notes the Record of Decision for the Lee Acres Landfill site determined the Giant Bloomfield Refinery lost approximately 45,000 barrels of refined product into the soils and groundwater from1975 to 1984. EPA notes it could be likely the elevated concentrations of several constituents at the GBR facility are due to existing historical contamination present at and from the GBR site

rather than offsite migration from the Lee Acres Landfill Site. Petroleum hydrocarbons are known to persist in the environment for several decades. In addition, the final Lee Acres Landfill Remedial Investigation report found the area south of GBR-24 (with wells in the northern part within this defined area as having floating product attributed to activities by GBR). Subsequent Lee Acres Landfill cover monitoring inspection historical reports including from 2019 and 2020 indicate the cover is in good condition and appears to be working properly. Please see the following studies which may also assist Marathon in determining migration of contaminants and in refining assumptions and inputs used for statistical analyses for creating "background" levels of contaminants at its facility. These studies discuss higher manganese and dissolved organic carbon concentrations near rivers; the occurrence of manganese reduction and mobilization associated with certain conditions, including reducing conditions due to biodegradation of residual crude oil causing reductive dissolution of manganese from aquifer sediments.

Elevated Manganese Concentrations in United States Groundwater, Role of Land Surface–Soil–Aquifer Connections

Peter B. McMahon, Kenneth Belitz, James E. Reddy, and Tyler D. Johnson
Environmental Science & Technology ***2019*** *53 (1), 29-38*
DOI: 10.1021/acs.est.8b04055

Reductive Dissolution and Precipitation of Manganese Associated with Biodegradation of Petroleum Hydrocarbons

Leslie A. Klinchuch and Thomas A. Delfino
Environmental Geosciences 2000 Volume 7, Number 2.

OCD Response: The available data indicates contaminants may be migrating from upgradient of the Refinery. EPA's Record of Decision documented a significant southward-trending hydraulic gradient from the Lee Acres Landfill toward the Refinery. The landfill relies on a partial cover with monitored natural attenuation as a remedy. While this remedy may deter recharge and directs drainage away from the site, it neither eliminates the source of contamination nor prevents the migration of contamination. It is possible some of the elevated constituents detected at the Refinery may be coming from a source upgradient of GBR-50 and nearby monitor wells.

EPA Comment 2: Section 14 – Facility Closure and Post Closure Plan – The first paragraph states that groundwater will be sampled for chemical analyses annually when the facility is in operation. The second paragraph

EPA Response to Marathon Petroleum Company LP (GW-40) Former Giant Bloomfield Refinery Discharge Permit

states "once eight consecutive quarters with groundwater contaminants below applicable standards is documented, facility closure will be requested from the NMOCD…". EPA recommends the GBR's chemical analyses results be below NMWQCC standards instead of

the currently proposed GBR Background Threshold Values as the determining factor for facility closure proposal. Furthermore, EPA recommends there be at least eight consecutive quarters from calendar year 2021 of chemical analytical data that are below NMWQCC standards instead of solely two sample sets of annual chemical analytical data prior to proposal for facility closure. Note the Bureau of Land Management will conduct a multi-year groundwater study beginning in 2020/2021 with an estimated completion before 2025 at the Lee Acres Landfill site that may have findings to assist Marathon in developing its Stage 2 Abatement Plan.

OCD Response: OCD requires Western to demonstrate at least eight consecutive quarters of compliance with the WQCC Regulations before considering abatement to be complete.

EPA Comment 3: Appendix A GBR Background Threshold Values: It appears the method for determining the GBR Background Threshold Values was determined by using data from wells potentially affected by petroleum hydrocarbon contamination at the site. Note the method for determining background concentrations at the Lee Acres Landfill site was determined by using sampling data from sites unaffected by activities at the landfill. This means inherently the GBR background threshold values proposed would be of higher values if data were not used solely from unaffected petroleum hydrocarbon sample sites. EPA recommends the proposed background threshold values utilized be calculated by using data from wells from locations unaffected by man-made contamination.

OCD Response: The BTVs were measured at groundwater monitoring wells upgradient of the Refinery and may include constituents migrating onto the Refinery from the North but may not reflect contaminants generated by the Refinery itself.

EPA Comment 4: Stage 1 Abatement Plan – Section 3.0 Current Site Conditions – The last sentence of this paragraph states, "With no active source, the residual contaminants are not likely to migrate with or without the hydraulic barrier introduced by the remediation system." EPA notes the current plan does not consider the role of land-surface-soil aquifer connections that can cause residual contaminants to migrate. See previous studies mentioned above.

