GW - 040

GENERAL CORRESPONDENCE

2015 - Present

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, February 26, 2019 5:00 PM
To: Chavez, Carl J, EMNRD
Cc: dhencmann@ltenv.com; aager@ltenv.com; Griswold, Jim, EMNRD
Subject: GW-40 Partial Remediation System Closure Request Meeting at OCD- SF 2/26/2019 NOTE TO FILE
Attachments: 20.006.0002New Final.pdf; 2017 AR Conclusions.pdf; 2018 AR Conclusions.pdf; GW-40 DP.pdf; GBR Western Giant SHS Closure Request (02-15-2019).pdf

Carl on 2/26/19 at 1 p.m. met with Devin Hencmann and Ashley Ager with LT Environmental Inc. to discuss the above subject request. OCD has attached the amended WQCC Regulations (i.e., 20.6.2 NMAC) from December 2018. OCD also attaches the 2017 – 2018 Annual Report Conclusions.

Based on the meeting, LT Environmental, Inc. will submit correspondence documenting the meeting and the proposed "path forward" by the Permittee for OCD approval or approval with conditions. OCD is expecting to receive the correspondence within 30 days of today's meeting or by 3/26/2019.

Carl followed up with info. based on the meeting below:

GW-40 Expiration Date: 12/9/2013 (see attached GW-40 DP) approved by OCD on 1/11/2012. OCD notices the questionnaire completed by the operator entered into the admin. record on 2/9/2012.

OCD concludes a DP Renewal was approved on 1/11/2012 with a revised the former DP Expiration date to 12/9/2013, which is interpreted by the OCD letter to mean the DP Expiration date was 12/9/2018. OCD cannot find an application for renewal from the Permittee in the administrative record. The remedial system was shut-in and monitoring continued around 2015. OCD is considering transitioning the site to an Abatement Plan under WQCC Regs. 20.6.2 NMAC.

Contact for questions on nearby Superfund Site:

Ms. Martyne Kieling
Lee Acres Landfill Superfund Site Contact (located N of the site)
New Mexico Environment Department- Ground Water Quality Bureau
(505) 827-2340
E-mail: Martyne.Kieling@state.nm.us

Please contact me if you have questions. Thank you for visiting OCD-SF today to communicate on above subject request.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505
Ph. (505) 476-3490
E-mail: CarlJ.Chavez@state.nm.us

GW - 040

PARTIAL CLOSURE REQUEST

2019

Western Refining

WNR LISTED NYSE

February 15, 2019

Jim Griswold
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Dr.
Santa Fe, NM 87505

FEDEX delivery to OCD

Re: 2018 Annual Report and Partial Remediation System Closure Request
Former Giant Bloomfield Refinery
Bloomfield, New Mexico
OCD Discharge Permit GW-040

Dear Mr. Griswold:

Western Refining Southwest, Inc. (WRSWI) submits the 2018 Annual Report and Partial Remediation System Closure Request for the former Giant Bloomfield Refinery. The Annual Report summarizes groundwater monitoring and remediation activities in 2018.

As discussed previously, the remediation system located south of the US Highway 64 was shutdown prior to 2007 because cleanup goals had been achieved. NMDOT plans to improve the highway intersection. The Partial Remediation System Closure Request proposes to abandon the system under the highway and in the neighborhood to the south.

If you have questions or would like to discuss any aspect of the submittals, please contact Gregory McCartney at (419) 421-2338.

Sincerely,

Allen S. Hains

ALLEN S. HAINS
Manager Remediation Projects
Western Refining Southwest, Inc.

Enc.

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

November 27, 2018

Mr. Allen Hains
Western Refining Southwest, Inc.
212 N. Clark Street
El Paso, Texas 79905

RE: Partial Remediation System Closure Request
Former Giant Bloomfield Refinery
Discharge Permit GW-040
Western Refining Southwest, Inc.
Bloomfield, San Juan County, New Mexico

Dear Mr. Hains:

LT Environmental, Inc. (LTE) is providing the following information to support a request for closure of a portion of a remediation system at the above-referenced site on behalf of Western Refining Southwest, Inc. (Western). This request relates to the former Giant Bloomfield Refinery (Site) in Bloomfield, San Juan County, New Mexico. The Site is operated by Western and currently regulated by the New Mexico Oil Conservation Division (NMOCD) under a Discharge Permit (GW-040). This request is for closure of a portion of the remediation system located south of United States (US) Highway 64 and south of the Site and referred to as the SHS Area of the remediation system.

SITE DESCRIPTION

The Site is on the northeast corner of US Highway 64 and County Road 350, 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). Components of the former remediation system remaining on site include two control buildings, two carbon filtration tanks, an aboveground storage tank, an infiltration trench, groundwater monitoring wells, and groundwater recovery wells (Figure 2). The SHS Area of the remediation system at the Site consists of monitoring wells, fluid recovery wells, piping, and a small control building housing a piping manifold.

The SHS Area system was operated to recover free-phase petroleum hydrocarbons and impacted groundwater detected historically south of US Highway 64. The system components are located along the south side of US Highway 64 within New Mexico Department of Transportation (NMDOT) and San Juan County road right-of-ways and on private property not owned by Western. The area is referred to as the Lee Acres Subdivision and is a residential area comprised of single-family homes. Recovered fluid was previously pumped from recovery wells and

transferred to storage and treatment system components located north of US Highway 64. Included in the SHS Area system were 4 recovery wells and 13 monitoring wells. The remediation/groundwater recovery system was shut down in August 2015 and static monitoring has occurred since that time. During 2017, due to highway construction activity being conducted by NMDOT, monitoring wells SHS-1 through SHS-5 located in the construction area immediately south of US Highway 64 were abandoned. Details of the abandonment of monitoring wells SHS-1 through SHS-5 are in the *2017 Annual Report* for the Giant Bloomfield Refinery. This closure request includes 4 recovery wells, the remaining 8 monitoring wells, subsurface interconnecting piping, piping connecting the SHS Area system wells to the treatment components located north of US Highway 64, and the piping manifold control building with associated components.

Groundwater monitoring and fluid elevation monitoring have been conducted at monitoring wells and recovery wells SHS-1 through SHS-19 periodically over the period of system operations and during post-shutdown monitoring. Sampling was completed in SHS-1 through SHS-5 in June 2017 prior to well abandonment. Additional sampling of the SHS Area wells was completed in January 2018 to support system closure.

SITE HISTORY AND BACKGROUND

The former refinery, under ownership of Giant Industries (Giant), Arizona, produced leaded and unleaded gasoline, diesel, kerosene, and other refined petroleum products from 1974 to 1982 and is currently inactive. Petroleum released from the refining operations and truck loading and unloading activities impacted groundwater, which was identified and investigated as part of the site closure requirements prescribed by the NMOCD in 1986. Details of a subsurface investigation and initial remediation efforts are included in a 1987 report entitled, *Soil and Groundwater Investigations and Remedial Action Plan, Giant Industries, Inc. Bloomfield Refinery, Bloomfield, New Mexico*. The investigation identified three source areas (Figure 2).

- Northern Area (Diesel Spill Area): 10,000 to 15,000 gallons of diesel fuel were released from a pipeline in 1985;
- Central Area (Truck Fueling Area): 15,000 gallons of diesel fuel were released from a pipeline in 1986; and
- Southern Area: Historical releases from a former firefighting drill area east and upgradient of the Site that may have collected in a former seep and a stormwater catchment area.

Concurrent with refinery operations, the former Lee Acres Landfill located upgradient of the Site operated as a San Juan County landfill from 1962 to 1986 (Figure 1). Landfill operations included solid waste disposal in trenches and a series of lagoons used for disposal of a variety of liquid wastes. The NMOCD sampled the lagoons in 1985 and demonstrated that the liquids in the impoundments contained a variety of chlorinated solvents, petroleum hydrocarbon constituents,

heavy metals, and salts. In April 1985, a breach in the dike retaining the lagoons released liquid wastes into an arroyo west of the Site. The arroyo drains south toward the Lee Acres Subdivision, where the NMOCD and the New Mexico Environment Department (NMED) identified impacted groundwater in domestic water wells in 1988. In response, the NMOCD required Giant to investigate petroleum hydrocarbon impacts to groundwater downgradient of the refinery in the Lee Acres Subdivision, and the NMED conducted a separate investigation to identify potential impacts from the landfill. The results of the subsurface investigation conducted by Giant south of the refinery are in three volumes of the 1992 report, *Remedial Investigation Report for Lee Acres Landfill*. The NMED, in conjunction with the Bureau of Land Management (BLM) and the United States Geological Survey (USGS), published their results in three reports referenced in Attachment 1 of this report.

The investigations identified two separate plumes of impacted groundwater that commingled across the refinery and flowed downgradient into the Lee Acres Subdivision. Groundwater contaminants detected in the refinery plume included phase-separated hydrocarbons (PSH) and dissolved-phase petroleum hydrocarbons. The dissolved-phase constituents included benzene, toluene, ethylbenzene, and total xylenes (BTEX), naphthalene, and 1,2 dichloroethane (EDC). The landfill contaminant plume contained total dissolved solids (TDS), chloride, sulfate, manganese, metals, BTEX, naphthalene, 1,1 dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, tetrachloroethene (PCE), 1,1,1-trichloroethane, and trichloroethene (TCE).

Beginning in 1988, Giant installed a groundwater recovery, treatment, and disposal system in stages to restrict migration of contaminants and to remediate groundwater impacts caused by Giant's former operations. A total of 45 monitoring wells were initially installed and designated GBR monitoring wells (Figure 2). Of these 45 monitoring wells, 11 were converted to recovery wells and re-named with GRW designations. An additional 17 monitoring wells were installed in the Lee Acres Subdivision and designated as SHS Area monitoring and recovery wells. Four SHS Area wells initially operated as recovery wells. Giant pumped groundwater from the recovery wells into storage tanks, then treated the groundwater with an air stripper and carbon filtration and re-injected treated groundwater into the subsurface through two infiltration trenches. Western acquired the Site from Giant in June 2007.

As groundwater quality improved over time, the remediation system was gradually simplified and eventually shut down following extensive assessment of site conditions. The air stripper was eliminated in the 1980s once product accumulation declined. In 2008, Western conducted a supplemental evaluation of the remedial operations, which included shutting down the remediation system and sampling groundwater wells under static conditions to redefine the area of impact and assess effectiveness of the remediation system. Existing equipment was inspected and repaired to optimize performance. Results from the sampling event were included in the *2008 Annual Report* submitted to the NMOCD. Pumping and treating operations were resumed in February 2009.

Western stopped recovering groundwater south of Highway 64 in 2009 as groundwater sampling results indicated no change to contaminant concentrations. Aboveground storage of groundwater was eliminated in 2014 based on reduced groundwater recovery volumes. By 2015, the system consisted of only 9 active groundwater recovery wells that pumped groundwater directly into the carbon filtration tanks. The water then passed through the treated water infiltration trench.

Following 13 years of regular influent and effluent sampling without the detection of volatile organic compounds (VOCs), Western conducted a subsequent assessment of site groundwater conditions in 2015. Western sampled and monitored select wells to characterize groundwater under active pumping conditions, then shut down the recovery system in August 2015 to allow groundwater to equilibrate. A second sampling and monitoring event was conducted on the same groundwater monitoring wells to compare active groundwater recovery to static conditions. Assessment results indicated the remediation system had successfully remediated the groundwater impact it was originally designed to address but was no longer an effective method for remediating residual impact at the Site. As such, Western did not turn the recovery system back on, focusing instead on monitoring existing site conditions to better characterize the residual impact. Results of the assessment were included in the *2015 Annual Report*. Follow-up samples were collected after the system was turned off and groundwater conditions were allowed to equilibrate. Sampling from 11 monitoring wells under equilibrium conditions continued in March, July, and October of 2016 and were documented in the *2016 Annual Report*. These results included sampling of SHS-2, SHS-8, and SHS-19 and results indicated compliance with New Mexico Water Quality Control Commission (NMWQCC) standards for BTEX for all wells sampled, with benzene, toluene and xylenes reported below laboratory detection limits and ethylbenzene reported an order of magnitude lower than the NMWQCC standard for the SHS Area wells.

Additional monthly monitoring efforts were implemented to assess the effectiveness of remediation activities. These efforts continued in 2017 as part of an additional site investigation to understand the remaining impact at the Site. Monthly monitoring activities included measuring depth to water, depth to product, field headspace, and observing for the presence of sheen and odor in monitoring wells and former recovery wells within the facility boundary and within the SHS Area. Groundwater samples were collected from monitoring wells SHS-1, SHS-2, SHS-4, and SHS-5 prior to well abandonment. Annual groundwater compliance sampling of wells specified in Discharge Permit GW-040 were collected in December 2017 and results for the listed data collection events were documented in the *2017 Annual Report*. Sampling conducted in 2018 is described below.

SITE HYDROLOGY

The Site is located on weathered outcrops of the Nacimiento Formation, which is comprised of shales, sandstones, and siltstones of Cretaceous-Tertiary age. The San Juan River is approximately

2,000 feet south of the Site. Immediately west is a large unnamed arroyo, which is underlain by 30 feet to 60 feet of Quaternary alluvial sediments. Older Quaternary terrace deposits of cobbles and boulders were observed on the interfluvial ridges adjacent to the arroyo. These terrace deposits may have been used as fill on the Site. The outcropping surfaces of the Nacimiento Formation have been eroded to form a paleo channel that appears to be similar in morphology to the existing surface arroyo located west of the Site. The bedrock is overlain by recent alluvial deposits (gravel, sand, silt, and clay), which thicken toward the south-southwest as illustrated on the cross section on Figure 3.

The subsurface geology is a controlling feature for groundwater flow direction and potential contaminant migration. Shallow groundwater is generally unconfined with some local areas potentially under semi-confined conditions. There are two aquifers of concern that are in direct hydraulic communication: a shallow aquifer composed of recent alluvial materials and a bedrock aquifer that exists in the underlying Nacimiento Formation (Figures 3 and 4, respectively). The alluvial aquifer generally has the higher permeability of the two aquifers, and recovery wells completed within this aquifer have higher yields with larger radii of influence.

ADDITIONAL SHS AREA GROUNDWATER MONITORING 2018

To further evaluate site conditions prior to the closure request, LTE conducted sampling of SHS Area monitoring wells January 22 and 23, 2018, on behalf of Western. Fluid elevation gauging events were conducted in January and October 2018.

LTE measured depth to groundwater at 53 monitoring/recovery wells with a Keck oil-water interface probe on January 22 and 23, 2018 and in 56 monitoring wells October 10, 2018. The interface probe was decontaminated with Alconox™ soap and rinsed with de-ionized water before each measurement. Depth to groundwater measurements were used to calculate groundwater elevations at the Site to determine direction of groundwater flow.

Groundwater samples were collected on January 22 and 23, 2018, with the goal of collecting a sample from each of the remaining SHS Area wells. Samples were collected from 6 SHS Area groundwater monitoring wells and 4 SHS Area recovery wells south of Highway 64. Monitoring wells SHS-10 and SHS-12 were dry or had insufficient volume to collect a representative groundwater sample. Samples were collected from SHS-6, SHS-8, SHS-9, and SHS-13 through SHS-19.

The volume of groundwater in the wells was calculated and a minimum of three well casing volumes of groundwater was purged from each well using a small electric pump, and samples were collected using a disposable bailer. As groundwater was extracted, pH, electrical conductivity (EC), and temperature were monitored. Wells were purged until these properties stabilized or the well was bailed dry, indicating the purge water was representative of aquifer conditions. Stabilization was defined as three consecutive stable readings for each water

property (plus or minus (±) 0.4 units for pH, ±10 percent for EC, and ±2 degrees Celsius for temperature). Once each well was properly purged, groundwater samples were collected in bottles or vials and shipped to Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico.

Groundwater samples were analyzed for VOCs according to United States Environmental Protection Agency (EPA) Method 8260B, total petroleum hydrocarbon (TPH)-gasoline range organics (GRO) by EPA Method 8015D, and TPH-diesel range organics (DRO) by EPA Method 8015M/D.

JANUARY 2018 MONITORING RESULTS

PSH was not measured in the SHS Area monitoring wells in January 2018 or October 2018. Measurable PSH was observed in monitoring wells GBR-7, GBR-22, and GBR-41. The 2018 results are summarized in Table 1.

A groundwater elevation map for January 2018 is provided as Figure 5. The groundwater elevation and flow direction were consistent with historical information for the Site.

January 2018 groundwater analytical results for the SHS Area well sampling event indicated the following. The January 2018 analytical results are summarized in Table 2.

- VOCs were detected in the groundwater samples in trace concentrations that did not exceed NMWQCC standards.
    - Ethylbenzene was detected in groundwater from monitoring well SHS-9 at a concentration of 32 micrograms per liter (µg/L), more than an order of magnitude below the NMWQCC value of 750 µg/L;
    - Five petroleum-related VOCs for which a standard has not been established were detected in groundwater from monitoring well SHS-9, and one similar result was detected for SHS-19; and
    - The remaining VOC concentrations were lower than the laboratory detection limit.
- TPH-DRO was detected in the groundwater from SHS-8, SHS-9, SHS-13, and SHS-19 at concentrations ranging from 0.32 milligrams per liter (mg/L) to 13 mg/L. TPH-GRO was detected at 0.38 mg/L in groundwater from SHS-9, and TPH-MRO was not detected in any of these samples. There is no established NMWQCC standard for TPH.

PETROLEUM HYDROCARBON OCCURRENCE, RISK EVALUATION FOR SHS AREA

The groundwater recovery system that was in operation for approximately 27 years significantly improved groundwater conditions over that time. As noted in previous annual reports, the influent to the treatment system had not detected the presence of VOCs during the final 13 years of system operation.

