2019 ANNUAL REPORT

3RP-258
BLOOMFIELD CRUDE STATION
BLOOMFIELD, NEW MEXICO

MAY 2020

Prepared for:

WESTERN REFINING SOUTHWEST, INC.
111 County Road 4990
Durango, CO 81301

Prepared by:

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

A proud member of WSP

From: Smith, Cory, EMNRD
To: "gjmccartney@marathonpetroleum.com"
Cc: Devin Hencmann; "Stuart Hyde"
Subject: RE: Bloomfield Crude Station (3RP-258) - 2019 Annual Report
Date: Thursday, January 14, 2021 9:11:00 AM
Attachments: image002.png
image003.png
image004.png

Good Morning All,

As per our discussion Yesterday, OCD has accepted the Annual report for the data provided. However at this time has not made a decision on section 5 regarding deconstruction of the air sparge system and the collection of confirmation samples.

OCD cannot make a determination on the proposed sampling due to limited information regarding the locations were Western intends to collect the samples. If possible some historic soil sample results that may indicate high levels of impacts, and or bore logs, and a map showing those areas would be very helpful in helping the OCD determine if the proposed sample locations are protective of fresh water, human health and the environment.

This annual report will be scanned into the online file. Please submit the proposed sampling locations etc through the new Online portal using the ground water abatement section.

Thanks,

Cory Smith ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1000 Rio Brazos | Aztec, NM 87410
505.334.6178 x115 | Cory.Smith@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stuart Hyde <shyde@ltenv.com>
Sent: Monday, June 29, 2020 4:07 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Devin Hencmann <dhencmann@ltenv.com>
Subject: [EXT] RE: Bloomfield Crude Station (3RP-258) - 2019 Annual Report

That question is for a different site, not Bloomfield Crude. Sorry if there was confusion.

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

From: Stuart Hyde
Sent: Monday, June 29, 2020 4:06 PM

To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Devin Hencmann <dhencmann@ltenv.com>
Subject: RE: Bloomfield Crude Station (3RP-258) - 2019 Annual Report

Thanks for the update.

One question. Devin said you mentioned a reclamation standard for TPH in the top four feet of soil and I could not find that reference. I see that 19.15.29.13(D)(1) states the standard for chloride in the top four feet of soil but can't find the statement for TPH. Could you point me in the right direction? Thanks much.

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

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Monday, June 29, 2020 1:18 PM
To: Stuart Hyde <shyde@ltenv.com>
Cc: Devin Hencmann <dhencmann@ltenv.com>
Subject: RE: Bloomfield Crude Station (3RP-258) - 2019 Annual Report

Stuart,

Its in que to be reviewed.. ill be sure to send an email when I review it.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Stuart Hyde <shyde@ltenv.com>
Sent: Monday, June 29, 2020 10:54 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Devin Hencmann <dhencmann@ltenv.com>
Subject: [EXT] RE: Bloomfield Crude Station (3RP-258) - 2019 Annual Report

Cory,

I wanted to check in to see if you have reviewed the annual report for the Bloomfield Crude Station and if you have any questions or comments at this time. Thanks much and talk to you soon.

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

From: Brooke Herb <bherb@ltenv.com>
Sent: Monday, June 1, 2020 6:13 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Stuart Hyde <shyde@ltenv.com>; Devin Hencmann <dhencmann@ltenv.com>
Subject: Bloomfield Crude Station (3RP-258) - 2019 Annual Report

Cory,
LT Environmental, on behalf of Western Refining Southwest, Inc., is submitting the attached 2019 Annual Report for the Bloomfield Crude Station (3RP-258). The report summarizes current soil and groundwater conditions at the site. As you discussed with Devin Hencmann, this report also includes recommendations for confirmation soil sampling and we would like to get your approval or comments on the recommended sampling before moving forward.
Hope you are doing well.
Thank You,
Brooke

A proud member of WSP

Brooke Herb
Project Geologist/ Four Corners Office Manager
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848 East Second Avenue Durango, CO 81301
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2019 ANNUAL REPORT

BLOOMFIELD CRUDE STATION
BLOOMFIELD, NEW MEXICO

Project Number: 029519004

Prepared by: May 22, 2020

Stuart Hyde, LG
LTE Project Geologist

Date

Reviewed by: May 22, 2020

Ashley Ager, P.G.
LTE Senior Geologist

Date

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1.0 INTRODUCTION

LT Environmental, In., (LTE) presents this report documenting the remediation of impacted soil and groundwater at the Bloomfield Crude Station (Site), located at 530 North 5th Street in Bloomfield, New Mexico. Based on Site conditions and recommendations from the New Mexico Oil Conservation Division (NMOCD), Western Refining Southwest, Inc. (Western) performed quarterly groundwater monitoring in 2019. Specifically, wells MW-2 through MW-7 located at the Site were gauged quarterly for depth-to-groundwater measurements and the presence of phase-separated hydrocarbons (PSH). This report summarizes our findings and recommendations for the Site moving forward.

In addition, Western has been contacted by the City of Bloomfield concerning the donation of Western's property to the City for municipal use. Western will pursue this donation once a no further action determination has been received from NMOCD for this property.

1.1 SITE LOCATION

The Site is located in the northwest quarter of the northwest quarter of Section 22, Township 29 North, and Range 11 West in San Juan County, New Mexico, as depicted on Figure 1. The fenced and locked Site is in a mixed residential and industrial area within the limits of the City of Bloomfield, New Mexico. Water for potable use near the Site is supplied by the City of Bloomfield. According to the New Mexico Office of the State Engineer, the nearest downgradient water well is over 1,800 feet downgradient of the Site.

1.2 RELEASE BACKGROUND

The Site was originally leased for oil exploration and production on September 6, 1929. Since that time, the Site has been owned and leased by several companies who have operated various process units and tanks on or near the Site, including for refining operations. These companies include, but are not limited to, Aerex Refining, Plateau Refining, Shell Oil Company, El Paso Products, Malco, Clayton Investment of Thriftway Marketing, Giant Industries Arizona, Inc. (Giant), and the current owner, Western. In 1994, the Site operated as a crude oil storage facility under ownership of Giant. The Site contained several buildings and tanks, including one 55,000-barrel tank identified as Tank 967-D used to store crude oil (Figure 2). Tank 967-D was constructed in 1956 and used until 1991. In association with the removal of Tank 967-D, soil samples collected on March 15, 1994 indicated the presence of petroleum hydrocarbons in the soil at the Site.

1.3 ADJACENT PROPERTIES

Parcel owners adjacent to the Site are shown on Figure 2. Western owns the former refinery property located at 530 North 5th Street. The City of Farmington owns a small parcel immediately to the west of Western's property. The City's property contains an electrical substation, two active gas wells operated by Manana Gas, Inc. (Jan Redding #1 and Cook #1E), and formerly two historical oil/gas exploration and production wells (Kittell #1 and Bishop #1). Both active wells operated by Manana Gas, Inc. were drilled in 1987. Lampliter Enterprises, LLC owns the parcel immediately south of Western's and west of the City's properties that also had two historical oil/gas exploration and production wells (Bishop #3 and Hare #1) located on the property.

It is important to note that the public records for the historical wells in the NMOCD database are sparse and no latitude or longitude coordinates are available. The Bishop #3 well was drilled in 1925 for oil production and abandoned in approximately 1953. In 1982, the cement plugs were reset in the abandoned well. The Hare #1 well was spudded in 1941 and completed in 1942. In approximately 1980, the well was plugged and abandoned. No additional records were available for the Bishop #1 or the Kittell #1 wells.

In addition, the Aerex Refinery, which operated from approximately 1931 to possibly the early 1960's, was formerly located east of the Site, immediately across North Fifth Street. This facility has since been demolished and the property remains vacant. Vacant land, residential apartments, and houses are located around the Site, as shown on Figure 2.

2.0 SITE INVESTIGATIONS AND REMEDIATION

Following the discovery of the release, several environmental investigations were conducted between 1994 and 2000. These investigations have been summarized in a previous LTE report dated August 2014 and submitted to NMOCD. To address impacted soil and groundwater, remediation activities consisted of excavation of impacted soil and the installation/operation of a bioventing and air sparging (AS) systems at the Site.

The bioventing system, consisting of injection points (IP) and monitoring points (MP), was installed on October 4, 2002 (Figure 3). The *Annual Report, Bloomfield Crude Station, Bloomfield, New Mexico* prepared by Lodestar Services, Incorporated (dated March 2004) summarizes the installation of the bioventing system. In October 2006, an air sparging well (SW-2) was installed adjacent to MW-2 to expedite remediation of elevated benzene, toluene, ethylbenzene, and xylene (BTEX) concentrations in groundwater in this area. The air sparging well operated until January 2007, at which time the BTEX concentrations in groundwater at well MW-2 had declined by 92 percent (%) during the four months of operation. By 2010, eight consecutive quarters of groundwater samples were below New Mexico Water Quality Control Commission (NMWQCC) standards for BTEX in MW-2.