OCD Response: OCD will require Western to address the factors causing contaminant migration during the Stage 2 Abatement Plan.

EPA Comment 5:
Stage 1 Abatement Plan – Section 4.0 Recommendations – Second paragraph – LTE proposed sampling be ceased at wells that have at least eight quarters of analytical results with no exceedances of NMWQCC standards and/or background concentrations. EPA recommends the GBR's chemical analyses results be below NMWQCC standards instead of the currently proposed GBR Background Threshold Values as the determining factor to cease sampling.

OCD Response: See OCD's response to Comment 2.

EPA Comment 6: EPA looks forward to continued coordination with NMOCD and the opportunity to review and comment on the Stage 2 Abatement Plan.

OCD Response: OCD appreciates EPA's interest in the Stage 2 Abatement Plan and will endeavor to apprise EPA as the work progresses.

If you have any questions, please contact me at (505) 660-7923 or Car1J.Chavez@state.nm.us.

Respectfully,

Carl J. Chavez
Environmental Specialist

State of New Mexico
Energy, Minerals and Natural Resources Department

BY ELECTRONIC AND CERTIFIED MAIL

January 6, 2021

Gregory McCartney
Marathon Petroleum Company LP
539 South Main Street
Room M-7081
Findlay, OH 45840

RE: Discharge Permit GW-40 for Western Refining Southwest, Inc., Former Giant Bloomfield Refinery, NW/4 Section 27 & SW/4 Section 22, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico

Mr. McCartney:

The New Mexico Oil Conservation Division ("OCD"), pursuant to 20.6.2.3109 NMAC, issues Discharge Permit GW-40 to Marathon Petroleum Company LP ("Marathon") for the Former Giant Bloomfield Refinery. The permit specifies the terms and conditions for Marathon's remediation of ground water contamination at the facility.

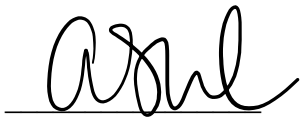
Marathon must notify OCD if it intends to expand the facility, increase production, or modify a process that would result in a significant modification in the discharge of water contaminants. *See* 20.6.2.3107(C) NMAC.

This permit expires on **January 6, 2026**. Marathon may submit an application to renew the permit prior to this date. *See* 20.6.2.3106(G) NMAC.

Marathon must pay a permit fee of $2,600.00 by check made payable to "Water Quality Management Fund" no later than thirty (30) days after receipt of this letter.

If you have any questions, please contact Carl Chavez of my staff at (505) 660-7923 or Car1J.Chavez@state.nm.us.

Respectfully,



Adrienne Sandoval
Director

cc: *Carl Chavez*
Northern OCD District 3 Office

DISCHARGE PERMIT GW-40

1. GENERAL PROVISIONS

1. A. Permittee and Permitted Facility: The Director of the Oil Conservation Division (OCD) within the Energy, Minerals and Natural Resources Department issues Discharge Permit GW-40 (Permit) for the abatement of groundwater and vadose zone contamination to Western Refining SW, Inc. (Permittee) with an address of 539 South Main Street, Room M-7081, Findlay, OH 45840, regarding the former Giant Bloomfield Refinery located in the NW/4 of Section 27, and SW/4 of Section 22, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico. The facility may be found driving toward the northeast corner of US Highway 64 and County Road 3500, approximately five miles west of Bloomfield, New Mexico.

The facility operated from 1974 to 1982 and currently consists of the former refinery storage tanks and equipment, as well as the remedial equipment installed for the recovery, treatment, and discharge of groundwater from the site.

The Permittee installed a remediation system beginning in 1988 that has gradually been simplified over time. The system was designed to treat groundwater affected by various diesel fuel releases during operation of the refinery and periodic spills at the truck unloading facility. The system consists of a series of monitoring wells, groundwater recovery wells, water treatment equipment, and an infiltration gallery. During prior years of operation, the treatment system could process up to an estimated 5,000,000 gallons of water per year based on estimated usage.

The Permittee will update its Stage 2 Abatement Plan (see Section 6-A-1) to focus on monitoring along with remediation of remaining groundwater and vadose zone source contamination. Groundwater occurs at a depth of approximately 40 feet below ground surface with a total dissolved solids concentration of approximately 1,500 milligrams per liter (mg/l).