PSH has diminished to isolated source area locations north of US Highway 64 where PSH is sorbed to soil, and fluctuating groundwater elevations result in desorption and accumulation of PSH in wells where the lowest subsurface pressure exists. Through years of pumping, the original transportation mechanisms that resulted in PSH observations in the SHS Area have collapsed. The transmissivity of the PSH is reduced, and it is no longer mobile. In the SHS Area, PSH was historically measured in SHS-1, SHS-2, SHS-8, SHS-9, SHS-11, SHS-14, SHS-18, and SHS-19 (SHS-7). PSH measurements indicated that by 2004, the mobile PSH in the SHS Area had been removed, as only inconsistent PSH observations were made after 2004 in two monitoring wells (SHS-2 and SHS-8) and one recovery well (SHS-9). PSH has not been observed in any SHS Area well since April 2013 when 0.18 feet was measured in SHS-9. This was an anomalous event as PSH measurements from 2004 through 2013 typically ranged from not detected to 0.05 feet. A series of monitoring wells/recovery wells that can be used to monitor for PSH exist between the remaining site source areas where PSH remains and the downgradient SHS Area. Historical PSH thickness measurements for the SHS Area wells that were typically obtained on a quarterly basis are summarized in Table 3.

TPH concentrations in SHS Area wells were evaluated along with VOC concentrations in January 2018. No NMWQCC standard exists for TPH, and TPH monitoring was conducted as a means to generally evaluate the potential for PSH to occur in the well. TPH results indicated concentrations below a value where free product would be anticipated. The higher TPH-DRO value measured for SHS-9 of 13 mg/L is likely related to using the well as a recovery well for many years. Residual impact surrounding the well resulted from pumping PSH toward the well and larger fluctuations in groundwater elevation, but the higher TPH-DRO detected at SHS-9 is limited in extent as evidenced by the lower concentrations detected in nearby wells.

The analytical results indicate continued compliance with groundwater quality standards for petroleum-related impacts. For the detected VOCs for which a NMWQCC standards exist (BTEX and 1,2,4-trimethylbenzene), results have indicated compliance with these standards for all of the SHS Area monitoring wells for samples obtained after 1990. Occasionally, detectable concentrations were lower than the NMWQCC standard, and within an order of magnitude of the laboratory method detection limit. Analysis of PAH compounds indicates compliance with cleanup standards for the two PAH analytes that have a NMWQCC standard: naphthalene and benzo(a)pyrene. Annual groundwater sampling events conducted following recovery system shutdown in 2015 have indicated occasional detections of petroleum hydrocarbons within an order of magnitude of the laboratory method detection limits for analytes that do not have

established standards. Historical laboratory analytical results from 2010 through January 2018 for monitoring well SHS-8 are summarized in Table 4. The historical analytical trends indicate decreasing PSH and contaminant concentrations in the SHS Area.

Iron and manganese continue to be detected at concentrations exceeding cleanup goals in several monitoring wells including upgradient wells. The designated total metals analyses include both dissolved-phase and particulate iron and manganese and likely vary based on the sediment within the samples. The values for metals, chloride, sulfate, and TDS that exceeded NMWQCC standards are unrelated to the petroleum impact, as evidenced by upgradient wells that demonstrate these analytes at more elevated concentrations. Operations of the groundwater recovery and treatment system would not improve these conditions. Western does not believe they are responsible to address these impacts, and these are not further evaluated.

The residual petroleum impacts have been demonstrated to be stable and decreasing in magnitude under natural attenuation processes. No measurable changes have been observed since shutting down the remediation system fluid recovery system.

RECOMMENDATION FOR SHS AREA CLOSURE

It is apparent that the remediation system successfully remediated petroleum hydrocarbon impacts as designed. Following the reduction in petroleum hydrocarbon concentrations, the remediation system's primary purpose was to provide hydraulic control and restrict migration of potential contaminants off site. By shutting down the system to re-establish equilibrium conditions, Western has demonstrated the remediation system has no effect on existing hydrocarbon groundwater impacts or the migration of impacts off site. Residual impacts at the Site consist of PSH accumulations, which based on thicknesses measured and locations consistent with original source areas, are likely a result of desorption of petroleum from soil, which are again adsorbed by soil in the three original source areas during period of groundwater elevation fluctuation. With no active source, the residual contaminants are not likely to migrate with or without the hydraulic barrier introduced by the remediation system.

There is no likely benefit to subsurface conditions that could occur through continued operation of recovery wells in the SHS Area. Because other monitoring wells remain that are closer to source areas, the SHS Area monitoring wells are no longer valuable for continued petroleum plume monitoring purposes. Wells and infrastructure represent a liability to Western, and wells that are not in use should be abandoned and infrastructure abandoned or removed.

LTE recommends abandoning all the recovery wells and monitoring wells and system infrastructure located south of US Highway 64 in the SHS Area and seeks concurrence from NMOCD prior to completing these tasks.

RECOMMENDATION FOR ONGOING MONITORING

Because PSH was observed at source area wells periodically during following remediation system shutdown, including 2018, the remaining wells located north of US Highway 64 can continue to be used to confirm that no further migration of the PSH is occurring. Continued PSH monitoring in monitoring wells GBR-9 and GBR-10 and recovery wells GRW-1, GRW-2, GRW-3, and GRW-10 will provide sufficient information to indicate that no PSH migration is occurring. Ongoing annual groundwater monitoring in GRW-3 will provide for a suitable location to monitor any changes in VOCs, such that ongoing monitoring in SHS-8 can be eliminated.

REVIEW OF PROJECT INFRASTRUCTURE

LTE conducted an investigation into the former remediation system at the SHS Area of the Site. The goal of this investigation was to identify the location and configuration of the former remediation system and develop a plan to remove the inactive components. The investigation results indicated the southern control building includes fluid lines that transferred fluid north to tanks and treatment facilitates located on the refinery property. One of these lines was discovered to have fluid in the line and hydraulic pressure on the line at the low spot within the southern control building. LTE recovered the fluid in the line and released the hydraulic pressure in 2018. To account for the possible occurrence of PSH within existing buried lines the procedures described below will be used to abandon the system.

ABANDONMENT PROCEDURES

Western will coordinate, conduct oversight, and document the removal of piping, surface equipment, and plugging and abandonment of the SHS Area. The goal of this work will be to abandon and remove inactive components of the former remediation system. The following activities will be included.

- Any remaining pumps and equipment associated with the recovery wells, the well vaults, and the southern control building will be removed and transferred to the pump building located on the southern portion of the Site.
- The remaining 8 groundwater monitoring wells and 4 recovery wells will be abandoned by a New Mexico state-licensed driller to comply with the standards for plugging wells. Well casing will be cut to at least 1-foot below grade, and wells will be filled with bentonite and/or cement grout from total depth to top of casing.
- LTE will file appropriate paperwork with the New Mexico Office of the State Engineer including a well plugging plan of operations in advance of plugging operations.
- The southern control building will be removed, and materials will be disposed of or recycled as applicable.

- Subsurface lines will be flushed using water to remove residual product prior to piping closure. The water will be collected and transferred to the water/oil holding tank at the Bloomfield Products Terminal Facility for processing.
- Subsurface lines will be cut approximately 1-foot below ground surface, and the vertical riser portion of the pipe will be filled with grout.
- Lateral lines crossing US Highway 64 will be plugged on each side of the highway, and the lines crossing the highway via a 3-inch culvert will be removed and disposed of.
- Recovery well vaults and monitoring well covers will be removed and disposed of/recycled, and the areas will be brought to surface grade using suitable backfill material.

The abandonment procedures will be initiated following approval by NMOCD that the abandonment plans for monitoring wells and recovery wells is acceptable and no further monitoring in this area will be required as part of the groundwater remediation monitoring and discharge permit for the Site.

Please contact Mr. Devin Hencmann at 970-385-1096 should you have any questions or if you would like to discuss this abandonment plan.

Sincerely,

LT ENVIRONMENTAL, INC.

Devin Hencmann
Project Geologist

Chris Shephard
Chief Engineer

cc: Allen Hains, Western Refining Southwest, Inc.

Attachments:

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Cross Section A-A’
Figure 4	Cross Section B-B’
Figure 5	Groundwater Potentiometric Surface Map (January 2018)
Table 1	2018 Groundwater Elevations and Thickness of Phase-Separated Hydrocarbons
Table 2	2018 SHS Well Closure Sampling – Groundwater Laboratory Analytical Results
Table 3	SHS Area Phase-Separated Hydrocarbon Occurrence
Table 4	Groundwater Laboratory Analytical Results for SHS-8 (2010-2017)
Attachment 1	References

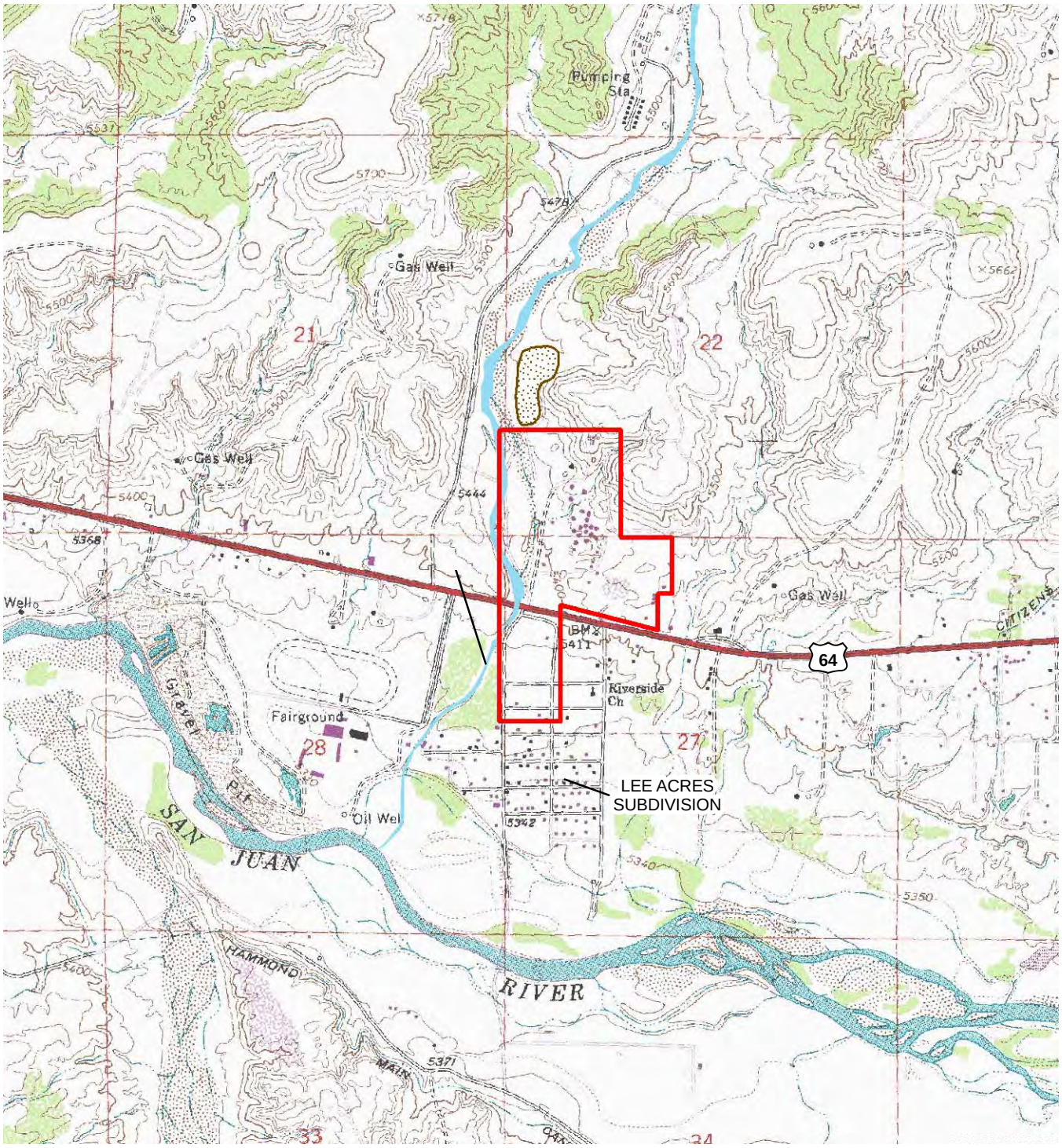


IMAGE COURTESY OF USDA/NRCS, VARIOUS DATES

0 2,000 4,000
Feet

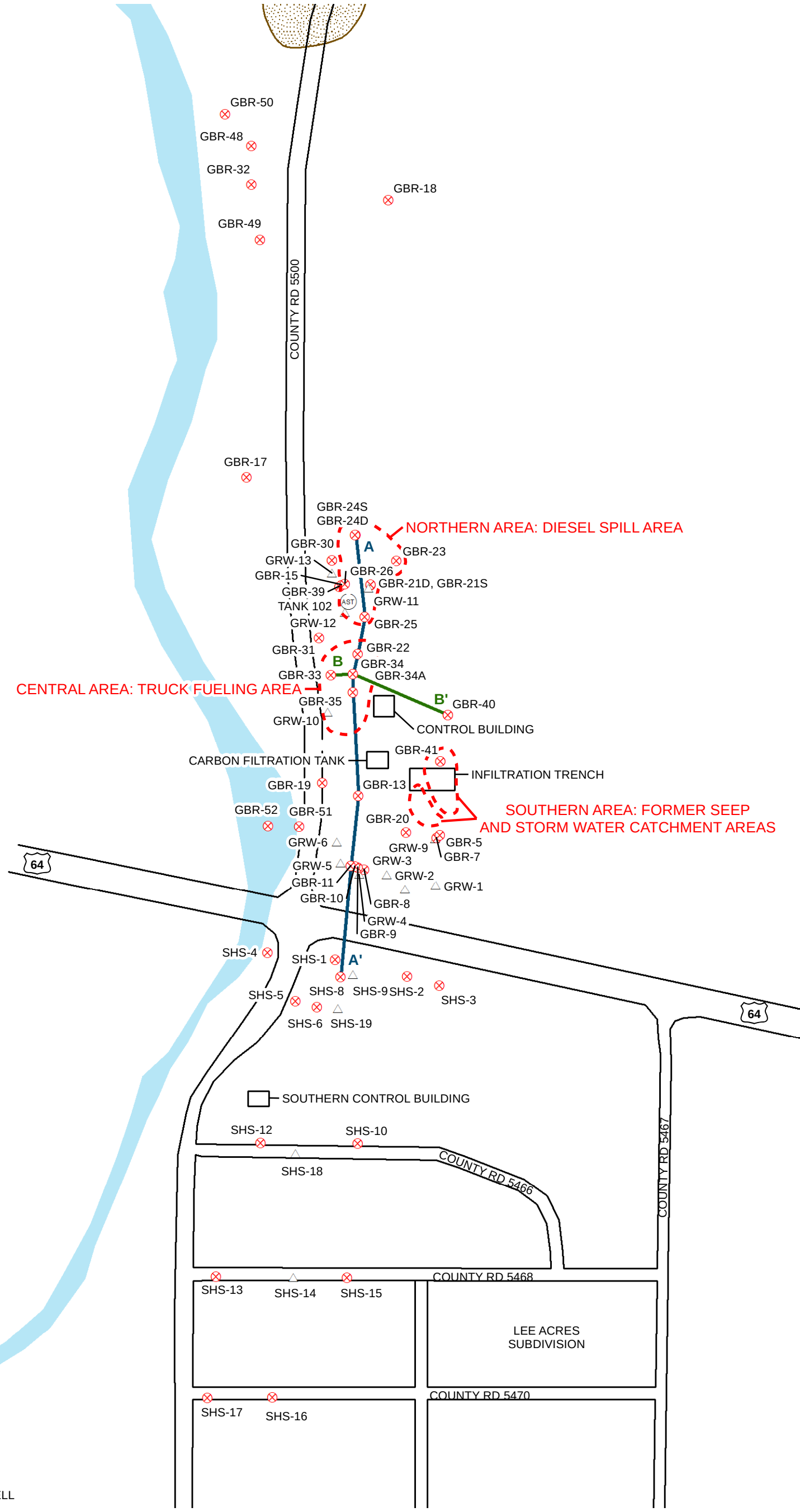
N

LEGEND

- SITE LOCATION
- ARROYO
- FORMER LEE ACRES LANDFILL

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

P:\Western Refining\GIS\MXD\WR1009 GIANT\WR1009_GIANT_FIG01_SL.mxd



LEGEND

- MONITORING WELL
- INACTIVE RECOVERY WELL
- ABOVEGROUND STORAGE TANK (AST)
- CROSS SECTION A-A'
- CROSS SECTION B-B'
- ARROYO
- FORMER LEE ACRES LANDFILL
- SOURCE AREA

0 300 600
Feet

N

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\WR1009 GIANT\WR1009_GIANT_FIG02_SITE.mxd

NORTH

A

SOUTH

A'

ELEVATION IN FEET

5,400
5,395
5,390
5,385
5,380
5,375
5,370
5,365
5,360
5,355
5,350
5,345
5,340
5,335
5,330