Annual groundwater monitoring was conducted during the operation of the AS system and continued until 2013. Annual groundwater sampling commenced in 2017 in order to monitor residual impacts detected in well MW-7. Using data collected in 2017 and 2018, Western submitted a *Request for Closure* (August 10, 2018) report to the NMOCD. The report summarized the analytical data collected in 2017 and 2018 and presented the rationale for closure of the AS system and the Site with a determination of No Further Action from NMOCD. NMOCD responded in a letter dated August 10, 2018 with a request for Western to continue monitoring groundwater elevations and the presence of PSH in wells MW-2 through MW-7.

3.0 CURRENT SITE CONDITIONS

The concentrations of petroleum hydrocarbons in soil and groundwater have been significantly reduced since remediation began at the Site. The following section summarizes Site conditions since remediation activities ceased in 2013.

3.1 SOIL CONDITIONS

As part of the bioventing plan, soil was monitored regularly to assess concentrations of BTEX and total petroleum hydrocarbon (TPH). By comparing the initial TPH and BTEX concentrations obtained from soil samples collected during bioventing system installation to the most recent soil samples collected in April 2012, TPH concentrations in MP3, MP7, MP8, MP11, IP7, IP10, IP12, and IP16 decreased by 91% to 99% at the Site due to the bioventing activities. During the April 2012 sampling event, the TPH concentration at IP-12 was 139.2 mg/kg; no other sample results exceeded the NMOCD standard of 100 mg/kg TPH (Table 1). The initial sampling results indicated low concentrations of total BTEX in the soil, which subsequently declined as a direct result of the bioventing activities. No BTEX concentrations exceeded the laboratory method detection limit in any soil sample from April 2009 through April 2012 (Table 1).

3.2 GROUNDWATER CONDITIONS

Groundwater sampling was conducted in 1994, 1995, 1999, and annually between 2001 and 2013. Additional samples were collected for laboratory analysis in November 2017 and May 2018. Laboratory analytical results from the 2012, 2013, 2017, and 2018 groundwater sampling events indicate BTEX concentrations in all monitoring wells have continually declined and are below NMWQCC standards, with the exception of MW-7 (Table 2). Although declining, benzene and total xylenes remained in well MW-7 at concentrations greater than NMWQCC standards between 2001 and 2013. During the November 2017 sampling event, BTEX concentrations in all wells, including MW-7, were below NMWQCC standards. However, during the May 2018 sampling event, PSH was encountered in well MW-7 for the first time since sampling began at this well in 2001. Groundwater conditions in all other wells remained the same as previous sampling events with no presence of PSH and BTEX concentrations below NMWQCC standards.

Between 1994 and 2013, anions/cations, metals, and groundwater quality parameters were analyzed during annual sampling events (Table 3). Historically, iron, manganese, sulfate, and total dissolved solids (TDS) have been above NMWQCC standards in a majority of the existing monitoring wells at the Site, including the upgradient monitoring well MW-3. Based on these data, it is likely that elevated concentrations of these constituents are naturally occurring in the shallow aquifer located below the Site. In addition, the concentration of chloride in MW-5 exceeded the NMWQCC standards during most sampling events and there were several sampling events with barium concentrations exceeding the NMWQCC standard in well MW-6 and MW-7. Other analyzed constituents were either below NMWQCC standards or were not detected above laboratory-reporting limits.

In accordance with NMOCD's August 10, 2018 letter, LTE conducted quarterly gauging of depth-to-groundwater and the presence of PSH in 2019. PSH was encountered in well MW-7 during the first three quarters of 2019. However, PSH was not present in well MW-7 during the fourth quarter gauging event in November 2019. Groundwater flow direction is generally to the south/southwest. Interpreted potentiometric-surface maps for each quarter in 2019 are depicted on Figures 4A through 4D. Groundwater elevation information collected in 2019 is summarized in Table 4.

4.0 CONCLUSIONS

Based on the data collected between 2002 and 2019, the remediation activities performed at the Site have successfully reduced contaminant concentrations in both soil and groundwater to below NMOCD and NMWQCC standards. Conclusions regarding soil and groundwater impacts at the Site are presented below.

4.1 SOIL

Excavation of 12,924 cubic yards of hydrocarbon-impacted soil from the Site effectively removed the primary source of contamination and a majority of the mass of petroleum hydrocarbons in subsurface soil at the Site. This is evidenced by the absence of free product in well MW-2 within 28 months of completion of the excavation activities. Bioventing was used to deliver oxygen to the subsurface and address residual hydrocarbon impacts to soil. The oxygen delivered by the remediation systems degraded petroleum hydrocarbons in two ways: the physical process of volatilization and the biological process of biodegradation. In general, the rate of biodegradation will exceed the rate of volatilization, especially for heavier hydrocarbon constituents, such as those found at the Site. Biodegradation and the subsequent mass removal of petroleum hydrocarbons from the subsurface will eventually exhibit asymptotic behavior; at which time further mass removal of petroleum hydrocarbons from the soil is minimal relative to the amount of oxygen input into the system. By 2013, the bioventing system and residual petroleum hydrocarbon concentrations in the soil exhibited asymptotic behavior and further oxygen injection into the subsurface was not likely to yield significant additional petroleum hydrocarbon mass reduction in the soil. The system was subsequently shut down in 2013.

Remediation progress was monitored by the routine collection of soil samples for analysis of TPH and BTEX. Based on the April 2012 soil-sample results, concentrations of benzene and total BTEX met the NMOCD Table 1 Closure Criteria (19.15.29 NMAC). Soil sampling in 2012 indicated TPH concentrations in soil at the Site also met the NMOCD Table 1 Closure Criteria, with the exception of one exceedance of the strictest standard (100 mg/kg) at a concentration of 139.2 mg/kg (sample collected from location IP12). Based on these results, the residual TPH concentrations were present at a depth above groundwater and at least 12 feet below ground surface. The remaining TPH is comprised of heavier range diesel-range organics (DRO) and motor oil-range organics (MRO) contaminants, which are unlikely to migrate to groundwater, as evidenced by historical groundwater analytical results indicating that no to very low BTEX concentrations are present in groundwater at the Site resulting from the Tank 967-D release.

Laboratory results indicated that the excavation, combined with bioventing, decreased the total mass of petroleum hydrocarbons in the soil at the Site by up to 99% in 2012. The source of petroleum hydrocarbons in the soil has been removed and will no longer impact groundwater, as observed by the absence of BTEX in groundwater in monitoring wells affected by former Tank 967-D. Potential receptors also are unlikely to be impacted due to the subsurface location of the residual impact (approximately 12 feet bgs) and a composition of heavier range DRO and MRO, which are unlikely to migrate to groundwater.

4.2 GROUNDWATER

Western has successfully remediated groundwater impacted by former Tank 967-D. Evaluation of total BTEX concentrations in groundwater with groundwater flow direction between 1994 and 2018 indicates

the presence of a groundwater plume with two, separate source areas: Tank 967-D at the Site and a separate source to the west of the Site near MW-7. In August 2000, the petroleum hydrocarbon impacted soil at the Site was excavated, thus removing the majority of the petroleum hydrocarbons in soil from the Site, which were acting as a source of hydrocarbon impacts to groundwater at the Site. Between October 2006 and January 2007, air sparging activities were conducted adjacent to MW-2, which resulted in benzene and total xylenes concentrations in MW-2 to decrease to less than 10 µg/L during all subsequent sampling events. Subsequent remediation of the petroleum hydrocarbon groundwater plume beneath the Site has decreased benzene and total xylene concentrations in groundwater at the Site by approximately 99% while.

Elevated concentrations of chloride in MW-5 is likely attributed to dissolution of naturally occurring chloride found in the 11-foot thick clay layer that is intercepted by the 15-foot screened interval. Elevated barium concentrations in MW-7 may be attributable to historical drilling operations unrelated to crude oil storage at the Site.

Despite the groundwater and soil remedial activities at the Site, benzene and total xylenes concentrations in off-Site well MW-7 exceeded the NMWQCC standards between May 2001 until 2013. Even prior to air sparging activities near MW-2, benzene and total xylenes concentrations in groundwater in offsite well MW-7 exceeded benzene and total xylenes concentrations in groundwater in on-site well MW-2.

Additionally, PSH was present in well MW-7 during three quarters of 2018 and three quarters of 2019. PSH was not present in well MW-7 between 2001 and the end of 2017 and the source is unknown at this time. However, PSH was not present in well MW-7 during the fourth quarter of 2019 (gauged in both November and December). Based on the groundwater chemistry and the fact that well MW-7 is cross gradient of the Site and surrounded by current and former oil and gas production, the elevated benzene and total xylenes concentrations in groundwater in MW-7 are likely not sourced from the release of petroleum hydrocarbons from Tank 967-D, but related to a separate source of petroleum hydrocarbons located north/west of the Site.

5.0 RECOMMENDATIONS

Recommendations for 2020 Site activities are discussed below.

5.1 PROPOSED CONFIRMATION SOIL SAMPLING

Based on the data collected in 2012, the bioventing and air sparging systems have successfully reduced BTEX and TPH concentrations in soil and groundwater at the Site. Further oxygen injection into the subsurface is not likely to yield significant additional petroleum hydrocarbon mass reduction. However, soil samples have not been collected since the bioventing system ceased operations. To confirm the successful remediation of soil contaminants and assess the potential for contaminant rebound, Western proposes to recollect confirmation soil samples from the locations previously identified during the biovent system installation and operation from 2002 to 2012. Samples will be collected from the same depth as monitored during the biovent system operations and documented in previous annual reports. Table 1 presents the monitoring locations and depths that will be sampled during this upcoming event.