The issuance of this Discharge Permit does not relieve the Permittee from the responsibility of complying with the provisions of the Water Quality Act, any applicable regulations or water quality standards of the Water Quality Control Commission (WQCC), or any applicable federal laws, regulations, or standards.

1. B. Scope of Permit: OCD has been granted authority to administer the Water Quality Act (Chapter 74, Article 6 NMSA 1978) as it applies to refineries by statute and by delegation from the Water Quality Control Commission pursuant to Section 74-6-4(E) NMSA 1978.

The Water Quality Act and the rules issued under the Act protect groundwater and surface water of the State of New Mexico by providing that unless otherwise allowed by rule, no person shall cause or allow effluent or leachate to discharge to migrate directly or indirectly into groundwater unless such a discharge is pursuant to an approved discharge permit (20.6.2.3104 and 3106 NMAC).

This new Permit authorizes the Permittee to capture, store and dispose of phase separated hydrocarbons (PSH) floating atop the groundwater. When the disposal system is in operation, the Permittee is allowed to discharge up to 50 gallons per minute of treated groundwater (using granular active carbon, or GAC) into an Underground Injection Control (UIC) Class V Remediation Injection Well System (infiltration gallery) on an "as needed" basis. This new Permit includes requirements for annual groundwater monitoring and for the abatement of vadose zone and groundwater contamination.

This Permit does not authorize on-site disposal of any materials, product, by-product, or oil field waste. This Permit does not convey any property rights of any sort nor any exclusive privilege and does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of state, federal, or local laws, rules or regulations.

The Permittee shall operate in accordance with the Permit conditions to comply with the Water Quality Act and the rules issued pursuant to the Act, so neither a hazard to public health nor undue risk to property will result (20.6.2.3109 C NMAC); so no discharge will cause or may cause any stream standard to be violated (20.6.2.3109 H (2) NMAC); so no discharge of any water contaminant will result in a hazard to public health (20.6.2.3109 H (3) NMAC); and the numerical standards specified of 20.6.2.3103 NMAC are not exceeded.

1. C. Discharge Permit: This is a new Permit effective for 5-years. Replacement of a prior permit does not relieve the Permittee of its responsibility to comply with the terms of the prior permit while that permit was in effect.

1. D. Definitions: Terms not specifically defined in this Permit shall have the same meanings as those in the Water Quality Act or the rules adopted pursuant to the Act, as the context requires.

1. E. Fees: Every facility that submits a discharge permit application for initial approval or renewal must pay the permit fees specified in Table 1 and the filing fee specified in Table 2 of 20.6.2.3114 NMAC. OCD has received the required $100.00 filing fee. The permit fee for Abatement of Groundwater and Vadose Zone Contamination of $2,600.00 is due within 30-days of permit issuance. There may also be a fee under 20.6.2.3114 NMAC associated with approval of financial assurance (Table 2) of the greater of $250.00 or 0.01% of the financial assurance amount, if required. Checks must be payable to the "Water Quality Management Fund" and not the OCD.

1. F. Effective Date, Expiration, Renewal Conditions, and Penalties for Operating Without a Permit: This Permit is effective immediately from the date the Permittee receives this discharge permit when all fees are paid, renewed, or until the permit is terminated. This Permit **will expire on January 6, 2026**. The Permittee shall submit an application for renewal no later than 120 days before the expiration date (20.6.2.3106 F NMAC). If a Permittee submits a renewal application at least 120 calendar days before the Permit expires and complies with the approved Permit, then the existing Permit will not expire until OCD has approved or disapproved the renewal application. A discharge permit continued under this provision remains fully effective and enforceable. Operating with an expired Permit may subject the Permittee to civil and/or criminal penalties (74-6-10.1 and 10.2 NMSA 1978).

1. G. Modifications: The Permittee shall notify the OCD of any facility expansion, production

increase, or process modification that would result in any significant modification in the discharge of water contaminants (20.6.2.3107 C NMAC). OCD may require the Permittee to submit a permit modification pursuant to 20.6.2.3109E NMAC and may modify or terminate a permit pursuant to Section 74-6-5(M) through (N) NMSA 1978.