GBR24D

TD =
49 FEET BGS

GBR25

TD =
48 FEET BGS

GBR22

SILTED IN

TD =
48 FEET BGS

GBR34

TD =
48' FEET BGS

GBR35

TD =
50 FEET BGS

GBR13

TD =
48 FEET BGS

GBR11

TD =
55 FEET BGS

SHS8

TD =
53 FEET BGS

SCREENED
INTERVAL
UNKNOWN

LEGEND

- SANDY SILT
- CLAYEY SAND
- SILTY SAND
- SAND
- PEBBLES/GRAVEL
- NACIMIENTO SHALE
- NACIMIENTO SANDSTONE

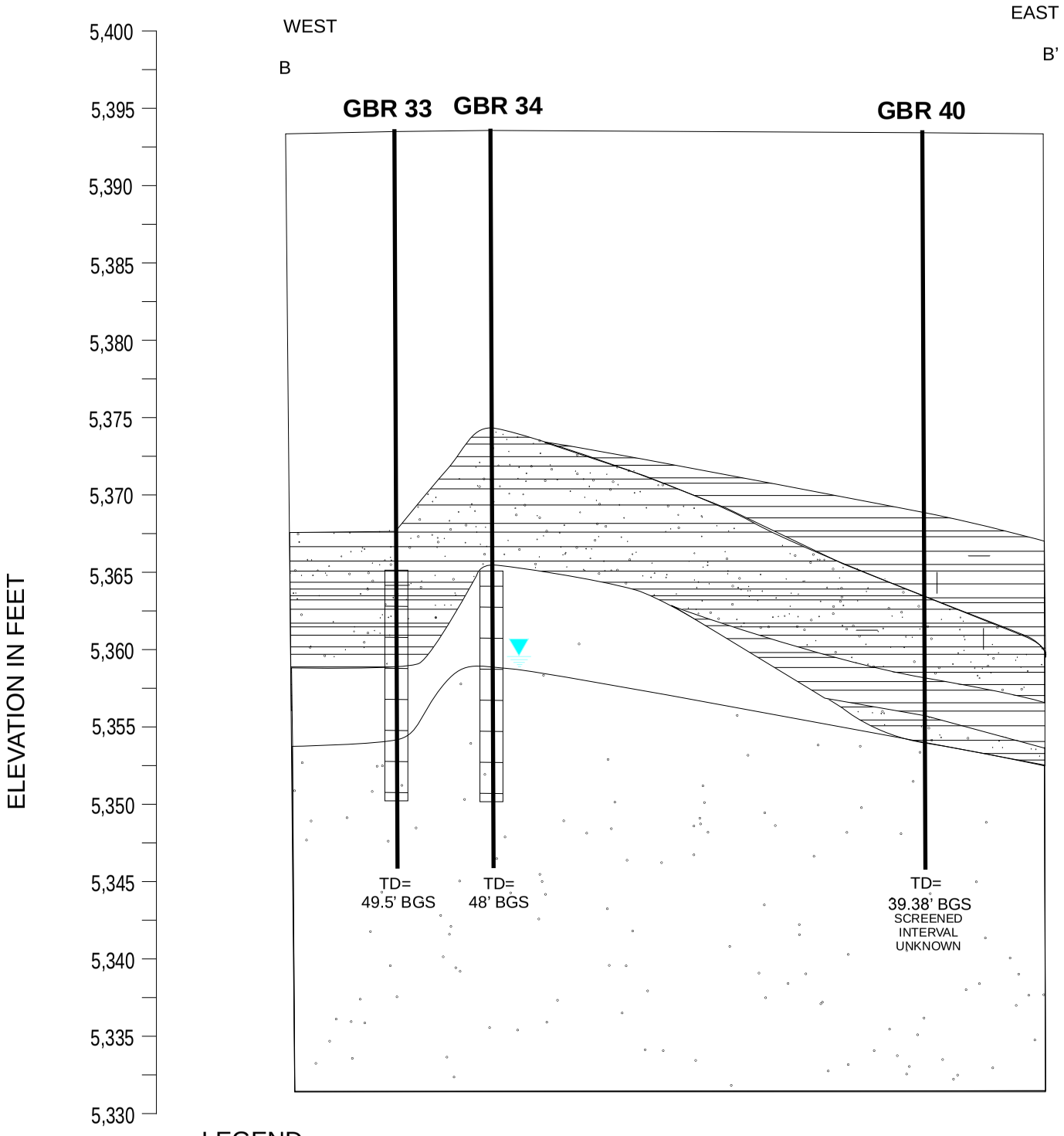
- BOREHOLE
- SCREENED INTERVAL
- BGS — BELOW GROUND SURFACE
- TD — TOTAL DEPTH IN FEET
- GROUNDWATER ELEVATION FROM OCTOBER 2017

HORIZONTAL SCALE
1" = 10 FEET

VERTICAL SCALE
1" = 90 FEET

FIGURE 3
CROSS SECTION A-A'
FORMER GIANT BLOOMFIELD REFINERY
SWSW SEC 22 &WNW SEC 27 T29N R12W
WESTERN REFINING SOUTHWEST, INC.

WR1009 1/16



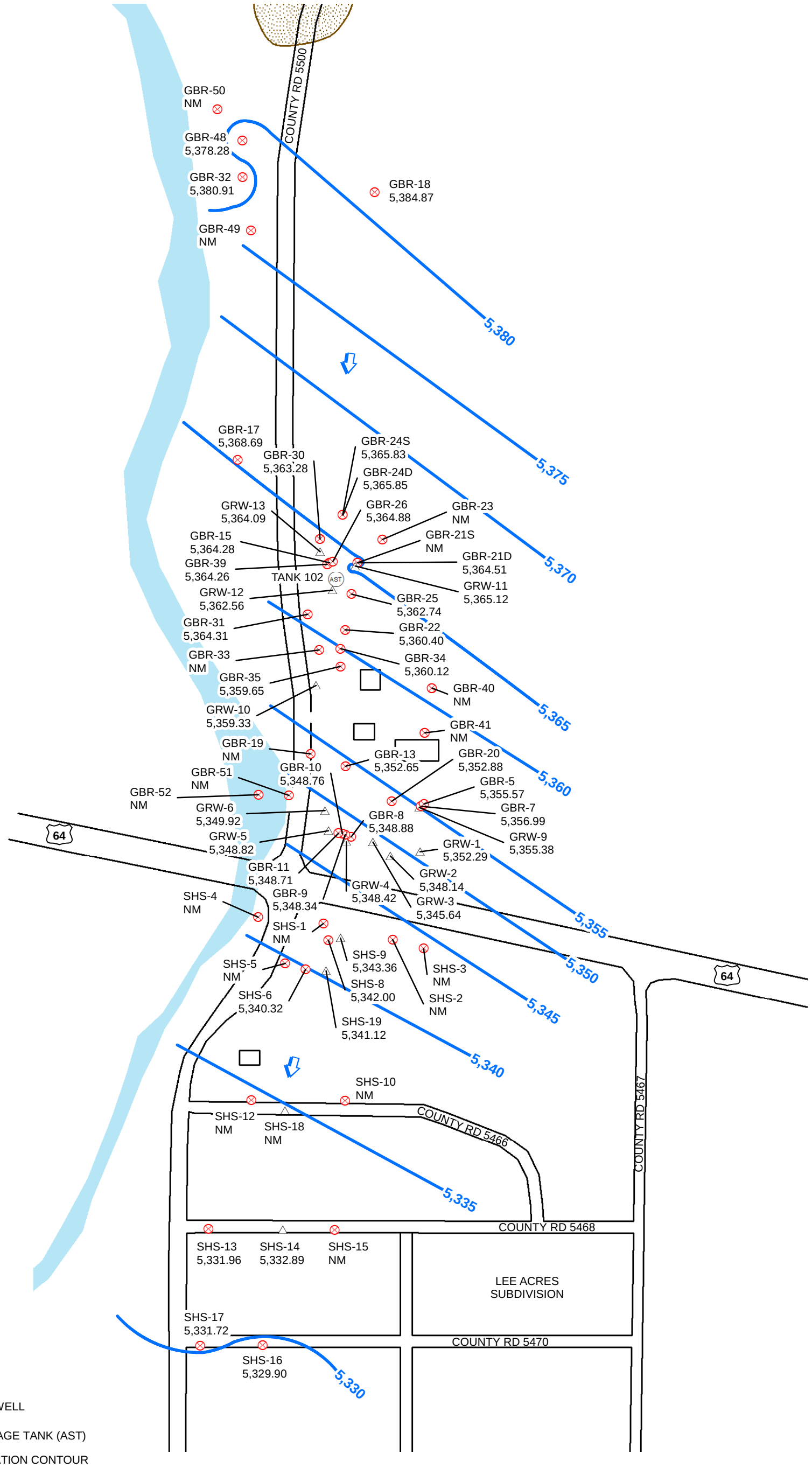
LEGEND

- 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 4
CROSS SECTION B-B'
FORMER GIANT BLOOMFIELD REFINERY
SWSW SEC 22 &WNW SEC 27 T29N R12W
WESTERN REFINING SOUTHWEST, INC.



LEGEND

NM: NOT MEASURED

PO: PAVED OVER

- MONITORING WELL
- INACTIVE RECOVERY WELL
- ABOVEGROUND STORAGE TANK (AST)
- GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 5 FEET
  GROUNDWATER ELEVATION MEASURED IN FEET
  ABOVE MEAN SEA LEVEL IN JANUARY, 2018
- ARROYO
- FORMER LEE ACRES LANDFILL
- ESTIMATED GROUNDWATER FLOW DIRECTION

FIGURE 5
GROUNDWATER POTENTIOMETRIC SURFACE MAP (JANUARY 2018)
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\029518010_GBR\029518010_GIANT_FIG06_JAN_2018.mxd

TABLE 1
2018 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)	January 2018				October 2018			
			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	42.01	-	-	5,352.29	44.30	-	-	5,350.00
GRW-2	5,391.28	61.00	43.14	-	-	5,348.14	43.80	-	-	5,347.48
GRW-3	5,388.77	58.30	43.13	-	-	5,345.64	44.63	-	-	5,344.14
GRW-4	5,390.02	60.00	41.60	-	-	5,348.42	42.17	-	-	5,347.85
GRW-5	5,390.56	68.30	41.74	-	-	5,348.82	42.33	-	-	5,348.23
GRW-6	5,390.81	53.80	40.89	-	-	5,349.92	41.47	-	-	5,349.34
GRW-9	5,395.70	54.40	40.32	-	-	5,355.38	40.93	-	-	5,354.77
GRW-10	5,395.02	66.02	35.69	-	-	5,359.33	36.26	-	-	5,358.76
GRW-11	5,397.85	64.00	32.73	-	-	5,365.12	33.86	-	-	5,363.99
GRW-12	5,397.24	48.00	34.68	-	-	5,362.56	35.33	-	-	5,361.91
GRW-13	5,396.90	61.30	32.81	-	-	5,364.09	33.43	-	-	5,363.47
GBR-5	5,395.07	47.08	39.50	-	-	5,355.57	40.26	-	-	5,354.81
GBR-7	5,395.85	51.65	38.86	-	-	5,356.99	41.94	41.71	0.23	5,353.91
GBR-8	5,390.50	50.90	41.62	-	-	5,348.88	42.19	-	-	5,348.31
GBR-9	5,389.92	67.22	41.58	-	-	5,348.34	42.13	-	-	5,347.79
GBR-10	5,390.57	47.56	41.81	-	-	5,348.76	42.26	-	-	5,348.31
GBR-11	5,389.43	51.87	40.72	-	-	5,348.71	42.28	-	-	5,347.15
GBR-13	5,393.04	45.47	40.39	-	-	5,352.65	40.96	-	-	5,352.08
GBR-15	5,397.99	58.42	33.71	-	-	5,364.28	34.17	-	-	5,363.82
GBR-17	5,402.69	43.20	34.00	-	-	5,368.69	34.70	-	-	5,367.99
GBR-18	5,421.68	47.85	36.81	-	-	5,384.87	37.16	-	-	5,384.52
GBR-19* **	5,393.83	46.23	-	-	-	-	-	-	-	-
GBR-20	5,393.47	54.57	40.59	-	-	5,352.88	41.46	-	-	5,352.01
GBR-21D	5,400.19	49.77	35.68	-	-	5,364.51	36.16	-	-	5,364.03
GBR-21S	5,400.65	49.77	Dry		-	-	DRY @ 34.89	-	-	-
GBR-22	5,395.91	38.73	35.51	-	-	5,360.40	37.63	37.60	0.03	5,358.28
GBR-23** **	-	39.45	-	-	-	-	37.33	-	-	-
GBR-24D	5,396.77	51.40	30.92	-	-	5,365.85	31.28	-	-	5,365.49
GBR-24S	5,396.08	37.05	30.25	-	-	5,365.83	30.58	-	-	5,365.50
GBR-25	5,397.03	37.12	34.29	-	-	5,362.74	34.82	-	-	5,362.21
GBR-26	5,396.72	41.29	31.84	-	-	5,364.88	32.39	-	-	5,364.33
GBR-30	5,395.59	41.66	32.31	-	-	5,363.28	32.95	-	-	5,362.64
GBR-31	5,396.58	43.50	32.27	-	-	5,364.31	DRY @ 33.35	-	-	-
GBR-32	5,414.86	47.83	33.95	-	-	5,380.91	34.58	-	-	5,380.28
GBR-33	5,396.28	45.72	Dry	-	-	-	34.44	-	-	-
GBR-34	5,394.00	42.20	33.88	-	-	5,360.12	35.62			5,358.38
GBR-35	5,393.66	42.35	34.01	-	-	5,359.65	34.57	-	-	5,359.09
GBR-39	5,397.55	41.42	33.29	-	-	5,364.26	33.77	-	-	5,363.78
GBR-40	5,400.76	39.38	Dry @ 34.90	-	-	-	DRY @ 34.93	-	-	-
GBR-41	5,396.35	34.28	34.31	34.28	-	-	34.37	34.25	0.12	5,361.98
GBR-48	5,413.90	43.54	35.62	-	-	5,378.28	32.25	-	-	5,381.65
GBR-49	*	40.30	32.06	-	-	-	32.71	-	-	-
GBR-50	*	44.37	31.26	-	-	-	31.94	-	-	-

TABLE 1
2018 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)	January 2018				October 2018			
			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)
GBR-51	5,389.68	57.07	-	-	-	-	39.92	-	-	5,349.76
GBR-52	5,387.74	52.73	-	-	-	-	37.59	-	-	5,350.15
SHS-1******	5,383.54	50.40	-	-	-	-	P&A	-	-	-
SHS-2	5,381.66	44.56	-	-	-	-	P&A	-	-	-
SHS-3**	5,383.33	-	-	-	-	-	P&A	-	-	-
SHS-4	5,383.62	52.16	-	-	-	-	P&A	-	-	-
SHS-5	5,378.36	47.85	-	-	-	-	P&A	-	-	-
SHS-6	5,378.17	52.78	37.85	-	-	5,340.32	38.31	-	-	5,339.86
SHS-8	5,380.25	50.92	38.25	-	-	5,342.00	38.74	-	-	5,341.51
SHS-9	5,380.79	46.25	37.43	-	-	5,343.36	DRY @ 37.89	-	-	-
SHS-10	5,373.80	45.80	Dry	-	-	-	DRY @ 35.43	-	-	-
SHS-12	5,373.94	52.41	Dry	-	-	-	DRY @ 38.92	-	-	-
SHS-13	5,367.81	47.51	35.85	-	-	5,331.96	36.55	-	-	5,331.26
SHS-14	5,367.07	52.71	34.18	-	-	5,332.89	35.02	-	-	5,332.05
SHS-15***	5,366.21	47.78	33.00	-	-	-	33.93	-	-	5,332.28
SHS-16	5,362.58	42.20	32.68	-	-	5,329.90	31.54	-	-	5,331.04
SHS-17	5,364.35	46.21	32.63	-	-	5,331.72	33.42	-	-	5,330.93
SHS-18	5,373.64	47.36	39.24	-	-	-	40.03	-	-	5,333.61
SHS-19	5,378.89	52.40	37.77	-	-	5,341.12	38.25	-	-	5,340.64

Notes:
BTOC - below top of casing
D - designates that the well screen is deep
GWEL - groundwater elevation
P&A - plugged and abandoned
PSH - phase-separated hydrocarbon
S - designates that the well screen is shallow
* Top-of-casing elevation is unknown
** Well is damaged by a tree root
*** Well was paved over in June 2010
**** Well hit by a vehicle May 2014
***** Well visibly broken/buried January 2016
****** Well buried and unable to locate May 2016
- indicates no GWEL or PSH measured
When PSH is detected, the GWEL is corrected using an estimated density correction factor of 0.88.

TABLE 2
2018 SHS WELL CLOSURE SAMPLING - GROUNDWATER LABORATORY ANALYTICAL RESULTS

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

Analyte	NMWQCC Standard	Unit	SHS-6	SHS-8	SHS-9	SHS-13	SHS-14	SHS-15	SHS-16	SHS-17	SHS-18	SHS-19
			23-Jan	23-Jan	23-Jan	22-Jan	22-Jan	23-Jan	22-Jan	22-Jan	23-Jan	23-Jan
USEPA Method 8015M/D - Diesel Range												
Diesel Range Organics (DRO)	NE	mg/L	<0.20	5.8	13	1.2	<1.0	<0.20	<1.0	<1.0	<0.20	0.32
Motor Oil Range Organics (MRO)	NE	mg/L	<2.5	<2.5	<2.5	<5.0	<5.0	<2.5	<5.0	<5.0	<2.5	<2.5
USEPA Method 8015D - Gasoline Range												
Gasoline Range Organics (GRO)	NE	mg/L	<0.05	<0.050	0.38	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
USEPA Method 8260B - Volatiles												
benzene	10	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
toluene	750	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
ethylbenzene	750	µg/L	<1.0	<1.0	32	<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	<2.5	<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	<2.5	<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	<2.5	<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	<2.5	<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	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
naphthalene	NE	µg/L	<2.0	<2.0	5.1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1-methylnaphthalene	NE	µg/L	<4.0	<4.0	12	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
2-methylnaphthalene	NE	µg/L	<4.0	<4.0	<10	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
acetone	NE	µg/L	<10	<10	<25	<10	<10	<10	<10	<10	<10	<10
bromobenzene	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromodichloromethane	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromoform	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
bromomethane	NE	µg/L	<3.0	<3.0	<7.5	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
2-butanone	NE	µg/L	<10	<10	<25	<10	<10	<10	<10	<10	<10	<10
carbon disulfide	NE	µg/L	<10	<10	<25	<10	<10	<10	<10	<10	<10	<10
carbon tetrachloride	10	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
chlorobenzene	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
chloroethane	NE	µg/L	<2.0	<2.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
chloroform	100	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
chloromethane	NE	µg/L	<3.0	<3.0	<7.5	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
2-chlorotoluene	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-chlorotoluene	NE	µg/L	<1.0	<1.0	<2.5	<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	<2.5	<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	<2.5	<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	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
dibromochloromethane	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
dibromomethane	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