Western will utilize a track-mounted direct-push probe rig and/or hand auger to advance borings at the Site. These drilling methods can both obtain continuous soil samples from the subsurface. Soil lithology will be logged by an LTE geologist and described based on the Unified Soil Classification System (USCS) as specified in American Society for Testing and Materials (ASTM) D2488. Soil also will be inspected for visual staining and the presence or absence of odors. The soil will be characterized by visually inspecting the soil samples and field screening the soil headspace using a photoionization detector (PID) to monitor for the presence of organic vapors. Drilling and sampling equipment will be decontaminated prior to each use. Completed borings will be backfilled with hydrated bentonite from the total depth to ground surface.

Field screening will be performed every 2 to 3 feet, where possible. One sample will be collected and analyzed from the locations at the depths identified in Table 1. Samples will be collected and placed directly into pre-cleaned jars and labeled with location, date, time, sampler, and method of analysis and immediately placed on ice. Strict chain-of-custody procedures will be followed during transport of the samples to Hall Environmental Analysis Laboratory, Inc. (HEAL) in Albuquerque, New Mexico. Soil samples will be analyzed for TPH (gasoline range organics [GRO]+DRO+MRO), chloride, and BTEX compounds.

If contaminant concentrations in soil are below NMOCD Table 1 Closure Criteria (19.15.29 NMAC), Western proposes to decommission the air sparging and bioventing systems, plug and abandon all injection and monitoring points, and plug and abandon monitoring wells MW-2, MW-3, and MW-4 (located on Western's property). Assuming favorable results, Western also plans to request a property-specific no further action determination from the NMOCD for the 530 North 5th Street property. After decommissioning the remediation system and wells MW-2, MW-3, and MW-4, Western intends to donate their land to the City of Bloomfield.

5.2 ONGOING GROUNDWATER MONITORING

Although Western considers the source of impacts to groundwater at MW-7 to be unrelated to their operations, Western will continue quarterly gauging of wells MW-5, MW-6, and MW-7 while investigating other potential sources of contaminants detected in well MW-7. In addition, if PSH is not present in well MW-7 during the quarterly gauging events, groundwater will be sampled and submitted to the analytical laboratory for BTEX analysis.

FIGURES

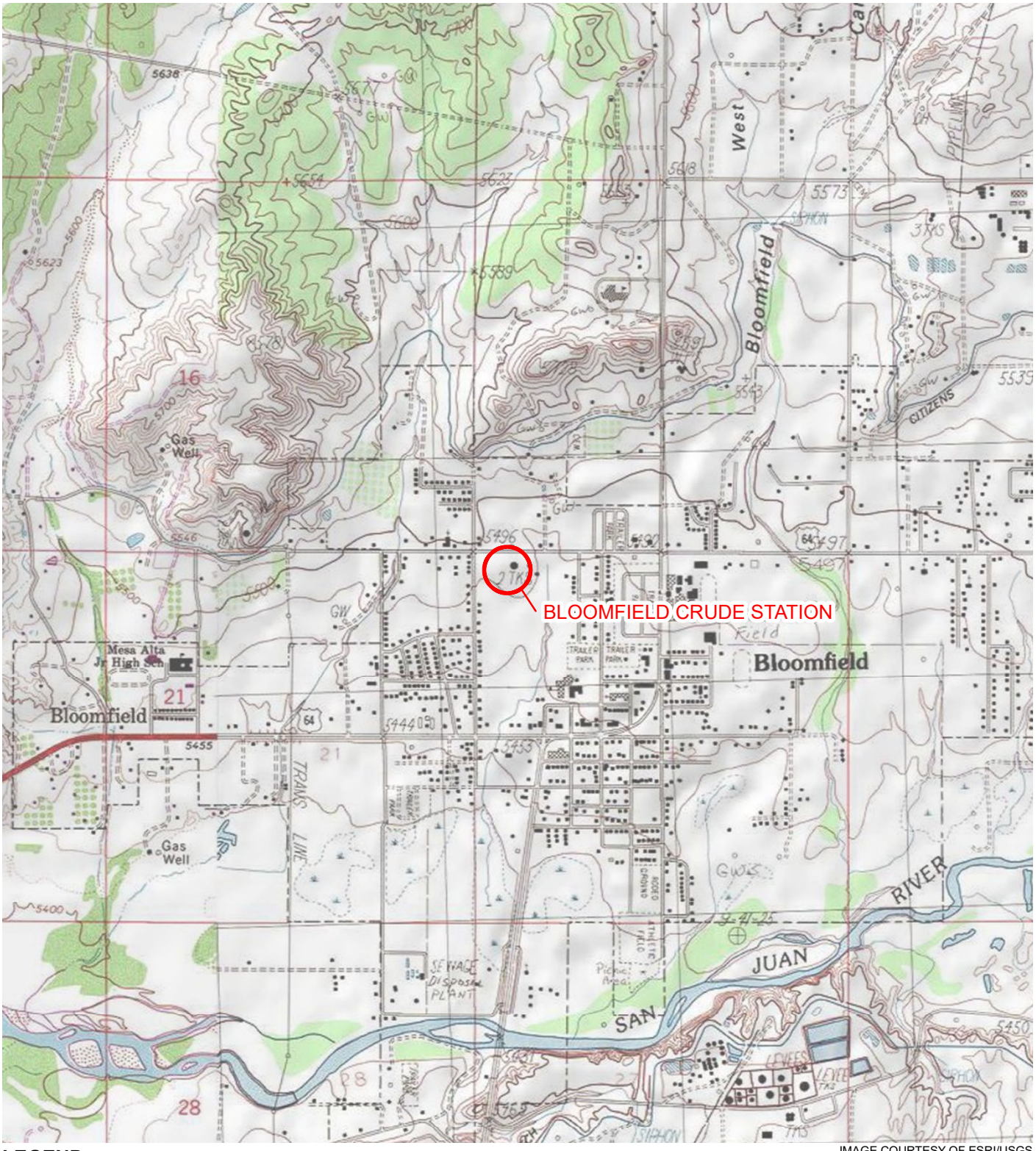

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
BLOOMFIELD CRUDE STATION
NWNW SEC 22 T29N R11W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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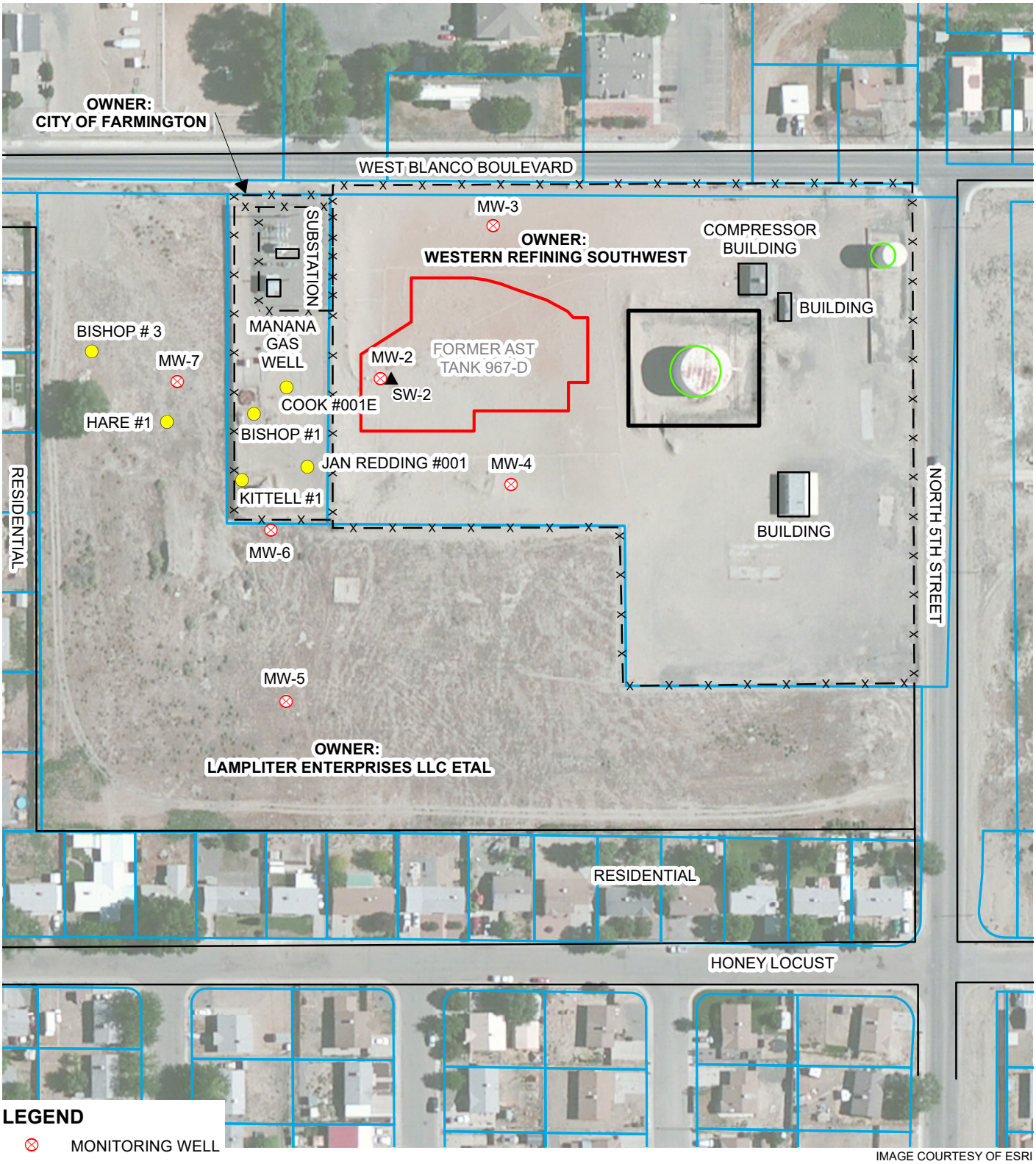