1. H. Transfer of Permit: Prior to any transfer of ownership, control, or possession of the facility (whether by lease, conveyance or otherwise), the transferor shall notify the transferee in writing of the existence of this Permit and shall deliver to OCD a copy of such notification, together with a certification or other proof that such notification has been received by the transferee pursuant to 20.6.2.3111 NMAC. Upon receipt of such notification, the transferee shall inquire into all the provisions and requirements contained in the Permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the OCD's file or files concerning the Permit. Upon assuming either ownership or possession of the facility the transferee shall have the same rights and responsibilities under the Permit as were applicable to the transferor (20.6.2.3111 NMAC).

Transfer of the ownership, control, or possession of the Facility does not relieve the transferor of responsibility or liability for any act or omission which occurred while the transferor owned, controlled, or was in possession of the facility (20.6.2.3111E NMAC).

1. I. Closure Plan and Financial Assurance: A closure plan is hereby required, unless received with the application, within 60 days under 20.6.2.3107 A. (11) NMAC along with financial assurance, if requested by OCD, to implement such a plan. The plan shall provide, at a minimum, for the removal or plugging of all lines leading to the discharge locations to eliminate discharge(s). As abatement of vadose zone and groundwater contamination resulting from the discharge progresses, modification of the closure plan and financial assurance will be required to incorporate the abatement effort including possibly post-closure monitoring.

1. J. Compliance and Enforcement: If the Permittee violates or is violating a condition of this Permit, OCD may issue a compliance order requiring compliance immediately or within a specified period, suspending or terminating this Permit, and/or assessing a civil penalty (74-6-10 NMSA 1978). OCD may also commence a civil action in district court for appropriate relief, including injunctive relief (74-6-10 (A) (2) and 11 NMSA 1978). The Permittee may be subject to criminal penalties for discharging a water contaminant without a discharge permit or in violation of a condition of a permit; making any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document

filed, submitted or required to be maintained under the Water Quality Act; falsifying, tampering with or rendering inaccurate any monitoring device, method or record required to be maintained under the Water Quality Act; or failing to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation (74-6-10.2 NMSA 1978).

2. GENERAL FACILITY OPERATIONS

2. A. Contingency Plan: The Permittee shall implement its contingency plan to cope with failure of the Permit or system.

2. B. Record Keeping: The Permittee shall maintain records of all inspections required by this Permit at its facility office for a minimum of five years and shall make those records available for inspection by OCD.

2. C. Release Reporting: The Permittee shall comply with the following permit conditions, pursuant to 20.6.2.1203 NMAC, and may report a release using an OCD form C-141, if it determines that a release of oil or other water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, has occurred. The Permittee shall report unauthorized releases of water contaminants in accordance with any additional commitments made in its approved Contingency Plan. If the Permittee determines that any constituent exceeds the standards specified at 20.6.2.3103 NMAC, then it shall report a release to OCD.

1. **Oral Notification:** As soon as possible after learning of such a release, but in no event, more than twenty-four (24) hours thereafter, the Permittee shall notify OCD of a release. The Permittee shall provide the following:

    - the name, address, and telephone number of the person or persons in charge of the facility, as well as of the Permittee;
    - the name and location of the facility;
    - the date, time, location (including NAD83 Lat./Long. decimal to at least 5 places), and duration of the release;
    - the source and cause of the release;
    - a description of the release, including its chemical composition;
    - the estimated volume of the release; and,
    - any corrective or abatement actions taken to mitigate immediate environmental damage from the release.

2. **Written Notification:** Within one week after the Permittee has discovered a release, the Permittee shall send written notification (may use an OCD form C-141 with attachments) to OCD verifying the prior oral notification as to each of the foregoing items and providing any appropriate additions or corrections to the information contained in the prior oral notification.

3. **Corrective Action:** The Permittee shall undertake such corrective actions as are necessary and appropriate to contain and remove or mitigate the damage caused by the release along with the filing of subsequent corrective action reports with the OCD.

2 D. Other Requirements:

1. **Inspection and Entry:** Pursuant to 20.6.2.4107A NMAC, the Permittee shall allow any authorized representative of the OCD Director, upon the presentation of proper credentials, to:

   - enter the facility at reasonable times;
   - inspect and copy records required by this Permit;
   - inspect any treatment works, monitoring, and analytical equipment;
   - sample any wastes, discharge, groundwater, surface water, stream sediment, plants, animals, or vadose-zone material including vadose-zone vapors;
   - use the Permittee's monitoring systems and wells to collect samples; and,
   - gain access to off-site property not owned or controlled by the Permittee but accessible to the Permittee through an access agreement if allowed by the agreement.