TABLE 2
2018 SHS WELL CLOSURE SAMPLING - GROUNDWATER LABORATORY ANALYTICAL RESULTS

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

Analyte	NMWQCC Standard	Unit	SHS-6	SHS-8	SHS-9	SHS-13	SHS-14	SHS-15	SHS-16	SHS-17	SHS-18	SHS-19
			23-Jan	23-Jan	23-Jan	22-Jan	22-Jan	23-Jan	22-Jan	22-Jan	23-Jan	23-Jan
1,2-dichlorobenzene	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-dichlorobenzene	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-dichlorobenzene	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
dichlorodifluoromethane	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-dichloroethane	25	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-dichloroethene	5	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-dichloropropane	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-dichloropropane	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2,2-dichloropropane	NE	µg/L	<2.0	<2.0	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
1,1-dichloropropene	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
hexachlorobutadiene	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-hexanone	NE	µg/L	<10	<10	<25	<10	<10	<10	<10	<10	<10	<10
isopropylbenzene	NE	µg/L	<1.0	<1.0	6.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-isopropytoluene	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-methyl-2-pentanone	NE	µg/L	<10	<10	<25	<10	<10	<10	<10	<10	<10	<10
methylene chloride	100	µg/L	<3.0	<3.0	<7.5	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
n-butylbenzene	NE	µg/L	<3.0	<3.0	<7.5	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
n-propylbenzene	NE	µg/L	<1.0	<1.0	8.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
sec-butylbenzene	NE	µg/L	<1.0	<1.0	2.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
styrene	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-butylbenzene	NE	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5
1,1,1,2-tetrachloroethane	NE	µg/L	<1.0	<1.0	<2.5	<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	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
tetrachloroethene (PCE)	20	µg/L	<1.0	<1.0	<2.5	<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	<2.5	<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	<2.5	<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	<2.5	<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	<2.5	<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	<2.5	<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	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trichloroethene (TCE)	100	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trichlorofluoromethane	NE	µg/L	<1.0	<1.0	<2.5	<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	<5.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
vinyl chloride	1	µg/L	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
xylenes, total	620	µg/L	<1.5	<1.5	<3.8	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5

Notes:
mg/L - miligrams per liter
NE - not established
NMWQCC - New Mexico Water Quality Control Commission
USEPA - United States Environmental Protection Agency
µg/L - micrograms per liter

TABLE 3
SHS AREA PHASE-SEPARATED HYDROCARBON OCCURRENCE

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

Well Number	January 1991	April 1991	July 1991	October 1991	November 1991	December 1991	July 1992	October 1992	January 1993	April 1993	July 1993	October 1993	April 1994	July 1994	October 1994	December 1995	July 1996	January 1997	April 1997	July 1997	October 1997
	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)
SHS-1	0.13	0.15	0.02	0.08	0.12	0.10	ND	0.01	ND	0.02	0.20	0.13	0.01	0.15	0.12	0.14	0.18	0.12	ND	0.15	0.13
SHS-2	0.68	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.39	ND	ND	ND	ND
SHS-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-7	0.55	0.98	0.55	0.80	0.92	0.84	0.34	ND	ND	ND	ND	ND	ND	ND	ND	0.05	ND	ND	ND	ND	ND
SHS-8	0.02	ND	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.05	2.65
SHS-9	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07	0.06	ND	ND	ND
SHS-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-14	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.58	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-17	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-18	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	0.30	ND	ND	0.14	ND	0.05	ND
SHS-19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3
SHS AREA PHASE-SEPARATED HYDROCARBON OCCURRENCE

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

Well Number	January 2000	January 2001	April 2001	July 2001	October 2001	January 2002	April 2002	July 2002	October 2002	January 2003	April 2003	July 2003	October 2003	January 2004	April 2004	July 2004	October 2004	January 2004	April 2004	July 2004	October 2004
	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)
SHS-1	0.02	0.09	0.10	0.02	ND	0.08	ND	0.05	ND	0.05	ND	0.06	0.03	0.07	0.16	ND	ND	0.07	0.16	ND	ND
SHS-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-7	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SHS-8	1.51	1.54	1.61	1.52	ND	0.97	ND	1.02	ND	9.82	0.83	0.48	1.06	1.05	1.03	0.05	0.01	1.05	1.03	0.05	0.01
SHS-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-19	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3
SHS AREA PHASE-SEPARATED HYDROCARBON OCCURRENCE

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

Well Number	January 2005	April 2005	Obtober 2005	Four Quarters 2006	Four Quarters 2007	Four Quarters 2008	Four Quarters 2009	Four Quarters 2010	Four Quarters 2011	January 2012	April 2012	July 2012	October 2012	January 2013	April 2013	July 2013	October 2013	January 2014	April 2014	July 2014	October 2014
	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)
SHS-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	ND	0.01	ND	ND	ND	ND	ND	ND
SHS-3	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SHS-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SHS-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND	ND	ND	ND	ND	ND	ND
SHS-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	ND	ND	ND	ND	ND	ND
SHS-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
SHS-13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
SHS-14	ND	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 3
SHS AREA PHASE-SEPARATED HYDROCARBON OCCURRENCE

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

Well Number	January 2015	April 2015	July 2015	October 2015	January 2016	April 2016	July 2016	October 2016	January 2017	April 2017	July 2017	October 2017	January 2018	October 2018
	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)	PSH (feet)
SHS-1	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	NA	NA	NA	NA
SHS-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
SHS-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SHS-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
SHS-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
SHS-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SHS-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-10	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SHS-12	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA
SHS-13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-15	ND	ND	ND	ND	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND
SHS-16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SHS-19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

SHS-7 was replaced with SHS-19 in 2001

SHS-1 through SHS-5 were abandoned in JUNE 2017

NA: Not Available - well not installed, abandoned, damaged, buried or otherwise inaccessible

ND: Not detected

Where quarterly events did not detect PSH, the quarterly results are summarized for that year

PSH: Phase Separated Hydrocarbon thickness measured in well

TABLE 4
GROUNDWATER LABORATORY ANALYTICAL RESULTS FOR SHS-8 (2010-2017)

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

Analyte	NMWQCC Standard	Unit	01/01/10	01/01/11	01/01/12	01/01/13	11/01/14	08/03/15	01/13/17	12/08/17
Volatiles										
benzene	10	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
toluene	750	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
ethylbenzene	750	µg/L	<1.0	**1.4**	<1.0	<10	**2.8**	**14**	**1.1**	<1.0
methyl tert-butyl ether (MTBE)	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,2,4-trimethylbenzene	620	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,3,5-trimethylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,2-dichloroethane (EDC)	10	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	.<1.0
1,2-dibromoethane (EDB)	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
naphthalene	NE	µg/L	<2.0	<2.0	<2.0	<20	<4.0	**5.6**	<2.0	<2.0
1-methylnaphthalene	NE	µg/L	<4.0	<4.0	<4.0	<40	<8.0	**24**	<4.0	<4.0
2-methylnaphthalene	NE	µg/L	<4.0	<4.0	<4.0	<40	<8.0	**8.5**	<4.0	<4.0
acetone	NE	µg/L	<10	<10	**11**	<100	<20	<10	<10	<10
bromobenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
bromodichloromethane	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
bromoform	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
bromomethane	NE	µg/L	<1.0	<3.0	<3.0	<30	<6.0	<3.0	<3.0	<3.0
2-butanone	NE	µg/L	<10	<10	<10	<100	<20	<10	<10	<10
carbon disulfide	NE	µg/L	<10	<10	<10	<100	<20	<10	<10	<10
carbon tetrachloride	10	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
chlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
chloroethane	NE	µg/L	<2.0	<2.0	<2.0	<20	<4.0	<2.0	<2.0	<2.0
chloroform	100	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
Chloromethane	NE	µg/L	NT	<3.0	<3.0	<30	<6.0	<3.0	<3.0	<3.0
2-chlorotoluene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
4-chlorotoluene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
cis-1,2-DCE	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
cis-1,3-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,2-dibromo-3-chloropropane	NE	µg/L	<2.0	<2.0	<2.0	<20	<4.0	<2.0	<2.0	<2.0
dibromochloromethane	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
dibromomethane	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,2-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,3-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,4-dichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
dichlorodifluoromethane	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,1-dichloroethane	25	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,1-dichloroethene	5	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,2-dichloropropane	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,3-dichloropropane	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
2,2-dichloropropane	NE	µg/L	<2.0	<2.0	<2.0	<20	<4.0	<2.0	<2.0	<2.0

GROUNDWATER LABORATORY ANALYTICAL RESULTS FOR SHS-8 (2010-2017)

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

Analyte	NMWQCC Standard	Unit	01/01/10	01/01/11	01/01/12	01/01/13	11/01/14	08/03/15	01/13/17	12/08/17
1,1-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
hexachlorobutadene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
2-hexanone	NE	µg/L	<10	<10	<10	<100	<20	<10	<10	<1.0
isopropylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	**9.6**	<1.0	<1.0
4-isopropytoluene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
4-methyl-2-pentanone	NE	µg/L	<10	<10	<10	<100	<20	<10	<10	<10
methylene chloride	100	µg/L	<3.0	<3.0	<3.0	<30	<6.0	<3.0	<3.0	<3.0
n-butylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<30	<6.0	<3.0	<3.0	<3.0
n-propylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	**9.0**	<1.0	<1.0
sec-butylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	**3.6**	<1.0	<1.0
styrene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
tert-butylbenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	**1.1**	<1.0	<1.0
1,1,1,2-tetrachloroethane	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,1,2,2-tetrachloroethane	10	µg/L	<2.0	<2.0	<2.0	<20	<4.0	<2.0	<2.0	<2.0
tetrachloroethene (PCE)	20	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
trans-1,2-DCE	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
trans-1,3-dichloropropene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,2,3-trichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,2,4-trichlorobenzene	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,1,1-trichloroethane	60	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,1,2-trichloroethane	10	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
trichloroethene (TCE)	100	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
trichlorofluoromethane	NE	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
1,2,3-trichloropropane	NE	µg/L	<2.0	<2.0	<2.0	<20	<4.0	<2.0	<2.0	<2.0
vinyl chloride	1	µg/L	<1.0	<1.0	<1.0	<10	<2.0	<1.0	<1.0	<1.0
xylenes, total	620	µg/L	<1.5	<1.5	<1.5	<15	<3.0	<1.5	<1.5	<1.5
Anions										
Bromide	NE	mg/L	NT	NT	<0.10	<0.50	**0.71**	0.89	**0.94**	**0.78**
Chloride	250	mg/L	NT	**150**	**170**	**120**	**110**	**120**	**100**	**110**
Sulfate	600	mg/L	NT	**150**	**430**	**770**	**350**	**47**	**720**	**1,200**
Fluoride	1.6	mg/L	NT	NT	**1.9**	**1.3**	**1.5**	1.1	**0.76**	**0.37**
nitrate + nitrite as N	NE	mg/L	NT	NT	<1.0	<0.50	<0.50	0.5	<1.0	<1.0
Phosphate, Orthophosphate (As P)	NE	mg/L	NT	NT	**0.823**	<2.5	<2.5	<2.5	<0.50	<10 H
Metals										
Barium	NE	mg/L	NT	NT	NT	**2.2**	NT	NT	NT	NT
Beryllium	NE	mg/L	NT	<0.0020	NT	**0.0067**	NT	NT	NT	NT
Cadmium	0.01	mg/L	NT	<0.0020	NT	<0.0020	NT	NT	NT	NT
Calcium	NE	mg/L	NT	**110**	**150**	**190**	**210**	73	**260**	**320**
Chromium	0.05	mg/L	NT	**0.0063**	NT	**0.099**	NT	NT	NT	NT
Copper	1.0	mg/L	NT	**0.023**	NT	**0.36**	NT	NT	NT	NT
Iron	1.0	mg/L	NT	NT	**15**	**100**	**260**	**8.6**	**66**	**10**
Lead	0.05	mg/L	NT	**0.026**	NT	**0.19**	NT	NT	NT	NT
Magnesium	NE	mg/L	NT	**15**	**19**	**36**	**42**	11	**35**	**49**
Manganese	0.2	mg/L	NT	NT	**2.3**	**4.7**	**5.0**	**0.41**	**3.0**	**3.6**
Nickel	0.2	mg/L	NT	**0.052**	NT	**0.13**	NT	NT	NT	NT
Potassium	NE	mg/L	NT	**2.8**	**3.5**	**12**	**14**	**1.4**	**7.4**	**2.1**
Silver	0.05	mg/L	NT	<0.0050	NT	<0.0050	NT	NT	NT	NT

GROUNDWATER LABORATORY ANALYTICAL RESULTS FOR SHS-8 (2010-2017)

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

Analyte	NMWQCC Standard	Unit	01/01/10	01/01/11	01/01/12	01/01/13	11/01/14	08/03/15	01/13/17	12/08/17
Sodium	NE	mg/L	NT	<480	**590**	**470**	**430**	410	**520**	**520**
Zinc	10	mg/L	NT	**0.033**	NT	**0.36**	NT	NT	NT	NT
Antimony	NE	mg/L	NT	<0.0025	NT	<0.0025	NT	NT	NT	NT
Arsenic	0.1	mg/L	NT	**0.0075**	NT	**0.025**	NT	NT	NT	NT
Selenium	0.05	mg/L	NT	**0.0090**	NT	**0.0029**	NT	NT	NT	NT
Thallium	NE	mg/L	NT	<0.0025	NT	<0.0025	NT	NT	NT	NT
Mercury	0.002	mg/L	NT	<0.00020	NT	<0.00020	NT	NT	NT	NT
Hardness										
Hardness (as CaCO3)	NE	mg/L	NT	**320**	**460**	**630**	**700**	**230**	**800**	**1000**
Alkalinity										
Alkalinity, Total (As CaCO3)	NE	mg/L CaCO3	NT	**980**	**1,100**	**710**	**760**	**939.6**	**984.3**	**751.8**
Carbonate	NE	mg/L CaCO4	NT	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bicarbonate	NE	mg/L CaCO5	NT	**980**	**1,100**	**710**	**760**	939.6	**984.3**	**751.8**
Specific Conductance										
Specific Conductance	NE	µmhos/cm	NT	**2,300**	**2,900**	**2,600**	**1,900**	**2100**	**3,000**	**3500**
PH										
pH	6-9	pH units	NT	**7.42**	**7.22**	**7.05**	**7.12**	7.21	**7.62**	**7.22**
Total Dissolved Solids										
Total Dissolved Soilds	1,000	mg/L	NT	**1,440**	**2,040**	**1,800**	**1,400**	**1300**	**2210**	**2730**

Notes:

RED HIGHLIGHT indicates concentration exceeds the NMWQCC standard, **Bold** indicates detected

µg/L - micrograms per liter

µmhos/cm -micromhos per centimeter

mg/L - milligrams per liter

ND - non detect

NE - not established

NMWQCC - New Mexico Water Quality Control Commission

NT - not tested

USEPA - United States Environmental Protection Agency

REFERENCES

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McQuillan, D. and Longmire, P. Water Quality Investigations at the Lee Acres Landfill and Vicinity, San Juan County, New Mexico, Environmental Division, Ground water/Hazardous Waste Bureau, Santa Fe, NM, February 1986.

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Lodestar Services, Inc., Annual Data Report Former Giant Bloomfield Refinery, March 2009.

RPS JDC Consulting, Review of Groundwater Remediation System, Old Giant Bloomfield Refinery, Bloomfield, New Mexico, June 2009.

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(1990 through 2016) Annual Report(s) Former Giant Bloomfield Refinery, Bloomfield, New Mexico, Discharge Permit GW-040, published annually.

New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John H. Bemis
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division

JANUARY 11, 2012

CERTIFIED MAIL
RETURN RECEIPT NO: 0919 5877

Mr. Ron Copple
General Manager Pipelines
Western Refining Southwest, Inc.
111 County Road 4990
Bloomfield, New Mexico 87413

RE: OCD'S RESPONSE TO COMMENTS OF SEPTEMBER 28, 2011 OCD'S DRAFT APPROVAL FOR DISCHARGE PLAN RENEWAL DISCHARGE PERMIT GW-040 WESTERN REFINING SOUTHWEST'S FORMER BLOOMFIELD REFINERY, LOCATED IN THE NW/4 OF SECTION 27 AND THE SW/4 OF SECTION 22, TOWNSHIP 29 NORTH, RANGE 12 WEST, NMPM, SAN JUAN COUNTY, NEW MEXICO AND OCD APPROVAL OF DISCHARGE PERMIT RENEWAL:

Dear Mr. Copple:

On August 15, 2011, the Oil Conservation Division (OCD) proposed to approve the renewal of Western Refining Southwest's (Owner/Operator) discharge permit for the above referenced facility, pursuant to the Water Quality Control Commission (WQCC) Regulations 20.6.2.3104 - 20.6.2.3114 NMAC. Western provided a red-line/strike-out version of its draft permit on September 21, 2011, but generally did not provide any justification for the proposed changes. OCD has reviewed Western's comments and prepared this response to Western's comments.

Western's Comment 1: *The following clarifications were incorporated into the attached red-line version of the Draft Discharge Permit:*

- *The "Facility" is the groundwater monitoring, recovery and remediation systems.*
- *The use of "contaminated" and "polluted" describing ground water may not be accurate. The recovered water may not be above cleanup standards. Western proposes using "contaminant" as used in the regulations.*
- *Western proposes to streamline changes in monitoring, recovery, and/or remediation without permit modifications.*
- *Western submitted a $100 fee with the permit application.*

- *Western proposes to change reporting to the calendar year.*

Western's Proposed Change 1: *The "Facility" is the groundwater monitoring, recovery and remediation systems.*

OCD's Response to Western's Proposed Changes 1: OCD has not made the proposed changes because "Facility" is defined in the WQCC regulations (see 20.6.2.1203C(2) NMAC) as follows:

> *"facility" means any structure, installation, operation, storage tank, transmission line, motor vehicle, rolling stock, or activity of any kind, whether stationary or mobile;*

Western's Proposed Change 2: *Western proposes to streamline changes in monitoring, recovery, and/or remediation without permit modifications. Western proposed to add a new Section 2.A.3 as follows:*

> *"3. Proposed changes to the monitoring activities and/or the groundwater remediation system will be submitted to OCD for approval prior to implementation. Such requests for approval may be included in the Annual Report. Approvals will be made without modification to the permit."*

OCD's Response to Western's Proposed Change 2: OCD did not make the proposed changes because Permit Section 2.A addresses this issue by stating *"The Owner/Operator shall comply with its approved monitoring and abatement programs...."* This requirement allows OCD the opportunity to revise Western's approved programs after reviewing and approving reports and workplans without requiring a discharge permit modification. Western's proposed new Permit Section 2.A.3 would allow changes to be made automatically without OCD requiring a permit modification. OCD did not make the requested changes because it is inappropriate to pre-judge how significant a change might be proposed by the Owner/Operator. Owner/Operator's may propose a modification to any part of its discharge permit at any time. OCD will then review and determine whether the proposed modification is minor or major.