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
- HISTORIC OIL AND GAS WELL (APPROXIMATE)
- SPARGE WELL
- FENCE
- BERM
- FORMER EXCAVATION PERIMETER
- ABOVEGROUND STORAGE TANK (AST)
- PARCEL BOUNDARY

0 140 280
Feet

N

FIGURE 2
SITE MAP
BLOOMFIELD CRUDE STATION
NWNW SEC 22 T29N R11W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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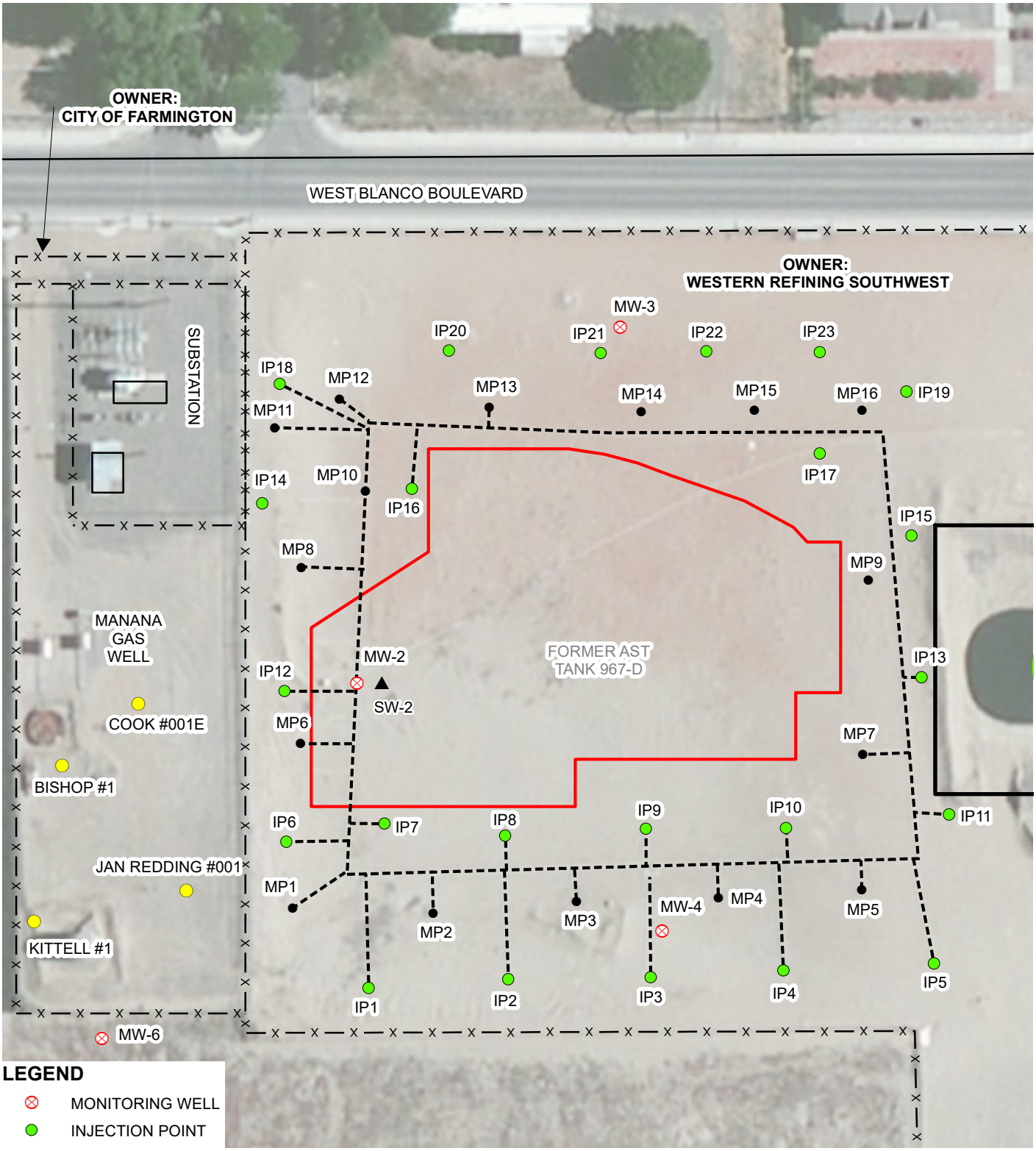

FIGURE 3
BIOVENT SYSTEM LAYOUT AND MONITORING POINTS
BLOOMFIELD CRUDE STATION
NWNW SEC 22 T29N R11W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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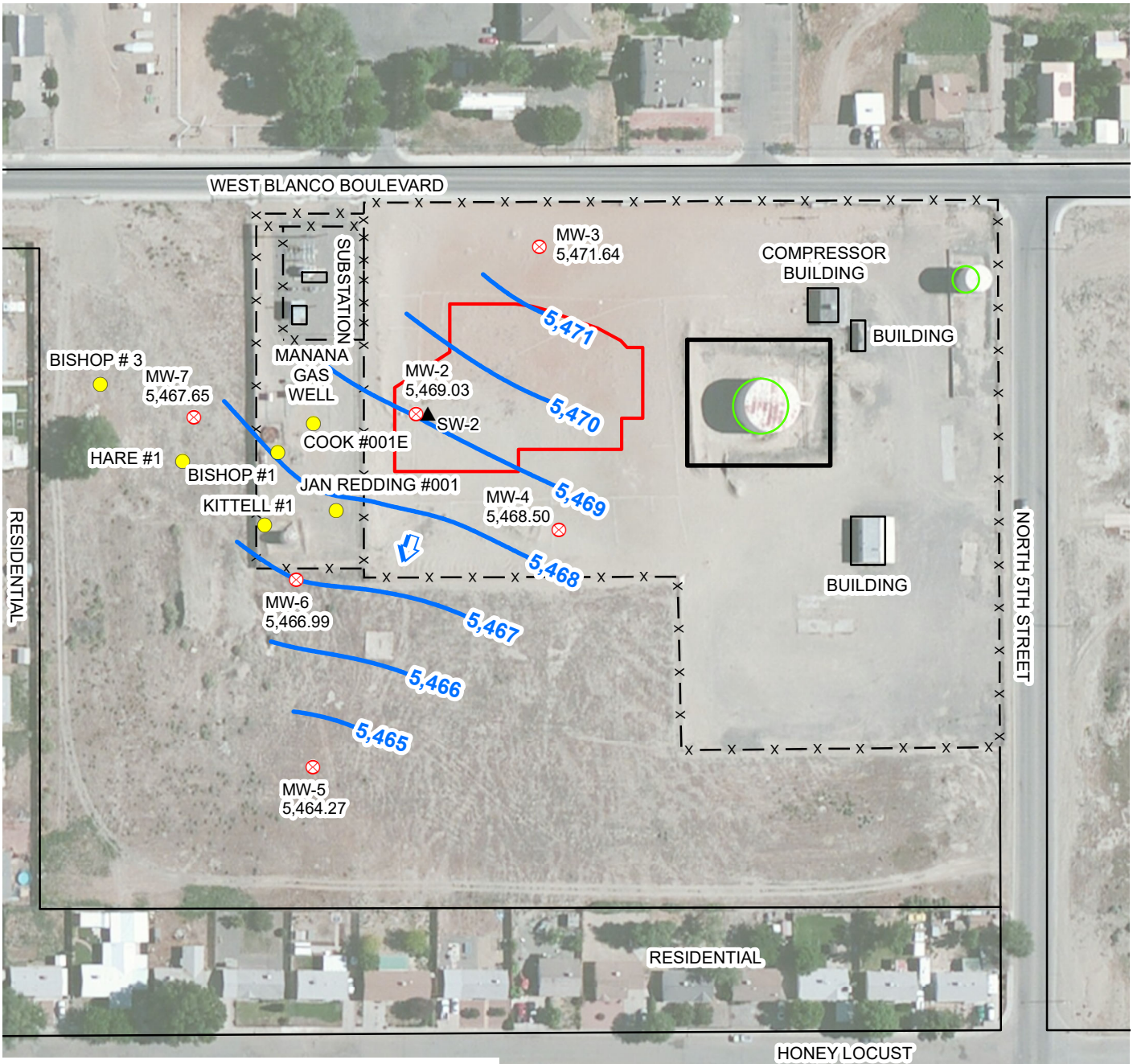