2. **Advance Notice:** Pursuant to 20.6.2.4107B NMAC, the Permittee shall provide OCD with at least four working days advance notice of any environmental sampling to be performed pursuant to this Permit, or of any monitoring well plugging or abandonment.

3. **Plugging and Abandonment:** Pursuant to 20.6.2.4107C NMAC, the Permittee shall propose to plug and abandon a monitoring well or UIC Class V Well to the OCD for approval. The proposed action shall be designed to prevent water pollution that could result from water contaminants migrating through the well or borehole. The proposed action shall not take place without written approval from both OCD and the Office of the State Engineer.

2. E. Annual Report: The Permittee shall submit a report to the OCD on or before June 15th of each year pursuant to 20.6.2.3107 NMAC. The annual report shall include the following:

1. A summary of all major refinery activities or events;

2. A summary of the discharge activities, including the quality and volume of the discharge;

3. A summary of all leaks, spills, and releases and corrective actions taken;

4. A summary of the discovery of any new vadose zone or groundwater contamination including any plume expansion;

5. A summary of all waste, wastewater and PSH disposed of, sold, or treated on-site, including a refinery wastewater balance sheet and mass balance of the waste effluents;

6. Documentation regarding the closure of UIC Class V wells, if any, used for the disposal of industrial wastes or a mixture of industrial wastes, domestic wastes, and treated groundwater or effluent (see Section 3 below);

7. Documentation regarding the plugging and abandonment of any monitor and/or recovery wells;

8. Documentation of untreated effluent volume, recovered PSH volume, treated and injected effluent volume, injection flow rates (min., max. and avg.), treated effluent water quality verified by environmental analytical laboratory data results before injection, and certification that WQCC water quality standards were met, and/or instances where standards were not met and corrective actions taken to correct such a situation;

9. A description of groundwater monitoring and remediation activities conducted throughout the year, including sample collection procedures, decontamination procedures, sample handling procedures, and management of associated wastes;

10. Summary tables of groundwater data including water quality, purging parameters, groundwater elevation, and thickness of any PSH;

11. Copies of laboratory analytical data sheets with quality assurance/quality control information;

12. Contour maps for depicting the piezometric gradient for each semi-annual (or quarterly when applicable) monitoring event;

13. Iso-concentration maps of major constituents of concern for each monitoring event (to include all groundwater quality standards historically and currently detected through monitoring above water quality standards of 20.6.2.3103 NMAC);

14. PSH thickness isopleth maps for each monitoring event;

15. Plots of static water elevation versus time in key wells, including those that contain PSH;

16. Tabulation of the volumes of PSH removed from recovery wells or monitoring wells throughout the year; and

17. Conclusions and recommendations.

3. CLASS V WELLS

Pursuant to 20.6.2.5002 B NMAC, leach fields and other wastewater disposal systems at OCD regulated facilities injecting non-hazardous fluid into or above an underground source of drinking water are UIC Class V injection wells. This Permit does not authorize the Permittee to use a UIC Class V injection well for the disposal of industrial waste at the facility. Pursuant to 20.6.2.5005 NMAC, the Permittee shall close any UIC Class V industrial waste injection wells at its Facility that inject non-hazardous industrial wastes or a

mixture of industrial wastes and domestic wastes (*e.g.*, septic systems, leach fields, dry wells, *etc*.) other than contaminated groundwater within 90 calendar days of the issuance of this Permit. The Permittee shall document the closure of any UIC Class V wells used for the disposal of non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes other than contaminated groundwater in its annual report (see Section 2. E. 6 above).

The Permittee must obtain a permit from the New Mexico Environment Department for other Class V wells, including wells used only for the injection of domestic wastes.

3.A. UIC Class V Well or Infiltration Gallery: The Permittee will operate the treated effluent injection system or remedial system on an "as needed" basis in the most efficient manner possible with the proper operation, monitoring and maintenance required to protect groundwater, public health, and the environment.

1. **Operation:** Permittee shall activate the infiltration gallery in accordance with the approved Stage 2 Abatement Plan (see section 6.A).

2. **Monitoring:** Permittee shall propose remedial system monitoring and frequency of monitoring in accordance with the approved Stage 2 Abatement Plan (see Section 6.A) to ensure groundwater contaminants do not exceed WQCC 20.6.2.3103 NMAC water quality standards in treated effluent discharged into the infiltration gallery.