After further review, OCD made another change to this section by correcting a citation in Permit Section 2.A as follows:

> ***A. GROUND WATER ABATEMENT PROGRAM:*** *The Owner/Operator shall comply with its approved monitoring and abatement programs pursuant 20.6.2.4105A(6) NMAC.*

Western's Proposed Change 3: *The use of "contaminated" and "polluted" describing ground water may not be accurate. The recovered water may not be above cleanup standards. Western proposes using "contaminant" as used in the regulations.*

OCD's Response to Western's Proposed Change 3: Western proposed changes to Permit Conditions, 2.F1, 2.F2, and 2.F3. OCD has not made all of the proposed changes because the language of the permit closely mirrors the WQCC regulations. Please note that "contamination" occurs whenever a release impacts ground water and causes an exceedance that is greater than the "background" concentration, not just when the impact exceeds WQCC standards. The term

"water contaminants" is used when referring to releases that have impacted the vadose zone. WQCC regulations use the terms *"abate"* and *"pollution"* when referring to sub-surface water, ground water, and surface water.

Permit Condition 2.F1 is based on language in 20.6.2.4101A(1) NMAC: *"Abate pollution of subsurface water so that all ...."*

Permit Condition 2.F2 is based on language in 20.6.2.4103B NMAC: *"Ground-water pollution...."* OCD changed Permit Condition 2.F2 to *"shall abate ground water pollution"*

Permit Condition 2.F3 is based on language in 20.6.2.4103B NMAC: *"Ground-water pollution...."* OCD changed Permit Condition 2.F3 to *"The Owner/Operator shall implement its approved ground water abatement program until it has abated the contaminated ground water to meet the standards and requirements set forth in 20.6.2.4103 NMAC."*

Western's Comment 2: Western submitted a $100 fee with the permit application.

OCD's Response to Western's Comment 2: OCD has determined that Western did pay the $100.00 filing fee and has changed the permit accordingly. The final discharge permit specifies a "$2,600.00" fee rather than $2,700.00.

Western's Comment 3: Western proposes to change reporting to the calendar year.

OCD's Response to Western's Comment 3: OCD agrees and has changed the permit as proposed.

Western's Comment 4: *Western noted a typo: ground waste vs. ground water.*

OCD's Response to Western's Comment 4: OCD corrected the typo.

Western's Comment 5: Western proposes to add the phrase "if applicable" to the section specifying the Annual Report requirements.

OCD's Response to Western's Comment 5: OCD agrees and has changed the permit as requested.

OTHER CHANGES: OCD made other changes to Western's permit as a result of comments made by other operators on similar permits. These changes are as follows:

OCD Change 1: OCD revised Section 2 by correcting several incorrect subsections.

OCD Change 2: OCD revised Permit Condition 2.H (formerly 2.I) by removing GRO/DRO and TPH.

OCD Change 3: After review, OCD has changed the expiration date to December 9, 2013.

OCD Change 4: OCD has corrected the Permit Condition section numbers that Western noted.

OCD APPROVAL OF DISCHARGE PERMIT RENEWAL: Pursuant to Water Quality Control Commission (WQCC) Regulations 20.6.2.3104 - 20.6.2.3114 NMAC, the Oil Conservation Division (OCD) hereby approves the discharge permit for Western (Owner/Operator) for the above referenced facility, as revised in response to Western's and others comments. Attached are two copies of the discharge permit. Please sign and return one copy to Oil Conservation Division's Santa Fe Office within 45 days of receipt of this letter including permit fees.

Please be advised that approval of this discharge permit does not relieve Western of responsibility if operations result in pollution of surface water, ground water, or the environment. Nor does approval of the discharge permit relieve Western of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If you have any questions, please contact Leonard Lowe of my staff at (505-476-3492) or E-mail leonard.lowe@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Jami Bailey
Director

JB/gvg

cc: Daniel Sanchez, OCD
Gabrielle Gerholt, OCD

DISCHARGE PERMIT GW-040

1. GENERAL PROVISIONS:

A. PERMITTEE AND PERMITTED FACILITY: The Oil Conservation Division (OCD) of the Energy, Minerals and Natural Resources Department issues Discharge Permit GW-040 (Discharge Permit) to Western Refining Southwest, Inc. located at 111 County Road 4990, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Former Bloomfield Refinery, located in the NW/4 of Section 27 and the SW/4 of Section 22, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico, located approximately five miles west of Bloomfield, New Mexico.

During 2010, the Owner/Operator processed approximately 1,120,000 gallons of contaminated ground water in a ground water remediation system. Groundwater most likely to be affected by a spill, leak, or accidental discharge is at a depth of approximately 5 to 10 feet, with a total dissolved solids concentration of approximately 1,700 to 3,100 mg/l. The discharge plan addresses how contaminated ground water will be remediated and disposed of.

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 gas processing plants 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 that Act protect ground water 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 so that it may move directly or indirectly into ground water unless such discharge is pursuant to an approved discharge plan. See 20.6.2.3104 NMAC and 20.6.2.3106 NMAC.

This Discharge Permit does not authorize any treatment of, or on-site disposal of, any materials, product, by-product, or oil field waste, including, but not limited to, the on-site disposal of lube oil, glycol, antifreeze, filters, elemental sulfur, washdown water, contaminated soil, and cooling tower blowdown water.

This Discharge 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 Owner/Operator shall operate in accordance with the Discharge Permit conditions to comply with the Water Quality Act and the rules issued pursuant to that Act, so that neither a hazard to public health nor undue risk to property will result (see 20.6.2.3109C NMAC); so that no discharge will cause or may cause any stream standard to be violated (see 20.6.2.3109H(2) NMAC); so that no discharge of any water contaminant will result in a hazard to public health,

(see 20.6.2.3109H(3) NMAC); and so that the numerical standards specified of 20.6.2.3103 NMAC are not exceeded.

The Owner/Operator shall not allow or cause water pollution, discharge, or release of any water contaminant that exceeds the Water Quality Control Commission (WQCC) standards specified at 20.6.2.3101 NMAC and 20.6.2.3103 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams).

C. DISCHARGE PERMIT CONDITIONS: By signing this Discharge Permit, the Owner/Operator agrees to the specific provisions set out in this document, and the commitments made in the approved Discharge Plan Application and the attachments to that application, which are incorporated into the Discharge Permit by reference.

If this Discharge Permit is a permit renewal, it replaces the permit being renewed. Replacement of a prior permit does not relieve the Owner/Operator of its responsibility to comply with the terms of that prior permit while that permit was in effect.

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

E. FILING FEES AND PERMIT FEES: Pursuant to 20.6.2.3114 NMAC, every facility that submits a discharge permit application for initial approval or renewal shall pay the permit fees specified in Table 1 and the filing fee specified in Table 2 of 20.6.2.3114 NMAC. OCD has already received the required $100.00 filing fee for this application. The flat fee for "Abatement of Ground Water and Vadose Zone Contamination at Oil and Gas Sites" is $2,600.00. The Owner/Operator shall submit this amount along with the signed Discharge Permit. Checks should be payable to the **"New Mexico Water Quality Management Fund,"** not the Oil Conservation Division.

F. EFFECTIVE DATE, EXPIRATION, RENEWAL CONDITIONS, AND PENALTIES FOR OPERATING WITHOUT A DISCHARGE PERMIT: This Discharge Permit is effective when the Division's Environmental Bureau receives the signed Discharge Permit from the Owner/Operator and the $2,600.00 fee. This Discharge Permit will expire on December 9, 2013. The Owner/Operator shall submit an application for renewal no later than 120 calendar days before that expiration date, pursuant to 20.6.2.3106F NMAC. If an Owner/Operator submits a renewal application at least 120 calendar days before the Discharge Permit expires and is in compliance with the approved Discharge Permit, then the existing Discharge Permit will not expire until OCD has approved or disapproved the renewal application. Operating with an expired Discharge Permit may subject the Owner/Operator to civil and/or criminal penalties. See Section 74-6-10.1 NMSA 1978 and Section 74-6-10.2 NMSA 1978.

G. MODIFICATIONS: The Owner/Operator shall notify the Division's Environmental Bureau of any facility expansion, production increase, or process modification that would result

in any significant modification in the discharge of water contaminants. See 20.6.2.3107C NMAC. The Division's Environmental Bureau may require the Owner/Operator 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.

H. TRANSFER OF DISCHARGE PERMIT: Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of the Facility, the transferor shall notify the transferee in writing of the existence of the Discharge Permit, and shall deliver or send by certified mail to the Division's Environmental Bureau a copy of such written 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 of the provisions and requirements contained in the Discharge Permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the Division's file or files concerning the Discharge Permit. Upon assuming either ownership or possession of the Facility the transferee shall have the same rights and responsibilities under the Discharge Permit as were applicable to the transferor. See 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. See 20.6.2.3111E NMAC.

I. CLOSURE PLAN AND FINANCIAL ASSURANCE: The Owner/Operator shall notify the Division's Environmental Bureau in writing when any operations of its Facility are to be discontinued for a period in excess of six months. Upon review of the Owner/Operator's notice, the Division's Environmental Bureau will determine whether to modify this permit, pursuant to 20.6.2.3107 NMAC and 20.6.2.3109E NMAC, to require the Owner/Operator to submit a closure plan and/or post-closure plan, including financial assurance.

J. COMPLIANCE AND ENFORCEMENT: If the Owner/Operator violates or is violating a condition of this Discharge Permit, the Division's Environmental Bureau may issue a compliance order requiring compliance immediately or within a specified time period, suspending or terminating this Discharge Permit, and/or assessing a civil penalty. See Section 74-6-10 NMSA 1978. The Division's Environmental Bureau may also commence a civil action in district court for appropriate relief, including injunctive relief. See Section 74-6-10(A)(2) NMSA 1978 and Section 74-6-11 NMSA 1978. The Owner/Operator may be subject to criminal penalties for discharging a water contaminant without a discharge permit or in violation of a condition of a discharge 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. See Section 74-6-10.2 NMSA 1978.

2. GENERAL FACILITY OPERATIONS:

A. GROUND WATER ABATEMENT PROGRAM: The Owner/Operator shall comply with its approved monitoring and abatement programs pursuant 20.6.2.3107 NMAC.

1. Ground Water Monitoring System: The Owner/Operator shall monitor and sample all ground waste monitor wells in accordance in accordance with its proposal included in its Annual Report dated April 14, 2011.

2. Ground Water Recovery and Remediation System: The Owner/Operator shall operate its ground water recovery and remediation system consisting of groundwater recovery wells, a carbon filtration unit, and a treated water infiltration trench in accordance with its proposal included in its Annual Report dated April 14, 2011.

B. CONTINGENCY PLANS: The Owner/Operator shall implement its approved Contingency Plans to cope with failure of the discharge permit or system in accordance with Permit Condition 2.F.

C. CLOSURE PLAN: After completing abatement of all ground water and vadose contamination required under Permit Condition 2.G, the Owner/Operator shall perform the following closure measures:

1. Remove or plug all lines leading to and from ground water recovery or injection wells so that a discharge can no longer occur.

2. Remove all abatement system components from the site, if applicable.

3. After receiving notification from the Division's Environmental Bureau that post-closure monitoring may cease, the Owner/Operator shall plug and abandon its monitor well(s).

D. RECORD KEEPING: The Owner/Operator shall maintain records of all inspections required by this Discharge Permit at its local office located at 111 County Road 4990, Bloomfield, NM 87413 for a minimum of five years and shall make those records available for inspection by the Division's Environmental Bureau.

E. RELEASE REPORTING: The Owner/Operator shall comply with the following permit conditions, pursuant to 20.6.2.1203 NMAC, 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 Owner/Operator shall report unauthorized releases of water contaminants in accordance with any additional commitments made in its approved Contingency Plan. If the Owner/Operator determines that any constituent exceeds the standards specified at 20.6.2.3103 NMAC, then it shall report a release to the Division's Environmental Bureau.

1. **Oral Notification:** As soon as possible after learning of such a discharge, but in no event more than twenty-four (24) hours thereafter, the Owner/Operator shall orally notify the Division's Environmental Bureau. The Owner/Operator 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 Owner/Operator of the facility;
- the name and location of the facility;
- the date, time, location, and duration of the discharge;
- the source and cause of discharge;
- a description of the discharge, including its chemical composition;
- the estimated volume of the discharge; and,
- any actions taken to mitigate immediate damage from the discharge.

2. **Written Notification:** Within one week after the Owner/Operator has learned of the discharge, the Owner/Operator shall send written notification to the Division's Environmental Bureau 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.

F. ABATEMENT PLAN: Pursuant to 20.6.2.4105A(6) NMAC, an Owner/Operator is exempt from the requirement to obtain and implement an Abatement Plan, as required in 20.6.2.4104 NMAC. However, an Owner/Operator's Discharge Permit must address abatement of contaminated ground water and be consistent with the requirements and provisions of Sections 20.6.2.4101, 20.6.2.4103, Subsections C and E of Section 20.6.2.4106, Sections 20.6.2.4107 and 20.6.2.4112 NMAC.

1. **Purpose of Abatement Plan:** The Owner/Operator shall abate polluted ground water so as to either remediate or protect the ground water for use as domestic and agricultural water supply.

2. **Abatement Standards and Requirements:** The Owner/Operator shall abate the vadose zone so that water contaminants in the vadose zone shall not contaminate ground water or surface water, through leaching, percolation or as the water table elevation fluctuates. The Owner/Operator, where the Total Dissolved Solids concentration is 10,000 mg/L or less, shall abate contaminated ground water so that toxic pollutant(s), as defined in 20.6.2.7WW NMAC, shall not be present and so that the standards of 20.6.2.3103 NMAC shall be met.

3. **Ground Water Abatement:** The Owner/Operator shall implement its approved ground water abatement program until it has abated the contaminated ground water to meet the standards and requirements set forth in 20.6.2.4103 **NMAC**

4. **Completion and Termination:** Pursuant to 20.6.2.4112 NMAC, abatement shall be considered complete when the standards and requirements specified in 20.6.2.4103 NMAC are met. At that time, the Owner/Operator shall submit an abatement completion report, documenting compliance with the standards and requirements set forth in 20.6.2.4103 NMAC and this Discharge Permit, to Division's Environmental Bureau for approval. The abatement

completion report also shall propose any changes to long term monitoring and site maintenance activities, if needed, to be performed after termination of the abatement plan.

G. OTHER REQUIREMENTS:

1. Inspection and Entry: Pursuant to 20.6.2.4107A NMAC, the Owner/Operator shall allow the Division's Environmental Bureau, upon the presentation of proper credentials, to:

- enter the facility at reasonable times;
- inspect and copy records required by this discharge permit;
- inspect any treatment works, monitoring, and analytical equipment;
- sample any wastes, ground water, surface water, stream sediment, plants, animals, or vadose-zone material including vadose-zone vapor;
- use the Owner/Operator's monitoring systems and wells in order to collect samples; and
- Gain access to off-site property not owned or controlled by the Owner/Operator, but accessible to the Owner/Operator through a third-party access agreement, provided that it is allowed by the agreement.

2. Advance Notice: Pursuant to 20.6.2.4107B NMAC, The Owner/Operator shall provide the Division's Environmental Bureau with at least four (4) working days advance notice of any sampling to be performed pursuant to this Discharge Permit, or any well plugging, abandonment or destruction at the facility site.

3. Plugging and Abandonment: Pursuant to 20.6.2.4107C NMAC, the Owner/Operator shall request by certified mail, approval by the Division's Environmental Bureau to plug and abandon a monitor well, unless such approval is required from the State Engineer. 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 the Division's Environmental Bureau, unless written approval or disapproval is not received by the Owner/Operator within thirty (30) days of the date of receipt of the proposal.

H. ANNUAL REPORT: The Owner/Operator shall submit its annual report for each calendar year pursuant to 20.6.2.3107 NMAC to the Division's Environmental Bureau by March 15th of the following year. The annual report shall include the following:

1. Results of its ground water monitoring and abatement program; including:

- Summary tables listing laboratory analytic results of all ground water and soil samples. Any WQCC constituent found to exceed the groundwater standard shall be highlighted and noted in the annual report. Copies of the most recent year's laboratory analytical data sheets shall also be submitted.
- Quarterly water table potentiometric maps. A corrected water table elevation shall be determined for all wells containing non-aqueous phase liquids. These

maps shall show well locations, pertinent site features, and the direction and magnitude of the hydraulic gradient.

- Semi-annual isopleth maps for non-aqueous phase liquids, if applicable.
- Semi-annual geologic cross-sections (both dip and strike), using the geologic/lithologic logs from the monitor, recovery, and injection wells, depicting the concentrations of the non-aqueous phase liquids, if applicable.
- Estimate or measure of the volume of contaminated ground water discharged during each quarter and the total volume discharged to date.

2. Summary of any releases and corrective actions taken in accordance with its approved Contingency Plan.

3. CLASS V WELLS: Pursuant to 20.6.2.5002B NMAC, leach fields and other wastewater disposal systems at Division-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are UIC Class V injection wells. This Discharge Permit does not authorize the use of a Class V injection well for the disposal of industrial waste at the Facility. Pursuant to 20.6.2.5005 NMAC, the Owner/Operator shall close any 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 remediated ground water within 90 calendar days of the issuance of this Discharge Permit. The Owner/Operator shall document the closure of any Class V wells used for the disposal of non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes other than contaminated ground water in its Annual Report.

Other Class V wells, including wells used only for the injection of domestic wastes, must be permitted by the New Mexico Environment Department.

4. SCHEDULE OF COMPLIANCE:

A. PERMIT CERTIFICATION: The Owner/Operator shall sign and return this Permit to the Division's Environmental Bureau within 45 days of its receipt of this Permit.