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
  GROUNDWATER ELEVATIONS MEASURED IN FEET
  ABOVE MEAN SEA LEVEL ON FEBRUARY 13, 2019
- HISTORIC OIL AND GAS WELL (APPROXIMATE)
- SPARGE WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- FENCE
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 1.0 FEET
- BERM
- FORMER EXCAVATION PERIMETER
- ABOVEGROUND STORAGE TANK (AST)

0 140 280
Feet

N

FIGURE 4A
GROUNDWATER ELEVATION MAP - FEBRUARY 2019
BLOOMFIELD CRUDE STATION
NWNW SEC 22 T29N R11W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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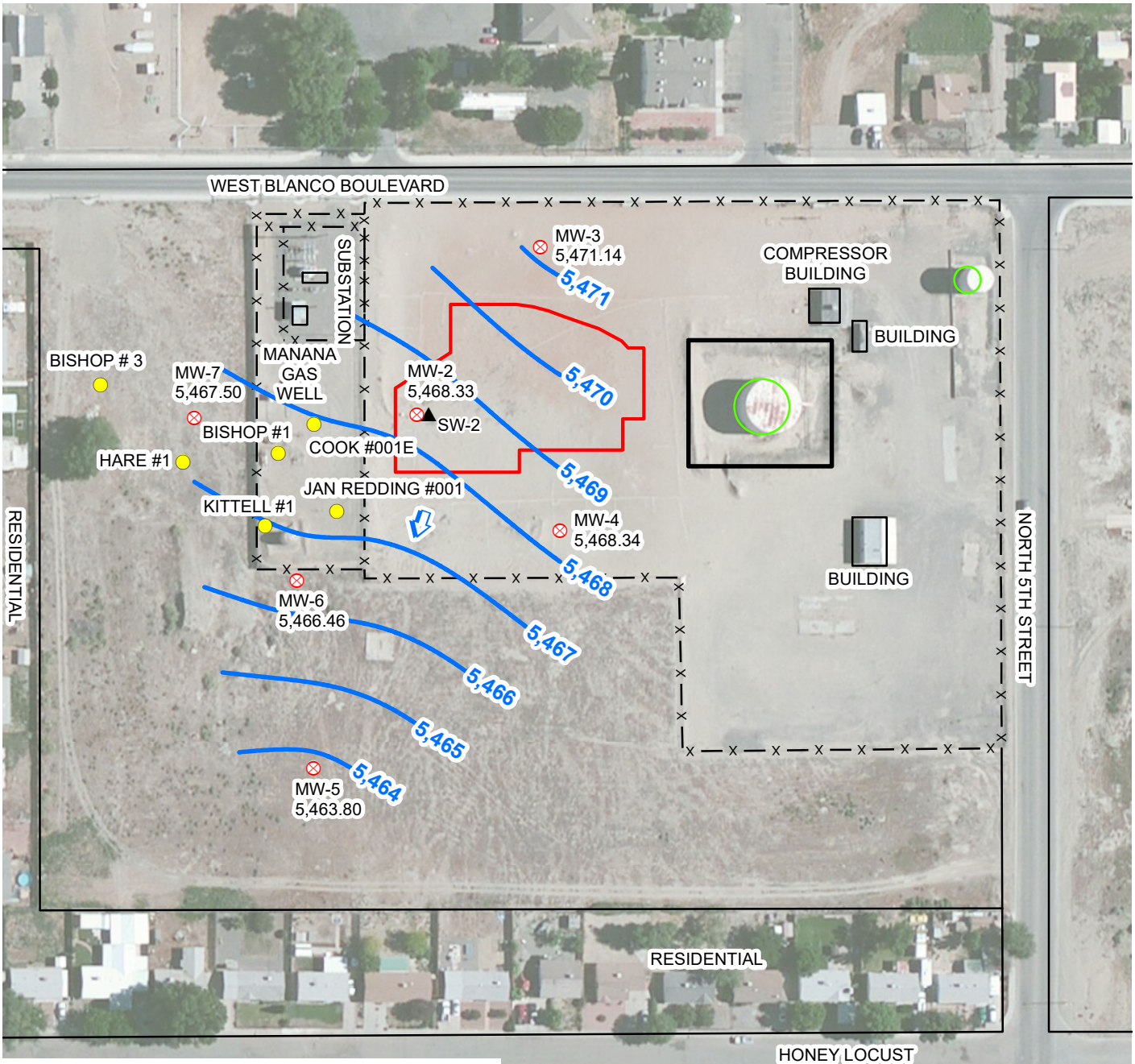

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL GROUNDWATER ELEVATIONS MEASURED IN FEET ABOVE MEAN SEA LEVEL ON MAY 15, 2019
- HISTORIC OIL AND GAS WELL (APPROXIMATE)
- SPARGE WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- FENCE
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 1.0 FEET
- BERM
- FORMER EXCAVATION PERIMETER
- ABOVEGROUND STORAGE TANK (AST)

0 140 280
Feet

N

FIGURE 4B
GROUNDWATER ELEVATION MAP - MAY 2019
BLOOMFIELD CRUDE STATION
NWNW SEC 22 T29N R11W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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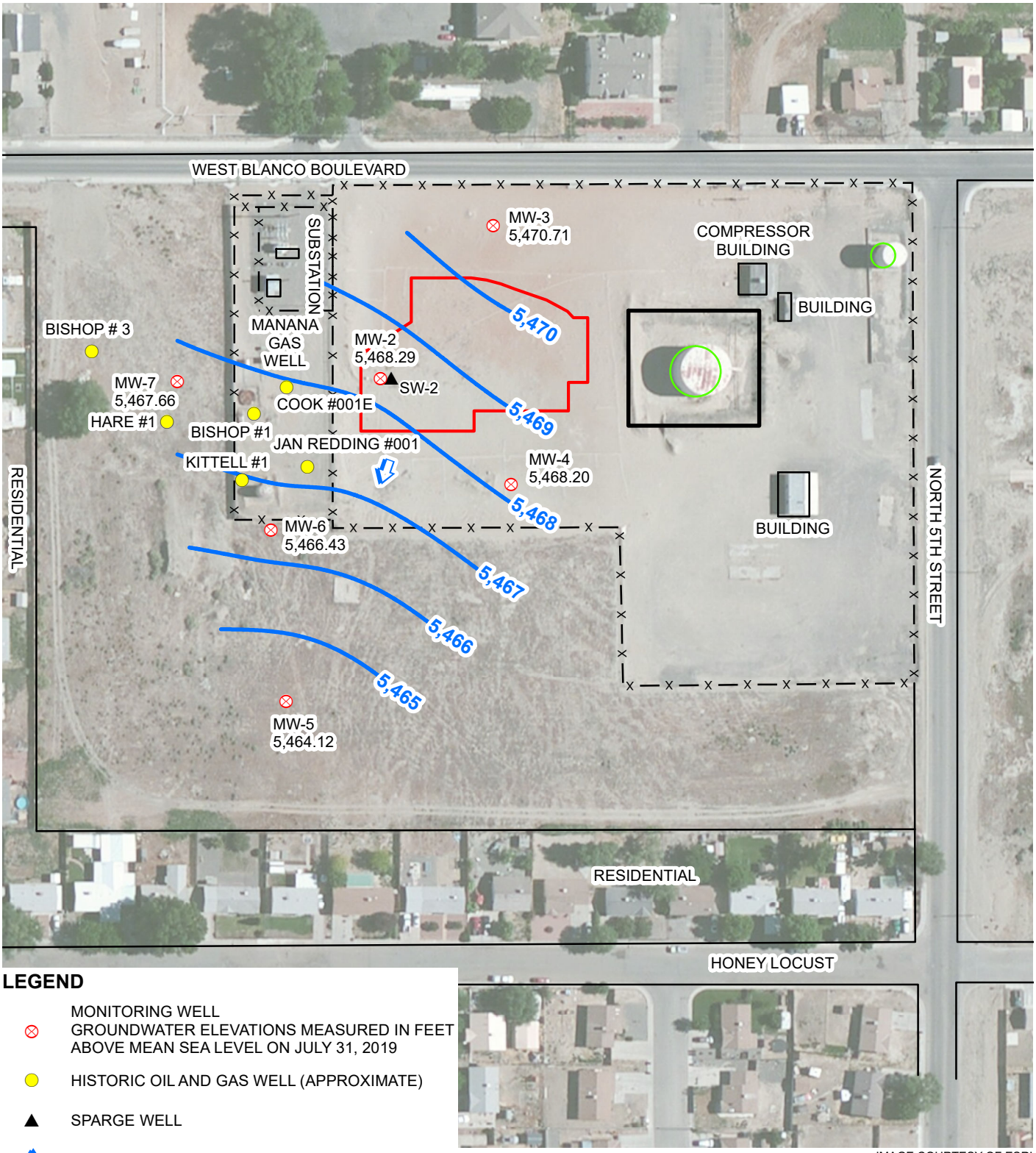