3. **Maintenance:** Permittee shall perform maintenance on the remedial system in accordance with the approved Stage 2 Abatement Plan (see Section 6.A) to ensure the remedial system functions properly.

4. DISCHARGE OF TREATED EFFLUENT

The Permittee began discharging treated effluent into the infiltration gallery in 1988. This discharge has continued "as needed" at the facility under permit conditions until the permit expired and the remedial system was idled. The discharge occurred at the following location:

- The infiltration gallery comprised of five 2 in. x 100 ft. lateral perforated pipes set in pea gravel near surface with an end-of-pipe located at the approximate latitude of 36.703061 degrees, and longitude of -108.093532 degrees (NAD83).

The Permittee shall continue discharging on an as needed basis into the infiltration gallery at the above location upon OCD approval of the Stage 2 Abatement Plan (see Section 6.A).

- The Permittee shall fully restore the infiltration gallery or remedial system back into operation within 90-days of OCD approval of the Stage 2 Abatement Plan (see Section 6.A).

The restored remedial system shall be designed, constructed, and operated to contain liquids and solids in a manner that will protect fresh water, public health, safety, and the environment for the

foreseeable future. The Permittee shall operate the remedial system in accordance with the OCD approved Stage 2 Abatement Plan (see Section 6.A.).

4.A. Discharge Rate and Location: The Permittee is authorized to discharge no more than 1,715 barrels per day of treated effluent to the UIC Class V Well (see Section 3) at the location cited above. Discharge at any other location is expressly prohibited.

4.B. Sampling and Analysis: The Permittee shall characterize the discharge fluids as follows:

1. The Permittee shall comply with U.S. Environmental Protection Agency Quality Assurance/Quality Control and Data Quality Objectives for all environmental sampling and analytical laboratory methods and procedures.

2. The Permittee shall sample and analyze using the methods specified in the Stage 2 Abatement Plan Report (See Section 6.A).

3. The Permittee shall retain all environmental sampling and analytical laboratory quality assurance/quality control documentation for at least four years.

4. The Permittee shall monitor and record the discharge flow weekly and tabulate a monthly, yearly, and cumulative volume. This should include the dates and flow rates when the UIC Class V Well is in operation.

5. The Permittee shall ensure the sampling and flow measurements are representative of the volume and nature of the discharge.

6. The Permittee shall submit all sample data, analytical results, and flow measurements in the annual report (see Section 2.E.).

5. GROUNDWATER MONITORING

The Permittee shall conduct all facility monitoring in accordance with the OCD approved Stage 2 Abatement Plan (see Section 6.A.).

The Permittee shall continue to monitor and report facility groundwater and treated effluent quality at the facility in accordance with the Annual Report (see Section 2.E) and any conclusions with recommendations to add or abandon monitoring, and recovery systems. The Permittee shall propose all facility monitoring in the updated Stage 2 Abatement Plan (see Section 6.A).

6. ABATEMENT

There are indications that abatement of vadose zone and groundwater contamination is required. Typically, persons responsible for abatement must

act in accordance with 20.6.2.4104 and 4106 NMAC. However, pursuant to 20.6.2.4105A(6) NMAC, abatement can proceed as part of a discharge plan.

6.A Stage 2 Abatement Plan: The Permittee shall submit an updated Stage 2 Abatement Plan within 90-days of permit issuance for abatement of vadose zone and groundwater contamination based on hydrogeological conditions at the facility. The plan shall adequately address facility groundwater monitoring, contaminant source control, remedial system monitoring (i.e., remedial system operation, monitoring, and maintenance), and/or other remedial actions as required to comply with applicable WQCC regulations of 20.6.2 et seq. NMAC and 20.6.4 et seq. NMAC.

Adrienne Sandoval
Director, Oil Conservation Division

January 6, 2021
Date

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COMMENTS

Action 19769

COMMENTS

Operator:	OGRID:	Action Number:	Action Type:
WESTERN REFINING SOUTHWEST, IN 6700 Jefferson NE, Suite A-1 Albuquerque, NM87109	705791	19769	DISCHARGE PERMIT

Created By	Comment	Comment Date
cchavez	GW-40 Discharge Permit 2021	03/04/2021

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CONDITIONS

Action 19769

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
WESTERN REFINING SOUTHWEST, IN	6700 Jefferson NE, Suite A-1	Albuquerque, NM87109	705791	19769	DISCHARGE PERMIT

OCD Reviewer	Condition
cchavez	None