B. SUBMISSION OF THE PERMIT FEES: As specified in Permit Condition 1.F, the Owner/Operator shall submit the fee of $2,600.00 along with the signed Discharge Permit within 45 days of the receipt of the Discharge Permit. Checks should be payable to the **"New Mexico Water Quality Management Fund,"** not the Oil Conservation Division.

C. ANNUAL REPORT: As specified in Permit Condition 2.H, the Owner/Operator shall submit its annual report to the Division's Environmental Bureau by March 15th of the following year.

5. CERTIFICATION: (OWNER/OPERATOR) by the officer whose signature appears below, acknowledges receipt of this Discharge Permit, and has reviewed its terms and conditions.

Western Refining Southwest, Inc. - Former Bloomfield Refinery
Company Name - print name

Ronald C. Coppler
Company Representative - print name

Company Representative - Signature

Title: General Manager

Date: 2/23/12

TITLE 20 ENVIRONMENTAL PROTECTION
CHAPTER 6 WATER QUALITY
PART 2 GROUND AND SURFACE WATER PROTECTION

20.6.2.1 ISSUING AGENCY: Water Quality Control Commission
[12-1-95; 20.6.2.1 NMAC - Rn, 20 NMAC 6.2.I.1000, 1-15-01]

20.6.2.2 SCOPE: All persons subject to the Water Quality Act, NMSA 1978, Sections 74-6-1 et seq.
[12-1-95; 20.6.2.2 NMAC - Rn, 20 NMAC 6.2.I.1001, 1-15-01]

20.6.2.3 STATUTORY AUTHORITY: Standards and Regulations are adopted by the commission under the authority of the Water Quality Act, NMSA 1978, Sections 74-6-1 through 74-6-17.
[2-18-77, 9-20-82, 12-1-95; 20.6.2.3 NMAC - Rn, 20 NMAC 6.2.I.1002, 1-15-01]

20.6.2.4 DURATION: Permanent.
[12-1-95; 20.6.2.4 NMAC - Rn, 20 NMAC 6.2.I.1003, 1-15-01]

20.6.2.5 EFFECTIVE DATE: December 1, 1995 unless a later date is cited at the end of a section.
[12-1-95, 11-15-96; 20.6.2.5 NMAC - Rn, 20 NMAC 6.2.I.1004, 1-15-01; A, 1-15-01]

20.6.2.6 OBJECTIVE: The objective of this Part is to implement the Water Quality Act, NMSA 1978, Sections 74-6-1 et seq.
[12-1-95; 20.6.2.6 NMAC - Rn, 20 NMAC 6.2.I.1005, 1-15-01]

20.6.2.7 DEFINITIONS: The following terms, as used in this part shall have the following meanings; terms defined in the Water Quality Act, but not defined in this part, will have the meaning given in the act.

A. Definitions that begin with the letter "A."

(1) "abandoned well" means a well whose use has been permanently discontinued or which is in a state of disrepair such that it cannot be rehabilitated for its intended purpose or other purposes including monitoring and observation;

(2) "abate" or "abatement" means the investigation, containment, removal or other mitigation of water pollution;

(3) "abatement plan" means a description of any operational, monitoring, contingency and closure requirements and conditions for the prevention, investigation and abatement of water pollution, and includes Stage 1, Stage 2, or Stage 1 and 2 of the abatement plan, as approved by the secretary;

(4) "adjacent properties" means properties that are contiguous to the discharge site or property that would be contiguous to the discharge site but for being separated by a public or private right of way, including roads and highways.

B. Definitions that begin with the letter "B."

(1) "background" means, for purposes of ground water abatement plans only and for no other purposes in this part or any other regulations including but not limited to surface water standards, the amount of ground water contaminants naturally occurring from undisturbed geologic sources or water contaminants which the responsible person establishes are occurring from a source other than the responsible person's facility; this definition shall not prevent the secretary from requiring abatement of commingled plumes of pollution, shall not prevent responsible persons from seeking contribution or other legal or equitable relief from other persons, and shall not preclude the secretary from exercising enforcement authority under any applicable statute, regulation or common law;

C. Definitions that begin with the letter "C."

(1) "casing" means pipe or tubing of appropriate material, diameter and weight used to support the sides of a well hole and thus prevent the walls from caving, to prevent loss of drilling mud into porous ground, or to prevent fluid from entering or leaving the well other than to or from the injection zone;

(2) "cementing" means the operation whereby a cementing slurry is pumped into a drilled hole and/or forced behind the casing;

(3) "cesspool" means a **"drywell"** that receives untreated domestic liquid waste containing human excreta, and which sometimes has an open bottom and/or perforated sides; a large capacity cesspool means a cesspool that receives liquid waste greater than that regulated by 20.7.3 NMAC;

(4) **"collapse"** means the structural failure of overlying materials caused by removal of underlying materials;

(5) **"commission"** means:

(a) the New Mexico water quality control commission or

(b) the department, when used in connection with any administrative and enforcement activity;

(6) **"confining zone"** means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement from an injection zone;

(7) **"conventional mining"** means the production of minerals from an open pit or underground excavation; underground excavations include mine shafts, workings and air vents, but does not include excavations primarily caused by in situ extraction activities;

D. Definitions that begin with the letter "D."

(1) **"daily composite sample"** means a sample collected over any twenty-four hour period at intervals not to exceed one hour and obtained by combining equal volumes of the effluent collected, or means a sample collected in accordance with federal permit conditions where a permit has been issued under the national pollutant discharge elimination system or for those facilities which include a waste stabilization pond in the treatment process where the retention time is greater than twenty (20) days, means a sample obtained by compositing equal volumes of at least two grab samples collected within a period of not more than twenty-four (24) hours;

(2) **"department", "agency",** or **"division"** means the New Mexico environment department or a constituent agency designated by the commission;

(3) **"discharge permit"** means a discharge plan approved by the department;

(4) **"discharge permit modification"** means a change to the requirements of a discharge permit that result from a change in the location of the discharge, a significant increase in the quantity of the discharge, a significant change in the quality of the discharge; or as required by the secretary;

(5) **"discharge permit renewal"** means the re-issuance of a discharge permit for the same, previously permitted discharge;

(6) **"discharge plan"** means a description of any operational, monitoring , contingency, and closure requirements and conditions for any discharge of effluent or leachate which may move directly or indirectly into ground water;

(7) **"discharge site"** means the entire site where the discharge and associated activities will take place;

(8) **"disposal"** means to abandon, deposit, inter or otherwise discard a fluid as a final action after its use has been achieved;

(9) **"domestic liquid waste"** means human excreta and water-carried waste from typical residential plumbing fixtures and activities, including but not limited to waste from toilets, sinks, bath fixtures, clothes or dishwashing machines and floor drains;

(10) **"domestic liquid waste treatment unit"** means a watertight unit designed, constructed and installed to stabilize only domestic liquid waste and to retain solids contained in such domestic liquid waste, including but not limited to aerobic treatment units and septic tanks;

(11) **"drywell"** means a well, other than an improved sinkhole or subsurface fluid distribution system, completed above the water table so that its bottom and sides are typically dry except when receiving fluids;

E. Definitions that begin with the letter "E."

"experimental technology" means a technology which has not been proven feasible under the conditions in which it is being tested;

F. Definitions that begin with the letter "F."

"fluid" means material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state;

G. Definitions that begin with the letter "G."

"ground water" means interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply;

H. Definitions that begin with the letter "H."

"hazard to public health" exists when water which is used or is reasonably expected to be used in the future as a human drinking water supply exceeds at the time and place of such use, one or more of the standards of Subsection A of 20.6.2.3103 NMAC, or the naturally occurring concentrations, whichever is higher in determining whether a discharge would cause a hazard to public health to exist, the secretary shall investigate and

consider the purification and dilution reasonably expected to occur from the time and place of discharge to the time and place of withdrawal for use as human drinking water;

I. Definitions that begin with the letter "I."

(1) "improved sinkhole" means a naturally occurring karst depression or other natural crevice found in volcanic terrain and other geologic settings which have been modified by man for the purpose of directing and emplacing fluids into the subsurface;

(2) "injection" means the subsurface emplacement of fluids through a well;

(3) "injection zone" means a geological formation, group of formations, or part of a formation receiving fluids through a well;

J Definitions that begin with the letter "J." [RESERVED]

K. Definitions that begin with the letter "K." [RESERVED]

L. Definitions that begin with the letter "L." [RESERVED]

M. Definitions that begin with the letter "M."

"motor vehicle waste disposal well" means a well which receives or has received fluids from vehicular repair or maintenance activities;

N. Definitions that begin with the letter "N."

"non-aqueous phase liquid" means an interstitial body of liquid oil, petroleum product, petrochemical, or organic solvent, including an emulsion containing such material;

O. Definitions that begin with the letter "O."

(1) "operational area" means a geographic area defined in a project discharge permit where a group of wells or well fields in close proximity comprise a single class III well operation;

(2) "owner of record" means an owner of property according to the property records of the tax assessor in the county in which the discharge site is located at the time the application was deemed administratively complete;

P. Definitions that begin with the letter "P."

(1) "packer" means a device lowered into a well to produce a fluid-tight seal within the casing;

(2) "person" means an individual or any other entity including partnerships, corporation, associations, responsible business or association agents or officers, the state or a political subdivision of the state or any agency, department or instrumentality of the United States and any of its officers, agents or employees;

(3) "petitioner" means a person seeking a variance from a regulation of the commission pursuant to Section 74-6-4(H) NMSA 1978;

(4) "plugging" means the act or process of stopping the flow of water, oil or gas into or out of a geological formation, group of formations or part of a formation through a borehole or well penetrating these geologic units;

(5) "project discharge permit" means a discharge permit which describes the operation of similar class III wells or well fields within one or more individual operational areas;

Q. Definitions that begin with the letter "Q." [RESERVED]

R. Definitions that begin with the letter "R."

(1) "refuse" includes food, swill, carrion, slops and all substances from the preparation, cooking and consumption of food and from the handling, storage and sale of food products, the carcasses of animals, junked parts of automobiles and other machinery, paper, paper cartons, tree branches, yard trimmings, discarded furniture, cans, oil, ashes, bottles, and all unwholesome material;

(2) "responsible person" means a person who is required to submit an abatement plan or who submits an abatement plan pursuant to this part;

S. Definitions that begin with the letter "S."

(1) "secretary" or **"director"** means the secretary of the New Mexico department of environment or the director of a constituent agency designated by the commission;

(2) "sewer system" means pipelines, conduits, pumping stations, force mains, or other structures, devices, appurtenances or facilities used for collecting or conducting wastes to an ultimate point for treatment or disposal;

(3) "sewerage system" means a system for disposing of wastes, either by surface or underground methods, and includes sewer systems, treatment works, disposal wells and other systems;

(4) "significant modification of Stage 2 of the abatement plan" means a change in the abatement technology used excluding design and operational parameters, or re-location of 25 percent or more of the

20.6.2.2202 - 20.6.2.2999: [RESERVED]
[12-1-95; 20.6.2.2202 - 20.6.2.2999 NMAC - Rn, 20 NMAC 6.2.II.2202-3100, 1-15-01]

20.6.2.3000 PERMITTING AND GROUND WATER STANDARDS:
[12-1-95; 20.6.2.3000 NMAC - Rn, 20 NMAC 6.2.III, 1-15-01]

20.6.2.3001 - 20.6.2.3100: [RESERVED]
[12-1-95; 20.6.2.3001 - 20.6.2.3100 NMAC - Rn, 20 NMAC 6.2.II.2202-3100, 1-15-01]

20.6.2.3101 PURPOSE:

A. The purpose of Sections 20.6.2.3000 through 20.6.2.3114 NMAC controlling discharges onto or below the surface of the ground is to protect all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less TDS, for present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water inflow, for uses designated in the New Mexico Water Quality Standards. Sections 20.6.2.3000 through 20.6.2.3114 NMAC are written so that in general:

(1) if the existing concentration of any water contaminant in ground water is in conformance with the standard of 20.6.2.3103 NMAC, degradation of the ground water up to the limit of the standard will be allowed; and

(2) if the existing concentration of any water contaminant in ground water exceeds the standard of Section 20.6.2.3103 NMAC, no degradation of the ground water beyond the existing concentration will be allowed.

B. Ground water standards are numbers that represent the pH range and maximum concentrations of water contaminants in the ground water which still allow for the present and future use of ground water resources.

C. The standards are not intended as maximum ranges and concentrations for use, and nothing herein contained shall be construed as limiting the use of waters containing higher ranges and concentrations.
[2-18-77; 20.6.2.3101 NMAC - Rn, 20 NMAC 6.2.III.3101, 1-15-01]

20.6.2.3102: [RESERVED]
[12-1-95; 20.6.2.3102 NMAC - Rn, 20 NMAC 6.2.III.3102, 1-15-01]

20.6.2.3103 STANDARDS FOR GROUND WATER OF 10,000 mg/l TDS CONCENTRATION OR LESS: The following standards are the allowable pH range and the maximum allowable concentration in ground water for the contaminants specified unless the existing condition exceeds the standard or unless otherwise provided in Subsection E of Section 20.6.2.3109 NMAC. Regardless of whether there is one contaminant or more than one contaminant present in ground water, when an existing pH or concentration of any water contaminant exceeds the standard specified in Subsection A, B, or C of this section, the existing pH or concentration shall be the allowable limit, provided that the discharge at such concentrations will not result in concentrations at any place of withdrawal for present or reasonably foreseeable future use in excess of the standards of this section. These standards shall apply to the dissolved portion of the contaminants specified with a definition of dissolved being that given in the publication "*methods for chemical analysis of water and waste of the U.S. environmental protection agency*," with the exception that standards for mercury, organic compounds and non-aqueous phase liquids shall apply to the total nonfiltered concentrations of the contaminants. If the secretary determines that there is a reasonable probability of facilitated contaminant transport by colloids or organic macromolecules, or that proper filtration procedures are not being followed, the discharger may be required to test for both filtered and nonfiltered portions of inorganic contaminants to develop appropriate protocol for monitoring contaminants that have the potential to migrate through the aquifer.

A. Human Health Standards

(1) Numerical Standards

(a) Antimony (Sb) (CAS 7440-36-0)……..……..0.006 mg/1

(b) Arsenic (As) (CAS 7440-38-2)……..……..……0.01 mg/l

(c) Barium (Ba) (CAS 7440-39-3)……...……...…...2 mg/l

(d) Beryllium (be) (CAS 7440-41-7)……0.004 mg/l

(e) Cadmium (Cd) (CAS 7440-43-9)……..…...0.005 mg/l

(f) Chromium (Cr) (CAS 7440-47-3)…… …….0.05 mg/l

(g) Cyanide (CN) (CAS 57-12-5)……..0.2 mg/l
(h) Fluoride (F) (CAS 16984-48-8)…….1.6 mg/l
(i) Lead (Pb) (CAS 7439-92-1)…….0.015 mg/l
(j) Total Mercury (Hg) (CAS 7439-97-6)……...0.002 mg/l
(k) Nitrate (NO_3 as N) (CAS 14797-55-8)……...10.0 mg/l
(l) Nitrite (NO_2 as N) (CAS 10102-44-0)…….1.0 mg/l
(m) Selenium (Se) (CAS 7782-49-2)……..0.05 mg/l
(n) Silver (Ag) (CAS 7440-224)…….0.05 mg/l
(o) Thallium (Tl) (CAS 7440-28-0)……..0.002 mg/l
(p) Uranium (U) (CAS 7440-61-1)……0.03 mg/l
(q) Radioactivity: Combined Radium-226 (CAS 13982-63-3) and Radium-228 (CAS 15262-20-1)……5 pCi/l
(r) Benzene (CAS 71-43-2)……0.005 mg/l
(s) Polychlorinated biphenyls (PCB's) (CAS 1336-36-3).0.0005 mg/l
(t) Toluene (CAS 108-88-3)……...1 mg/l
(u) Carbon Tetrachloride (CAS 56-23-5)……..0.005 mg/l
(v) 1,2-dichloroethane (EDC) (CAS 107-06-2)……0.005 mg/l
(w) 1,1-dichloroethylene (1,1-DCE) (CAS 75-35-4)…….0.007 mg/l
(x) tetrachloroethylene (PCE) (CAS 127-18-4)……..0.005 mg/l
(y) trichloroethylene (TCE) (CAS 79-01-6)……...0.005 mg/l
(z) ethylbenzene (CAS 100-41-4)…….……0.7 mg/l
(aa) total xylenes (CAS 1330-20-7)…….…….....0.62 mg/l
(bb) methylene chloride (CAS 75-09-2)…….……0.005 mg/l
(cc) chloroform (CAS 67-66-3)…..……0.1 mg/l
(dd) 1,1-dichloroethane (CAS 75-34-3)…….……0.025 mg/l
(ee) ethylene dibromide (EDB) (CAS 106-93-4)……..…0.00005 mg/l
(ff) 1,1,1-trichloroethane (CAS 71-55-6)……..……...…0.2 mg/l
(gg) 1,1,2-trichloroethane (CAS 79-00-5)…..……...0.005 mg/l
(hh) 1,1,2,2-tetrachloroethane (CAS 79-34-5)…….…….0.01 mg/l
(ii) vinyl chloride (CAS 75-01-4)…..…….0.002 mg/l
(jj) PAHs: total naphthalene (CAS 91-20-3) plus monomethylnaphthalenes …0.03 mg/l
(kk) benzo-a-pyrene (CAS 50-32-8)…..……0.0002 mg/l
(ll) cis-1,2-dichloroethene (CAS 156-59-2)……0.07 mg/l
(mm) trans-1,2-dichloroethene (CAS 156-60-5)…….0.1 mg/l
(nn) 1,2-dichloropropane (PDC) (CAS 78-87-5)……0.005 mg/l
(oo) styrene (CAS 100-42-5)……...0.1 mg/l
(pp) 1,2-dichlorobenzene (CAS 95-50-1)……..0.6 mg/l
(qq) 1,4-dichlorobenzene (CAS 106-46-7)……..0.075 mg/l
(rr) 1,2,4-trichlorobenzene (CAS 120-82-1)……..0.07 mg/l
(ss) pentachlorophenol (CAS 87-86-5)……..0.001 mg/l
(tt) atrazine (CAS 1912-24-9)……0.003 mg/l

(2) Standards for Toxic Pollutants. A toxic pollutant shall not be present at a concentration shown by credible scientific data and other evidence appropriate under the Water Quality Act, currently available to the public, to have potential for causing one or more of the following effects upon exposure, ingestion, or assimilation either directly from the environment or indirectly by ingestion through food chains: (1) unreasonably threatens to injure human health, or the health of animals or plants which are commonly hatched, bred, cultivated or protected for use by man for food or economic benefit; as used in this definition injuries to health include death, histopathologic change, clinical symptoms of disease, behavioral abnormalities, genetic mutation, physiological malfunctions or physical deformations in such organisms or their offspring; or (2) creates a lifetime risk of more than one cancer per 100,000 exposed persons.