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL GROUNDWATER ELEVATIONS MEASURED IN FEET ABOVE MEAN SEA LEVEL ON JULY 31, 2019
- HISTORIC OIL AND GAS WELL (APPROXIMATE)
- SPARGE WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- FENCE
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 1.0 FEET
- BERM
- FORMER EXCAVATION PERIMETER
- ABOVEGROUND STORAGE TANK (AST)

0 140 280
Feet

N

FIGURE 4C
GROUNDWATER ELEVATION MAP - JULY 2019
BLOOMFIELD CRUDE STATION
NWNW SEC 22 T29N R11W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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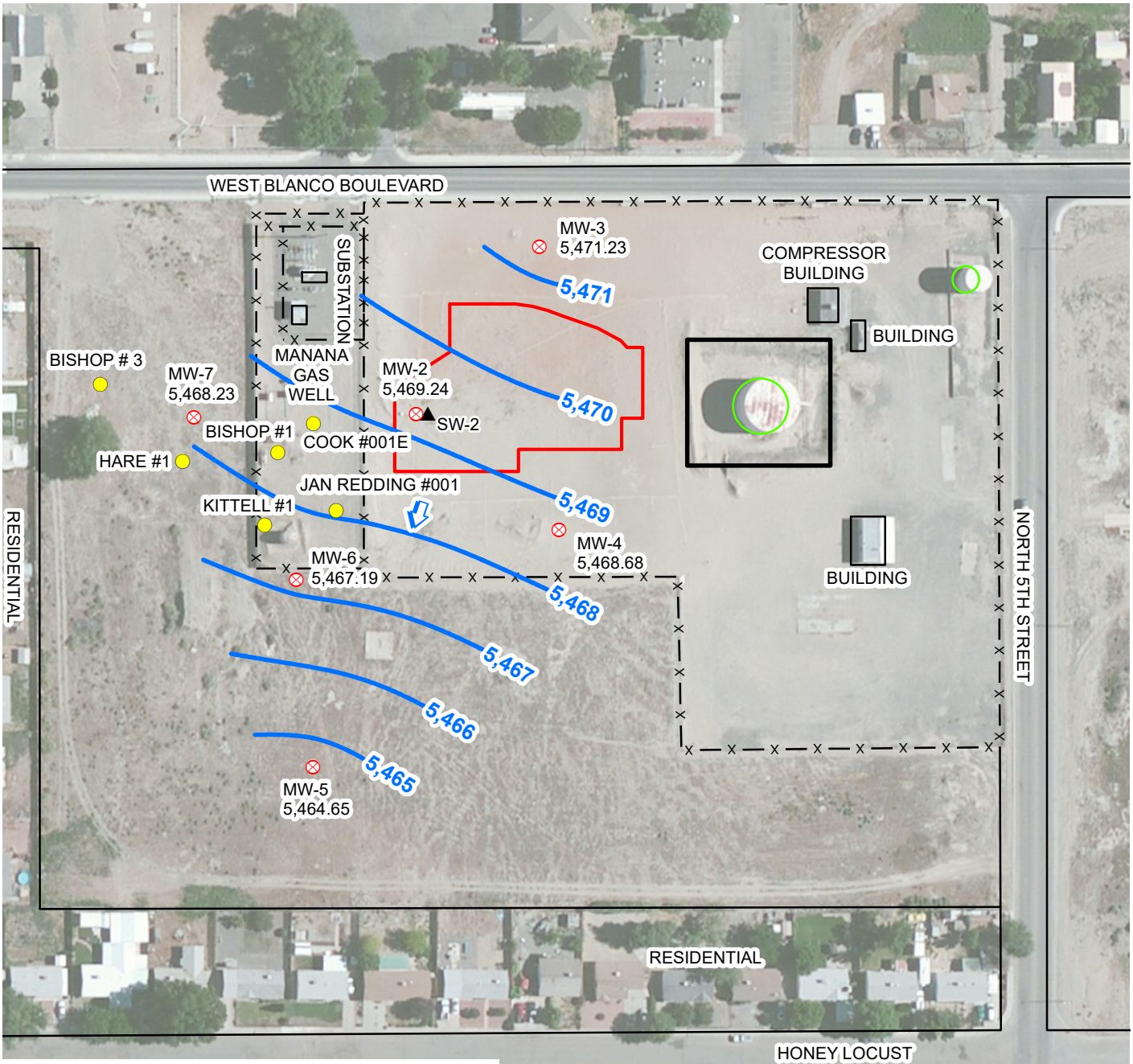

IMAGE COURTESY OF ESRI

LEGEND

- MONITORING WELL
  GROUNDWATER ELEVATIONS MEASURED IN FEET ABOVE MEAN SEA LEVEL ON NOVEMBER 13, 2019
- HISTORIC OIL AND GAS WELL (APPROXIMATE)
- SPARGE WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- FENCE
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 1.0 FEET
- BERM
- FORMER EXCAVATION PERIMETER
- ABOVEGROUND STORAGE TANK (AST)

0 140 280
Feet

N

FIGURE 4D
GROUNDWATER ELEVATION MAP - NOVEMBER 2019
BLOOMFIELD CRUDE STATION
NWNW SEC 22 T29N R11W
SAN JUAN COUNTY, NEW MEXICO
WESTERN REFINING SOUTHWEST, INC.

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TABLE 1
PETROLEUM HYDROCARBON SOIL ANALYTICAL RESULTS
BIOVENTING SYSTEM

BLOOMFIELD CRUDE STATION
WESTERN REFINING SOUTHWEST, INC.

Sample ID	Sample Depth (ft)	Date Sampled	Field Headspace Reading (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Gasoline Range Organics* (mg/kg)	Diesel Range Organics * (mg/kg)	Motor Oil Range Organics * (mg/kg)	Total Petroleum Hydrocarbons ** (mg/kg)
MP3	6	Oct-02	777	2.0	<0.05	<0.05	<0.1	2.0	NA	NA	NA	**750**
		Oct-03	314	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**400**
		Oct-04	0.0	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-05	0	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	39
		Oct-06	4.7	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-07	0.4	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	45
		Oct-08	3.9	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	78	78 - <93
		Apr-09	0.9	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jul-09	0.5	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	**0 - <65**
		Oct-09	0.5	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jan-10	0.4	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Apr-10	1.9	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jul-10	0.4	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Oct-10	1.3	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jan-11	0.9	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Apr-11	0.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	16	<50.0	16 - <71
		Jul-11	0	<0.048	<0.048	<0.048	<0.095	<0.095	<4.8	12	<51	12 - <67.8
		Oct-11	0.2	<0.050	<0.050	<0.050	<0.10	<0.10	<5.0	<9.9	<50	0 - <64.9
		Jan-12	4.7	<0.049	<0.049	<0.049	<0.098	<0.098	<4.9	<9.9	<50	0 - <64.8
		Apr-12	0.2	<0.48	<0.48	<0.48	<0.097	<0.097	<4.8	<10	<51	0 - <65.8
MP7	6	Oct-02	872	2.0	<0.05	<0.05	<0.1	2.0	NA	NA	NA	**2,830**
		Oct-03	3946	3.5	<0.05	<0.05	<0.1	3.5	NA	NA	NA	**4,700**
		Oct-04	994.0	3.5	<0.05	<0.05	<0.1	3.5	NA	NA	NA	**2,330**
		Oct-05	443	< 0.13	< 0.13	6.0	32	38	NA	NA	NA	**2,040**
		Oct-06	4.9	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	22
		Oct-07	0.5	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**1,250**
		Oct-08	4.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	730	1500	**2,230 - <2,235**
		Apr-09	9.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jul-09	2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	460	350	**810 - <815**
		Oct-09	1.3	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	960	1300	**2,260 - <2,265**
		Jan-10	0.3	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	91	130	**221 - <226**
		Apr-10	0.6	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	400	340	**740 - <745**
		Jul-10	0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	890	1100	**1,990 - <1,995**
		Oct-10	1.4	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	28	<50	28 - <83
		Jan-11	1.3	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	62	99	**161 - <166**
		Apr-11	0.3	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	670	930	**1,600 - <1,605**
		Jul-11	0	<0.049	<0.049	<0.049	<0.098	<0.098	<4.9	580	650	**1,230 - <1,234.9**
		Oct-11	0.4	<0.047	<0.047	<0.047	<0.094	<0.094	<4.7	180	<240	**180 - <424.7**
		Jan-12	0.3	<0.047	<0.047	<0.047	<0.095	<0.095	<4.7	230	340	**570 - <574.7**
		Apr-12	0	<0.049	<0.049	<0.049	<0.099	<0.099	<4.9	36	<49	36 - <89.9
MP8	9	Oct-02	772	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-03	149	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-04	149.0	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-05	56.2	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-06	4.6	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	28
		Oct-07	0.6	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	70
		Oct-08	3.7	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	55	55 - <70
		Apr-09	0.0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jul-09	0.4	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Oct-09	0.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jan-10	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Apr-10	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jul-10	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Oct-10	0.4	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jan-11	1.3	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Apr-11	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	20	55	75 - <80
		Jul-11	0.2	<0.049	<0.049	<0.049	<0.098	<0.098	<4.9	<10	<51	0 - <65.9
		Oct-11	0.2	<0.046	<0.046	<0.046	<0.092	<0.092	<4.6	<10	<50	0 - <64.6
		Jan-12	0.5	<0.049	<0.049	<0.049	<0.097	<0.097	<4.9	<10	<51	0 - <65.9
		Apr-12	0.3	<0.048	<0.048	<0.048	<0.096	<0.096	<4.8	<4.8	<49	0 - <63.7

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BIOVENTING SYSTEM

BLOOMFIELD CRUDE STATION
WESTERN REFINING SOUTHWEST, INC.