(3) Standards for Non-Aqueous Phase Liquids. Non-aqueous phase liquid shall not be present floating atop of or immersed within ground water, as can be reasonably measured.

B. Other Standards for Domestic Water Supply

(1) Chloride (Cl) (CAS 16887-00-6)…….……...250.0 mg/l
(2) Copper (Cu) (CAS 7440-50-8)…….……....1.0 mg/l
(3) Iron (Fe) (CAS 7439-89-6)…….……..…1.0 mg/l

(4) Manganese (Mn) (CAS 7439-96-5)……..……..…0.2 mg/l
(5) Phenols ……..……..…0.005 mg/l
(6) Sulfate (SO_4) (CAS 14808-79-8)……..……..600.0 mg/l
(7) Total Dissolved Solids (TDS) TDS…….…...……1000.0 mg/l
(8) Zinc (Zn) (CAS 7440-66-6)……..……...……10.0 mg/l
(9) pH…….……..…….between 6 and 9
(10) Methyl tertiary-butyl ether (MTBE) (CAS 1634-04-4)……0.1 mg/l

C. Standards for Irrigation Use - Ground water shall meet the standards of Subsection A, B, and C of this section unless otherwise provided.

(1) Aluminum (Al) (CAS 7429-90-5)……..……..…5.0 mg/l
(2) Boron (B) (CAS 7440-42-8)……..……...0.75 mg/l
(3) Cobalt (Co) (CAS 7440-48-4)……..…….0.05 mg/l
(4) Molybdenum (Mo) (CAS 7439-98-7)……..……...1.0 mg/l
(5) Nickel (Ni) (CAS 7440-02-0)……..……....0.2 mg/l

D. For purposes of application of the amended numeric standards for arsenic, cadmium, lead, combined radium-226 & radium-228; benzene, PCBs, carbon tetrachloride, EDC, PCE, TCE, ethylbenzene, methylene chloride, EDB, 1,1,2-trichloroethane and benzo-a-pyrene, to past and current water discharges (as of July 1, 2017), the new standards will not become effective until July 1, 2020. With regard to sites for which the secretary has approved an abatement completion report as of the effective date of this rule pursuant to 20.6.2.4112 NMAC, the amended numeric standards for arsenic, cadmium, lead, combined radium-226 & radium-228; benzene, PCBs, carbon tetrachloride, EDC, PCE, TCE, ethylbenzene, methylene chloride, EDB, 1,1,2-trichloroethane and benzo-a-pyrene shall not apply unless the secretary notifies the responsible person that the site is a source of these contaminants in ground water that pose a hazard to public health.

[2-18-77, 1-29-82, 11-17-83, 3-3-86, 12-1-95; 20.6.2.3103 NMAC - Rn, 20 NMAC 6.2.III.3103, 1-15-01; A, 9-26-04; A, 12-21-18]

[Note: For purposes of application of the amended numeric uranium standard to past and current water discharges (as of 9-26-04), the new standard will not become effective until June 1, 2007.]

20.6.2.3104 DISCHARGE PERMIT REQUIRED: Unless otherwise provided by this Part, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless he is discharging pursuant to a discharge permit issued by the secretary. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit. In the event of a transfer of the ownership, control, or possession of a facility for which a discharge permit is in effect, the transferee shall have authority to discharge under such permit, provided that the transferee has complied with Section 20.6.2.3111 NMAC, regarding transfers.

[2-18-77, 12-24-87, 12-1-95; Rn & A, 20.6.2.3104 NMAC - 20 NMAC 6.2.III.3104, 1-15-01; A, 12-1-01]

20.6.2.3105 EXEMPTIONS FROM DISCHARGE PERMIT REQUIREMENT: Sections 20.6.2.3104 and 20.6.2.3106 NMAC do not apply to the following:

A. Effluent or leachate which conforms to all the standards in Subsections A, B, and C of Section 20.6.2.3103 NMAC and has a total nitrogen concentration of 10 mg/l or less. To determine conformance, samples may be taken by the agency before the effluent or leachate is discharged so that it may move directly or indirectly into ground water; provided that if the discharge is by seepage through non-natural or altered natural materials, the agency may take samples of the solution before or after seepage. If for any reason the agency does not have access to obtain the appropriate samples, this exemption shall not apply;

B. Effluent which is regulated pursuant to 20.7.3 NMAC, "Liquid Waste Disposal and Treatment" regulations;

C. Water used for irrigated agriculture, for watering of lawns, trees, gardens or shrubs, or for irrigation for a period not to exceed five years for the revegetation of any disturbed land area, unless that water is received directly from any sewerage system;

D. Discharges resulting from the transport or storage of water diverted, provided that the water diverted has not had added to it after the point of diversion any effluent received from a sewerage system, that the source of the water diverted was not mine workings, and that the secretary has not determined that a hazard to public health may result;

E. Effluent which is discharged to a watercourse which is naturally perennial; discharges to dry arroyos and ephemeral streams are not exempt from the discharge permit requirement, except as otherwise provided in this section;

[2-18-77, 12-24-87, 12-1-95, 11-15-96; 20.6.2.3111 NMAC - Rn, 20 NMAC 6.2.III.3111, 1-15-01; A, 12-1-01]

20.6.2.3112 APPEALS OF SECRETARY'S DECISIONS:

A. If the secretary approves, approves subject to conditions, or disapproves a proposed discharge plan, renewal or modification, or modifies or terminates a discharge permit, appeal therefrom shall be in accordance with the provisions of Sections 74-6-5(N), (O) and (P), NMSA 1978. The filing of an appeal does not act as a stay of any provision of the Act, the regulations, or any permit issued pursuant to the Act, unless otherwise ordered by the secretary or the commission.

B. If the secretary determines that a discharger is not exempt from obtaining a discharge permit, or that the material to be discharged contains any toxic pollutant listed in 20.6.2.7 NMAC, which is not included in the numerical standards of Paragraph (1) of Subsection A of 20.6.2.3103 NMAC, then the discharger may appeal such determination by filing with the commission's secretary a notice of appeal to the commission within thirty days after receiving the secretary's written determination, and the appeal therefrom and any action of the commission thereon shall be in accordance with the provisions of Sections 74-6-5(O), (P), (Q), (R) and (S) NMSA 1978.

C. Proceedings before the commission shall be conducted in accordance with the commission's adjudicatory procedures, 20 NMAC 1.3.

[2-18-77, 7-2-81, 12-1-95, 11-15-96; 20.6.2.3112 NMAC - Rn, 20 NMAC 6.2.III.3112, 1-15-01; A, 12-1-01; A, 7-16-06; A, 12-21-18]

20.6.2.3113 APPEALS OF COMMISSION DECISIONS: An applicant, permittee or a person who participated in a permitting action and who is adversely affected by such action may appeal the decision of the commission in accordance with the provisions of Section 74-6-7(A), NMSA 1978.

[2-18-77, 12-1-95, 11-15-96; 20.6.2.3113 NMAC - Rn, 20 NMAC 6.2.III.3113, 1-15-01; A, 12-1-01]

20.6.2.3114 FEES:

A. FEE AMOUNT AND SCHEDULE OF PAYMENT - Every facility submitting a discharge permit application for approval or renewal shall pay the permit fees specified in Table 1 of this section and shall pay a filing fee as specified in Table 2 of this section to the Water Quality Management Fund. Every facility submitting a request for temporary permission to discharge pursuant to Subsection B of Section 20.6.2.3106 NMAC, or financial assurance pursuant to Paragraph 11 of Subsection A of Section 20.6.2.3107 NMAC shall pay the fees specified in Table 2 of this section to the Water Quality Management Fund.

B. Facilities applying for discharge permits which are subsequently withdrawn or denied shall pay one-half of the permit fee at the time of denial or withdrawal.

C. Every facility submitting an application for discharge permit modification will be assessed a filing fee plus one-half of the permit fee. Applications for both renewal and modification will pay the filing fee plus the permit fee.

D. If the secretary requires a discharge permit modification as a component of an enforcement action, the facility shall pay the applicable discharge permit modification fee. If the secretary requires a discharge permit modification outside the context of an enforcement action, the facility shall not be assessed a fee.

E. The secretary may waive or reduce fees for discharge permit modifications or renewals which require little or no cost for investigation or issuance.

F. Facilities shall pay the filing fee at the time of discharge permit application. The filing fee is nonrefundable. The required permit fees may be paid in a single payment at the time of discharge permit approval or in equal installments over the term of the discharge permit. Installment payments shall be remitted yearly, with the first installment due on the date of discharge permit approval. Subsequent installment payments shall be remitted yearly thereafter. The discharge permit or discharge permit application review of any facility shall be suspended or terminated if the facility fails to submit an installment payment by its due date.

G. Every three years beginning in 2004, the department shall review the fees specified in Table 1 and 2 of this section and shall provide a report to the commission. The department shall revise the fees as necessary in accordance with Section 74-6-5(J), NMSA 1978.

20.6.2.3114 TABLE 1 (gpd=gallons per day)	**Permit Fee**
Agriculture <10,000 gpd	$ 1,150
Agriculture 10,000 to 49,999 gpd	$ 2,300
Agriculture 50,000 to 99,999 gpd	$ 3,450

Agriculture 100,000 gpd or greater	$ 4,600
Domestic Waste <10,000 gpd	$ 1,150
Domestic Waste 10,000 to 49,999 gpd	$ 2,300
Domestic Waste 50,000 to 99,999 gpd	$ 3,450
Domestic Waste 100,000 to 999,999 gpd	$ 4,600
Domestic Waste 1,000,000 to 9,999,999 gpd	$ 7,000
Domestic Waste 10,000,000 gpd or greater	$ 9,200
Food Processing <10,000 gpd	$ 1,150
Food Processing 10,000 to 49,999 gpd	$ 2,300
Food Processing 50,000 to 99,999 gpd	$ 3,450
Food Processing 100,000 to 999,999 gpd	$ 4,600
Food Processing 1,000,000 or greater	$ 7,000
Grease/Septage surface disposal <10,000 gpd	$ 1,725
Grease/Septage surface disposal 10,000 gpd or greater	$ 3,450
Industrial <10,000 gpd; or <10,000 yd^3 of contaminated solids	$ 1,725
Industrial 10,000 to 99,999 gpd; or 10,000 to 99,999 yd^3 of contaminated solids	$ 3,450
Industrial 100,000 to 999,999 gpd; or 100,000 to 999,999 yd^3 of contaminated solids or greater	$ 6,900
Industrial 1,000,000 gpd or greater; or 1,000,000 yd^3 of contaminated solids or greater	$10,350
Discharge of remediation system effluent - remediation plan approved under separate regulatory authority	$ 1,600
Mining dewatering	$ 3,250
Mining leach dump	$13,000
Mining tailings	$13,000
Mining waste rock	$13,000
Mining in-situ leach (except salt) and old stope leaching	$13,000
Mining other (mines with minimal environmental impact, post closure operation and maintenance, evaporation lagoons and land application at uranium mines)	$ 4,750
Gas Compressor Stations 0 to 1000 Horsepower	$ 400
Gas Compressor Stations >1001 Horsepower	$ 1,700
Gas Processing Plants	$ 4,000
Injection Wells: Class I (non-hazardous)	$ 4,500
Injection Wells: Class III and Geothermal	$ 1,700
Oil and Gas Service Companies	$ 1,700
Refineries	$ 8,400
Crude Pump Station	$ 1,200
Underground Gas Storage	$ 1,700
Abatement of ground water and vadose zone contamination	$ 2,600
General permit	$ 600

20.6.2.3114 Table 2

	Fee Amount
Filing fee	$100

Temporary permission	$50
Financial assurance: approval of instrument	greater of $250 or .01%
Financial assurance: annual review	greater of $100 or .001%

[8-17-91, 12-1-95; 20.6.2.3114, Rn & A, 20 NMAC 6.2.III.3114, 01-01-01; A, 12-21-18]

20.6.2.3115 - 20.6.2.3999: [RESERVED]
[12-1-95; 20.6.2.3115 - 20.6.2.3999 NMAC - Rn, 20 NMAC 6.2.III.3115-4100, 1-15-01]

20.6.2.4000 PREVENTION AND ABATEMENT OF WATER POLLUTION:
[12-1-95; 20.6.2.4000 NMAC - Rn, 20 NMAC 6.2.IV, 1-15-01]

20.6.2.4001 - 20.6.2.4100: [RESERVED]
[12-1-95; 20.6.2.4001 - 20.6.2.4100 NMAC - Rn, 20 NMAC 6.2.III.3115-4100, 1-15-01]

20.6.2.4101 PURPOSE:

A. The purposes of Sections 20.6.2.4000 through 20.6.2.4115 NMAC are to:

(1) Abate pollution of subsurface water so that all ground water of the State of New Mexico which has a background concentration of 10,000 mg/L or less TDS, is either remediated or protected for use as domestic and agricultural water supply, and to remediate or protect those segments of surface waters which are gaining because of subsurface water inflow, for uses designated in the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20.6.4 NMAC); and

(2) Abate surface water pollution so that all surface waters of the State of New Mexico are remediated or protected for designated or attainable uses as defined in the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20.6.4 NMAC).

B. If the background concentration of any water contaminant exceeds the standard or requirement of Subsections A, B, and C of Section 20.6.2.4103 NMAC, pollution shall be abated by the responsible person to the background concentration.

C. The standards and requirements set forth in Section 20.6.2.4103 NMAC are not intended as maximum ranges and concentrations for use, and nothing herein contained shall be construed as limiting the use of waters containing higher ranges and concentrations.

[12-1-95; 20.6.2.4101 NMAC - Rn, 20 NMAC 6.2.IV.4101, 1-15-01; A, 12-21-18]

20.6.2.4102: [RESERVED]
[12-1-95; 20.6.2.4102 NMAC - Rn, 20 NMAC 6.2.IV.4102, 1-15-01]

20.6.2.4103 ABATEMENT STANDARDS AND REQUIREMENTS:

A. The vadose zone shall be abated as follows:

(1) water contaminants in the vadose zone shall not be capable of contaminating ground water or surface water, in excess of the standards in Subsections B and C below, through leaching, percolation or as the water table elevation fluctuates; and

(2) any constituent listed in 20.6.2.3103 NMAC or any toxic pollutant in the vadose zone shall be abated so that it is not capable of endangering human health due to inhalation of vapors that may accumulate in structures, utility infrastructure, or construction excavations.

B. Ground water pollution at any place of withdrawal for present or reasonably foreseeable future use, where the TDS concentration is 10,000 mg/L or less, shall be abated to meet the standards of Subsections A, B, and C of Section 20.6.2.3103 NMAC.

C. Surface water pollution shall be abated to conform to the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20.6.4 NMAC).

D. Subsurface water and surface water abatement shall not be considered complete until a minimum of eight (8) consecutive sampling events collected from all compliance sampling stations approved by the secretary, with a minimum of ninety (90) days between sampling events spanning a time period no greater than four (4) years, meet the abatement standards of Subsections A, B, and C of this section. Abatement of water contaminants measured in solid-matrix samples of the vadose zone shall be considered complete after one-time sampling from compliance stations approved by the secretary.

2017 ANNUAL REPORT

FORMER GIANT BLOOMFIELD REFINERY
BLOOMFIELD, NEW MEXICO
DISCHARGE PERMIT GW-040

FEBRUARY 2018

Prepared for:

WESTERN REFINING SOUTHWEST, INC.
111 County Road 4990
Bloomfield, New Mexico 87413

Prepared by:

LT ENVIRONMENTAL, INC.
848 East 2nd Avenue
Durango, Colorado 81301
(970) 385-1096

4.0 CONCLUSIONS

By 2015, Western had documented over 13 years of pumping and treating groundwater that did not contain detectable concentrations of VOCs. Western shut down the pump and treat system in August 2015, to evaluate its effectiveness at addressing residual impact at the Site. Continued monitoring and sampling conducted under equilibrium conditions suggest the remediation system was not actively remediating contaminants of concern at the Site and Western did not reactivate the system.

Conclusions from the continued monitoring of static groundwater conditions at the Site include:

- PSH accumulation did not change significantly from observations during pumping conditions:
  - Although measurable PSH was observed in monitoring wells GBR-5, GBR-7, GBR-23, and GBR-41, these wells have historically contained PSH;
  - There was no PSH migration into monitoring wells where PSH had not previously been observed;
- Groundwater impacted by hydrocarbons is characterized by presence of PSH and little to no dissolved-phase hydrocarbons regulated by the NMWQCC.
- Field observations and laboratory analytical results indicate impacted areas are consistent with previously identified source areas and do not appear to have been affected by the cessation of pump and treat remediation efforts.

Annual Compliance sampling was conducted in December 2017. Contaminants of concern were either not detected in groundwater samples or, if detected, can be attributed to an upgradient source or naturally occurring background conditions. Annual groundwater samples collected from monitoring and recovery wells did not contain VOCs or PAHs exceeding NMWQCC standards.