Sample ID	Sample Depth (ft)	Date Sampled	Field Headspace Reading (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Gasoline Range Organics* (mg/kg)	Diesel Range Organics * (mg/kg)	Motor Oil Range Organics * (mg/kg)	Total Petroleum Hydrocarbons ** (mg/kg)
MP11	12	Oct-02	732	2.9	<0.05	5.8	36	44.7	NA	NA	NA	**1,290**
		Oct-03	191	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**157**
		Oct-04	0.0	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-05	7.49	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-06	3.2	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**124**
		Oct-07	0.1	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-08	17.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	60	60 - <75
		Apr-09	0.0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jul-09	0.7	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	110	**110 - <125**
		Oct-09	0.3	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 -< 65
		Jan-10	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Apr-10	0.3	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	89	89 - <**104**
		Jul-10	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	28	67	95 - <**100**
		Oct-10	0.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	110	150	**260 - <265**
		Jan-11	1.4	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	21	<50	21 - <76
		Apr-11	0.0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	36	100	**136 -<141**
		Jul-11	0.2	<0.049	<0.049	<0.049	<0.098	<0.098	<4.9	19	<49	19 - <72.9
		Oct-11	0.3	<0.049	<0.049	<0.049	<0.097	<0.097	<4.9	56	85	**141 - <145.9**
		Jan-12	0.9	<0.050	<0.050	<0.050	<0.10	<0.10	<5.0	<9.7	<48	0 - <62.7
		Apr-12	0.0	<0.050	<0.050	<0.050	<0.099	<0.099	<5.0	13	<51	13 - <69.0
IP7	12	Oct-02	676	2.9	<0.05	<0.05	<0.1	2.9	NA	NA	NA	**4,720**
		Oct-03	287	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**1,299**
		Oct-04	123.0	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**139**
		Oct-05	6.2	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	55
		Oct-06	7.4	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**770**
		Oct-07	0.5	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**1,460**
		Oct-08	3.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	64	64 - <79
		Apr-09	0.0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jul-09	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Oct-09	0.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	16	81	97 - <**102**
		Jan-10	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Apr-10	0.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	32	120	**152 - <157**
		Jul-10	0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	110	120	**230 - <235**
		Oct-10	0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	21	<50	21 -<76
		Jan-11	1.4	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Apr-11	0.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	60	94	**154 - <159**
		Jul-11	0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<9.9	<49	0 - <63.9
		Oct-11	0.4	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<9.9	<50	0 - <64.9
		Jan-12	0.7	<0.049	<0.049	<0.049	<0.097	<0.097	<4.9	<9.9	<49	0 - <63.8
		Apr-12	0.4	<0.048	<0.048	<0.048	<0.096	<0.096	<4.8	<9.7	<49	0 - <63.5
IP10	6	Oct-02	756	0.42	<0.05	<0.05	<0.1	0.42	NA	NA	NA	**1,470**
		Oct-03	311	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	21
		Oct-04	262.0	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-05	30.3	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-06	13.8	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-07	0.5	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-08	25.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	240	440	**680 - <685**
		Apr-09	6.0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jul-09	2.4	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Oct-09	0.9	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jan-10	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	5.2	<10	<50	5.2 - <65.2
		Apr-10	0.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	200	210	**410 - <415**
		Jul-10	0.5	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Oct-10	0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	60	<50	60 - **<115**
		Jan-11	1.9	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Apr-11	0.0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	59	110	**169 - <174**
		Jul-11	0	<0.049	<0.049	<0.049	<0.098	<0.098	<4.9	<10	<52	0 - <66.9
		Oct-11	0.2	<0.050	<0.050	<0.050	<0.10	<0.10	<5.0	<9.8	<49	0 - <63.8
		Jan-12	0.8	<0.048	<0.048	<0.048	<0.096	<0.096	<4.8	340	620	**960 - <964.8**
		Apr-12	0.2	<0.48	<0.48	<0.48	<0.095	<0.095	<4.8	12	<51	12 - <67.8

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Sample ID	Sample Depth (ft)	Date Sampled	Field Headspace Reading (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Gasoline Range Organics* (mg/kg)	Diesel Range Organics * (mg/kg)	Motor Oil Range Organics * (mg/kg)	Total Petroleum Hydrocarbons ** (mg/kg)
IP12	12	Oct-02	616	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**2,470**
		Oct-03	190	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**720**
		Oct-04	253.0	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	ND
		Oct-05	120	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**770**
		Oct-06	3.3	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**520**
		Oct-07	0.3	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	84
		Oct-08	3.3	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	49	160	**209 - <214**
		Apr-09	0.0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	55	80	**135 - <140**
		Jul-09	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	62	62 - **<77**
		Oct-09	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	<10	<50	0 - <65
		Jan-10	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	45	94	**139 - <144**
		Apr-10	0.1	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	52	160	**212 - <217**
		Jul-10	0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	35	<50	35 - <90
		Oct-10	0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	100	160	**260 - <265**
		Jan-11	1.8	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	81	97	**178 - <183**
		Apr-11	0.0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	31	73	**104 - <109**
		Jul-11	0.6	<0.049	<0.049	<0.049	<0.098	<0.098	<4.9	39	<50	39 - <93.9
		Oct-11	0.1	<0.049	<0.049	<0.049	<0.097	<0.097	<4.9	29	<50	29 - <83.9
		Jan-12	0.8	<0.048	<0.048	<0.048	<0.095	<0.095	<4.8	23	<51	23 - <78.8
		Apr-12	11.2	<0.092	<0.092	<0.092	<0.18	<0.18	<9.2	53	77	**130 - <139.2**
IP16	9	Oct-02	728	0.85	<0.05	<0.05	<0.1	0.85	NA	NA	NA	**5,690**
		Oct-03	110	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**2,600**
		Oct-04	0.0	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**540**
		Oct-05	0	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	52
		Oct-06	5	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**210**
		Oct-07	0.2	<0.05	<0.05	<0.05	<0.1	<0.1	NA	NA	NA	**1,500**
		Oct-08	4.2	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	140	310	**450 - <455**
		Apr-09	3.8	0.1	<0.05	<0.05	<0.1	0.1	<5.0	380	660	**1,040 - <1,045**
		Jul-09	1.6	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	220	310	**530 - <535**
		Oct-09	0.9	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	130	200	**330 - <335**
		Jan-10	0.5	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	100	200	**300 - <305**
		Apr-10	2.7	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	25	110	**135 - <140**
		Jul-10	0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	95	120	**215 - <220**
		Oct-10	0	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	360	570	**930 - <935**
		Jan-11	0.3	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	58	75	**133 -< 138**
		Apr-11	0.4	<0.05	<0.05	<0.05	<0.1	<0.1	<5.0	24	70	**94 - <99**
		Jul-11	1.1	<0.049	<0.049	<0.049	<0.098	<0.098	<4.9	150	140	**290 - <294.9**
		Oct-11	0.6	<0.047	<0.047	<0.047	<0.094	<0.094	<4.7	860	810	**1,670 - <1,674.7**
		Jan-12	0.5	<0.047	<0.047	<0.047	<0.093	<0.093	<4.7	30	60	90 - <94.7
		Apr-12	0.8	<0.048	<0.048	<0.048	<0.097	<0.097	<4.8	30	60	90 - <94.8
NMOCD Standard			NE	**10**	NE	NE	NE	**50**	NE	NE	NE	**100**

Notes:
mg/kg - milligrams per kilogram
ppm - parts per million
ft - feet
NE - not established
NA - not analyzed
ND - not detected
< indicates result is less than the stated laboratory method detection limit
Bold indicates value exceeds NMOCD standard
NMOCD - New Mexico Oil Conservation Commission
TPH - total petroleum hydrocarbons
* - gasoline range organics = Carbon (C) range 6-C10, diesel range organics = C10-C22, motor oil range organics = C22-C36
** - total petroleum hydrocarbons, summation of Gasoline Range, Diesel Range, and Motor Oil Range Organics

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
BTEX

BLOOMFIELD CRUDE STATION
WESTERN REFINING SOUTHWEST, INC.