Annual groundwater monitoring well samples are consistently compliant with standards for general chemistry parameters and metals, with the exception of TDS, chloride, and sulfate. Elevated sulfate, chloride, and TDS are historically characteristic of groundwater at the Site and are most likely related to historic releases at the Lee Acres Landfill reported in 1985. These analytes were identified in earlier studies as constituents within the groundwater contaminant plume that originated from the landfill. Previous investigations at the landfill reported elevated levels of chloride present in the water sampled from the liquid waste lagoons (McQuillan, D. and Longmire, P., *Water Quality Investigations at the Lee Acres Landfill and Vicinity, San Juan County, New Mexico*), and the landfill accepted produced water from natural gas well operations in the San Juan Basin. During initial landfill investigations, the upgradient area near GBR-32, GBR-48, GBR-49, and GBR-50 was identified as the "northern containment slug." Groundwater representative of this area contained TDS concentrations ranging from 2,125 milligrams per kilogram (mg/kg) to 6,068 mg/kg, sulfate concentrations ranging from 1,920 mg/kg to 5,830 mg/kg, and chloride concentrations ranging from 14.7 mg/kg to 2,110 mg/kg (Roy F. Weston, Inc., *Remedial Investigation Report for Lee Acres Landfill, Volume 1*).

Heavy metals, including chromium, iron, manganese, and nickel were detected in groundwater monitoring and former recovery wells during the annual sampling in December 2017. Additionally, chromium, iron and manganese concentrations exceeded NMWQCC standards. Previous studies conducted for the Lee Acres Landfill identified chromium, iron, lead, manganese, nickel, and selenium in groundwater sampled upgradient of the Site. *The Remedial Investigation Report for Lee Acres Landfill, Volume 1* states that the upgradient background alluvial aquifer contains elevated levels of chromium and manganese and suggests an unidentified source that is unrelated to the landfill or the Site.

It is apparent that the remediation system successfully remediated petroleum hydrocarbon impacts as designed. Following the reduction in petroleum hydrocarbon concentrations, the remediation system's primary purpose was to provide hydraulic control and restrict migration of potential contaminants off site. By shutting down the system to re-establish equilibrium conditions, Western has demonstrated the remediation system has no effect on existing hydrocarbon groundwater impacts or the migration of impacts off site. Residual impacts at the Site consist of PSH accumulations, which based on thicknesses measured and locations consistent with original source areas, are likely to be adsorbed by soil in the three original source areas. With no active source, the residual contaminants are not likely to migrate with or without the hydraulic barrier introduced by the remediation system.

LT Environmental, Inc.
Advancing Opportunity

2018 ANNUAL REPORT

FORMER GIANT BLOOMFIELD REFINERY
BLOOMFIELD, NEW MEXICO
DISCHARGE PERMIT GW-040

December 2018

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

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- Groundwater impacted by petroleum hydrocarbons is characterized by presence of PSH and little to no dissolved-phase hydrocarbons regulated by the NMWQCC; and
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Western Refining

WNR LISTED NYSE

RECEIVED OCD

2016 JAN -6 P 2:19

December 17, 2015

John E. Kieling, Chief
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Bldg 1
Santa Fe, NM 87505

US Certified #: 7015 0640 0005 8542 0944

Re: Response to APPROVAL WITH MODIFICATIONS
REVISED ACCELERATED CORRECTIVE MEASURES COMPLETION REPORT
FORMER DIESEL DISPENSER SYSTEM, SEPTEMBER 2015
Western Refining Southwest, Inc. – Bloomfield Terminal
EPA ID# NMD089416416

Dear Mr. Kieling:

Pursuant to the Approval with Modifications letter received from the New Mexico Environment Department – Hazardous Waste Bureau ("NMED-HWB") dated November 9, 2015 regarding the above referenced Report, Western Refining Southwest, Inc. – Bloomfield Terminal ("Western") has prepared the following responses:

NMED Comment 1

In Section 4.1 (Soil Sample Field Screening and Logging Results), page 13, paragraph 3, Western states that "[t]he odor indications correspond to the three locations with the highest PID readings." However, Table 1 (Field Screening and Soil Sample Analytical Summary) reports only two samples, DD-08-28' and DD-11-28', with the highest PID readings and corresponding hydrocarbon odor. Sample DD-09-8' had no reported hydrocarbon odor. Revise Section 4.1 to resolve the discrepancies and provide a replacement page with the response letter.

Western Response to Comment 1: Section 4.1 has been revised to address the discrepancies. Replacement pages are provided as attachments.

NMED Comment 2:

Figure 1 (Site Location Map) and 2 (Dispenser System Layout) are missing a north arrow. Revise Figures 1 and 2 to include a north arrow. Also, revise all figures to include a date. Provide replacement figures with the response letter.

Western Response to Comment 2: Figures 1 through 3 have been revised to ensure inclusion of the north arrow and respective report date. Replacement pages are provided as attachments.

NMED Comment 3:

Western's Response to NMED's Notice of Disapproval, dated July 9, 2015, Comment 7 states that Figure 3 was added to the Report in order to "depict the final excavation limits to-scale, the soil sample locations, and their respective sample IDs." The scale of Figure 3 is such that the sample locations in the area of the Fueling Pad are difficult to discern. Revise Figure 3 to

include a smaller scale inset map or diagram of the Fueling Pad that provides a clearer image of the sample locations and revise the text size and color of the sample location labels to ensure that the labels are clear and legible. In addition, Sample DD-08-28' is depicted on Figure 3 in two different locations. Revise Figure 3 to show the correct location of sample DD-08-28'. Include the replacement Figure 3 with the response letter.

Western Response to Comment 3: Figure 3 has been reformatted to allow for better clarity in appearance. In addition, revisions have been made to Figure 3 to address the discrepancy. A replacement page is provided as an attachment.

NMED Comment 4: The images in Appendix C (Photographs of Decommissioning Activities) do not include captions that adequately explain the images. Revise the image captions in Appendix C to include a description which summarizes the date, location, orientation, and key elements of the image. Images that are intended to depict the extent of localized contamination must point out the zone of contamination. Provide replacement images with this response letter.

Western Response to Comment 4: Photos in Appendix C have been revised to include date, location, orientation, and intended purpose of the photo has it pertains to the corrective actions captured in each photo. Replacement pages for Appendix C are provided.

If you have questions regarding the Report, please feel free to contact me at (505) 632-4171.

Sincerely,

James R. Schmaltz
Health, Safety, Environmental, and Regulatory Director
Western Refining

cc: D. Cobrain – (NMED HWB)
N. Dhawan – (NMED - HWB)
K. Van Horne -)NMED-HWB)
L. Tsinnajinnie – (NMED HWB)
R. Murphy – (NMED-HWB)
C. Chavez – (NMED-HWB)
A. Hains – (WNR – El Paso)

SECTION 4 RESULTS AND CONCLUSIONS

4.1 Soil Sample Field Screening and Logging Results

No visual soil impacts were observed along the fueling supply piping trench. Field PID readings collected at seven locations along the trench ranged from 0.0 ppm to 6.3 ppm, with the highest PID reading collected at the sample location at the north end of the diesel fuel supply line (i.e. Sample ID: DD-07-2.5-3.0').

Visual impacts of the soil within the former fueling pad area were localized within areas directly below the dispenser pumps. A total of 19 field samples were collected for field screening purposes within the vicinity of the former fueling pad area. The PID readings from samples collected in this area ranged between 0.8 ppm and 1,200 ppm, with an average PID reading being 92 ppm.

The soils within the trench area and below the concrete pad were characterized as silty sand, very fine, brown in color, and damp. Three of the 26 sample locations were identified as exhibiting slight odors. The three locations were localized in soils below the dispenser pumps, with the highest odors identified below the south dispenser pump. The odor indications corresponded to three of the four locations with the highest PID readings. Table 1 provides a summary of the field observations made and respective PID readings for each sample location.

4.2 Soil Sampling Results

A total of 26 soil samples were collected in the field for laboratory analysis. On June 11, 2013, seven soil samples were collected specifically along the fueling piping trench directly beneath a pipe fitting, which represent the most likely location of where a leak would occur. The remaining 19 samples were collected between June 12, 2013 and June 14, 2013 at locations below the former fueling pad area. Table 1 and Table 2 provide a summary of the analytical results for the soil samples collected. Copies of the respective analytical reports are provided in Appendix E. The following is a summary of the soil sampling results for samples collected along the fueling piping trench and below the former fueling pad area.

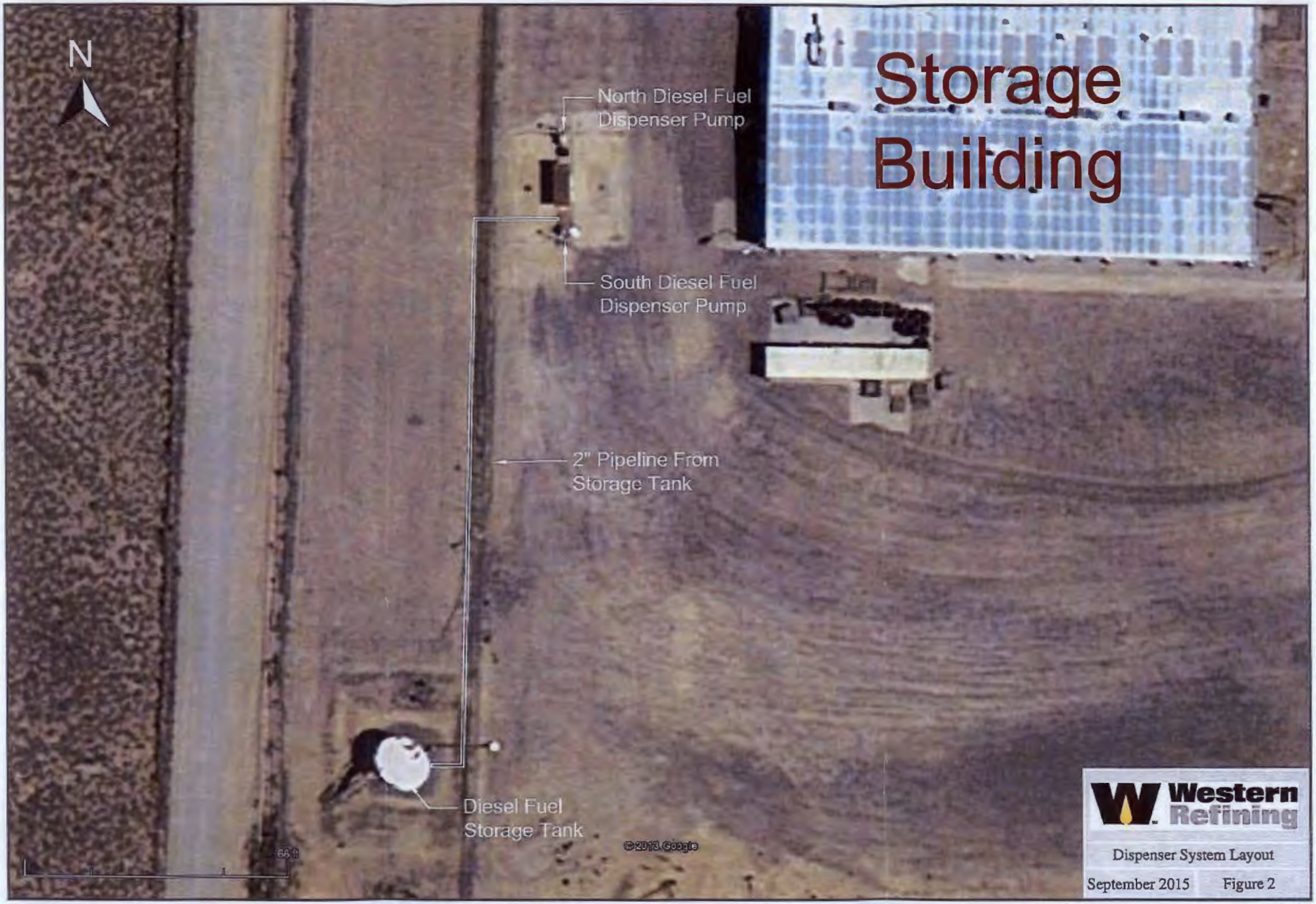
4.2.1 Fueling Trench Soil Sampling

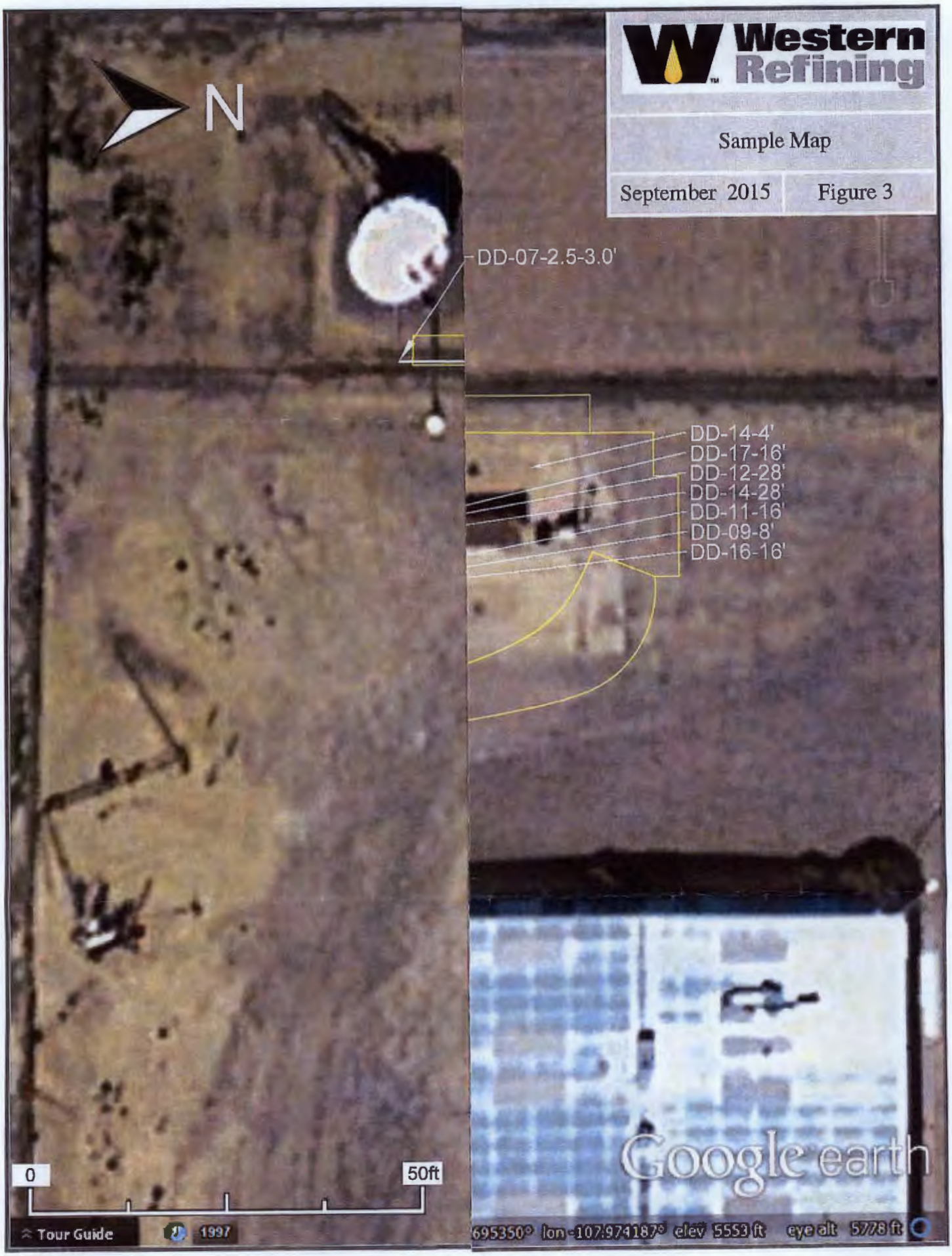
One June 11, 2013, seven soil samples were collected along the fueling piping trench and submitted to the lab for analysis. One sample was collected at each end where the supply line entered a 90 degree fitting (i.e. corresponding sample IDs were DD-01-0-6" and DD-07-2.5-3.0'). Five additional samples were collected at each location along the trench where the piping was joined together by a threaded coupling. All seven samples were submitted to Hall Environmental Laboratories and analyzed for TPH-DRO via EPA Method 8015D. Laboratory results indicated that diesel range organics were detected above the laboratory detection limit at three locations (i.e. Sample IDs are DD-05-3.0-3.5', DD-06-2.5-3.0', and DD-07-2.5-3.0'). The detected concentrations ranged between 14 mg/kg and 37 mg/kg. None of the samples were analyzed for SVOCs because the detected TPH-DRO concentrations were below the 800 mg/kg threshold issued by NMED-HWB.

4.2.2 Fueling Dispenser Area Soil Sampling

Soil samples were collected below the fueling dispenser area between June 12, 2013 and June 14, 2013. Based on visual field observations, it was determined that most of the impacted soil was located within the vanity of the south fueling dispenser pump. A sample was collected below the south dispenser at a depth of approximately 28


N
Sullivan Rd
Western Rd
Diesel Dispenser Excavation
© 2013 Google
Western Refining
Site Location Map
September 2015
Figure 1


N
Storage Building
North Diesel Fuel Dispenser Pump
South Diesel Fuel Dispenser Pump
2" Pipeline From Storage Tank
Diesel Fuel Storage Tank
© 2013 Google
Western Refining
Dispenser System Layout
September 2015
Figure 2



Western Refining

Sample Map

September 2015 | Figure 3

APPENDIX C
Former Diesel Dispensing System Decommissioning
Western Refining – Bloomfield Terminal

These photos capture the fuel supply piping excavation trench which runs north and south. There was no visual indicators of leaks along the supply piping, which connected the diesel supply tank to the dispenser area. The supply line appeared to be intact.

APPENDIX C
Former Diesel Dispensing System Decommissioning
Western Refining – Bloomfield Terminal

The concrete pad at the fueling dispenser pump area was removed in order to begin the excavation of impacted soil. This picture is facing south.

Depicted in this photo are the fueling supply piping stick-ups at dispenser locations. This photo facing north shows the former location of the fueling pumps. The green arrow in the picture shows the former location of the north dispenser and the orange arrow in the photo designates the former location of the south dispenser.

APPENDIX C
Former Diesel Dispensing System Decommissioning
Western Refining – Bloomfield Terminal

These photos facing south show localized impacts within the vicinity of the south dispenser pump. The area of contamination extended vertical and is designated by the arrows in the pictures.

APPENDIX C

Former Diesel Dispensing System Decommissioning
Western Refining – Bloomfield Terminal

These photos facing south of the excavation show the benching that was required to extend the vertical reach of the excavator.