Well Number	Date Sampled	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)
MW-2	Sep-94	**640**	600	82	**690**
	Apr-95	**220**	280	53	430
	Sep-99	**NSP**	**NSP**	**NSP**	**NSP**
	Dec-99	**NSP**	**NSP**	**NSP**	**NSP**
	May-01	**NSP**	**NSP**	**NSP**	**NSP**
	May-02	**NSP**	**NSP**	**NSP**	**NSP**
	Jan-03	**1700**	ND	650	**3200**
	Jan-04	**1100**	ND	340	**1800**
	Jan-05	**430**	ND	360	**1000**
	Jan-06	**250**	ND	410	**790**
	Sep-06	**230**	50	290	**640**
	Jan-07	8.7	9.7	16	55
	Apr-07	7.8	6	61	110
	Jul-07	4.2	20	30	68
	Oct-07	0.87	18	120	180
	Jan-08	4.4	45	24	100
	May-08	0.86	12.3	<0.5	16.6
	Aug-08	1.1	7.3	14	28
	Nov-08	1.7	2	7.3	15
	Jan-09	1.6	ND	2.1	6.9
	Feb-09	<1.0	<1.0	2.3	7.7
	May-09	1.1	2.1	1.0	6.8
	Aug-09	1.2	<1.0	<1.0	2.0
	Nov-09	<1.0	<1.0	<1.0	<2.0
	Jan-10	<1.0	<1.0	<1.0	<2.0
	Feb-10	<1.0	<1.0	<1.0	<2.0
	Jan-11	<1.0	<1.0	<1.0	2.5
	Jan-12	<1.0	<1.0	<1.0	<2.0
	Mar-13	<1.0	<1.0	<2.0	<2.0
	Nov-17	0.074 J	<0.064	<0.093	<0.32
	May-18	<1.0	<1.0	<1.0	<1.5
MW-3	Sep-94	ND	ND	ND	ND
	Apr-95	ND	ND	ND	ND
	Sep-99	ND	ND	ND	ND
	Dec-99	ND	ND	ND	ND
	May-01	ND	ND	ND	ND
	May-02	ND	ND	ND	ND
	Jan-03	ND	ND	ND	ND
	Jan-04	ND	ND	ND	ND
	Jan-05	ND	ND	ND	ND
	Jan-06	ND	ND	ND	ND
	Jan-07	0.8	ND	ND	ND
	Jan-08	ND	ND	ND	ND
	Jan-09	ND	ND	ND	ND
	Jan-10	<1.0	<1.0	<1.0	<2.0
	Jan-11	<1.0	<1.0	<1.0	<2.0
	Jan-12	<1.0	<1.0	<1.0	<2.0
	Mar-13	<1.0	<1.0	<2.0	<2.0
	Nov-17	<0.062	<0.064	<0.093	<0.32
	May-18	<1.0	<1.0	<1.0	<1.5

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
BTEX

BLOOMFIELD CRUDE STATION
WESTERN REFINING SOUTHWEST, INC.

Well Number	Date Sampled	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)
MW-4	Sep-94	2.1	ND	ND	1.2
	Apr-95	ND	ND	ND	ND
	Sep-99	ND	ND	ND	ND
	Dec-99	ND	ND	ND	ND
	May-01	ND	ND	ND	ND
	May-02	ND	ND	ND	ND
	Jan-03	ND	ND	ND	ND
	Jan-04	ND	ND	ND	ND
	Jan-05	ND	ND	ND	ND
	Jan-06	ND	ND	ND	ND
	Jan-07	ND	ND	ND	ND
	Jan-08	ND	ND	ND	ND
	Jan-09	ND	ND	ND	ND
	Jan-10	<1.0	<1.0	<1.0	<2.0
	Jan-11	<1.0	<1.0	<1.0	<2.0
	Jan-12	<1.0	<1.0	<1.0	<2.0
	Mar-13	<1.0	<1.0	<2.0	<2.0
	Nov-17	<0.062	<0.064	<0.093	<0.32
	May-18	<1.0	<1.0	<1.0	<1.5
MW-5	Apr-95	ND	ND	ND	ND
	Sep-99	ND	ND	ND	ND
	Dec-99	ND	ND	ND	ND
	May-01	ND	ND	ND	ND
	May-02	ND	ND	ND	ND
	Jan-03	ND	ND	ND	ND
	Jan-04	ND	ND	ND	1.1
	Jan-05	ND	ND	ND	ND
	Jan-06	ND	ND	ND	ND
	Jan-07	ND	ND	ND	ND
	Jan-08	ND	ND	ND	ND
	Jan-09	ND	ND	ND	ND
	Jan-10	<1.0	<1.0	<1.0	<2.0
	Jan-11	<1.0	<1.0	<1.0	<2.0
	Jan-12	<1.0	<1.0	<1.0	<2.0
	Mar-13	<1.0	<1.0	<1.0	<2.0
	Nov-17	<0.062	<0.064	<0.093	<0.32
	May-18	<1.0	<1.0	<1.0	<1.5
MW-6	May-01	**12**	15	13	83
	May-02	ND	ND	0.53	1.4
	Oct-02	ND	ND	ND	3.2
	Jan-03	6	20	87	350
	Jul-03	ND	2.7	3.2	16
	Sep-03	0.8	3.7	4	24
	Jan-04	0.9	0.6	2.9	16
	Jan-05	ND	ND	ND	ND
	Jan-06	ND	ND	14	32
	Jan-07	ND	ND	3.6	9.1
	Jan-08	0.9	11	130	**930**
	Jan-09	ND	ND	66	510
	Jan-10	<5.0	<5.0	<5.0	<10
	Jan-11	<10.0	<10.0	140	**960**
	Jan-12	<10.0	<10.0	61	220
	Mar-13	<2.0	<2.0	<2.0	<4.0
	Nov-17	<0.062	<0.064	<0.093	<0.32
	May-18	<1.0	<1.0	<1.0	<1.5

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
BTEX

BLOOMFIELD CRUDE STATION
WESTERN REFINING SOUTHWEST, INC.

Well Number	Date Sampled	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)
MW-7	May-01	**2,400**	ND	380	**2,800**
	Jun-02	**2,000**	ND	140	**1,100**
	Oct-02	**1,100**	ND	79	490
	Jan-03	**3,200**	ND	400	**3,100**
	Jan-04	**3,300**	ND	460	**3,300**
	Jan-05	**1,600**	ND	220	**1,500**
	Jan-06	**1,400**	ND	280	**1,500**
	Jan-07	**1,200**	ND	450	**2,500**
	Jan-08	**750**	ND	520	**3,100**
	Jan-09	**570**	ND	450	**2,800**
	Jan-10	**270**	<20	460	**2,500**
	Jan-11	**140**	<20	470	**2,400**
	Jan-12	**62**	<20	640	**3,500**
	Mar-13	**44**	<20	210	**920**
	Nov-17	0.64 J	<5.0	75	330
	May-18	**NSP**	**NSP**	**NSP**	**NSP**
	May-19	**NSP**	**NSP**	**NSP**	**NSP**
NMWQCC Standard		**10**	**1000**	**750**	**620**

Notes:
µg/L - micrograms per liter
D - sample diluted due to matrix
NE - not established
NS - not sampled
ND - not detected
< indicates result is less than the stated laboratory method detection limit
NSP - not sampled due to product in well
Bold indicates value exceeds NMWQCC standard
NMWQCC - New Mexico Water Quality Control Commission

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
GENERAL CHEMISTRY

BLOOMFIELD CRUDE STATION
WESTERN REFINING SOUTHWEST, INC.

Well Number	Year	Lab pH (su)	Conductivity (µmhos/cm)	TDS (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Chloride (mg/L)	Sodium Absorption Ratio	Hydroxide (mg/L)	Sulfate (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Barium (mg/L)	Potassium (mg/L)	Iron (mg/L)	Nitrate/ Nitrite (mg/L)
MW-2	1994	6.60	4,920	**3,049**	957	NA	1,170	0	**1,050**	11.78	0	24	828	325	30	NA	NA	1.4	NA	NA
	1995	6.70	5,010	**3,180**	910	885	1,110	0	**884**	12.4	0	591	846	305	30	NA	NA	2.0	NA	NA
	2001	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	NA	**NSP**	**NSP**	**NSP**
	2002	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	**NSP**	NA	**NSP**	**NSP**	**NSP**
	2003	7.00	3,230	**3,220**	1,520	416	1,850	<1	51	NA	<1	369	660	133	20	NA	NA	1	NA	NA
	2004	7.00	3,100	**2,000**	1,500	420	1,500	<1	85	NA	<1	130	680	140	18	**3.1**	NA	3	**11**	<0.10
	2005	7.60	3,000	**2,000**	1,300	430	1,300	7	110	NA	<1	58	620	140	19	**3.1**	NA	3.8	**11**	<0.10
	2006	7.40	3,400	**2,000**	1,400	440	1,400	4.3	130	NA	<1	150	610	150	18	**1.3**	NA	2.4	**4**	<0.10
	2007	7.40	5,490	**4,580**	726	1,190	724	2.57	43.5	NA	<1	**2,460**	869	476	59.5	**5.0**	NA	12.5	**16.3**	NA
	2008	7.50	5,100	**4,350**	543	1,220	534	<1	42.3	NA	<1	**2,468**	739	463	49.5	**6.76**	NA	2.93	**10.7**	ND
	2009	7.34	4,300	**3,900**	760	NA	760	ND	42	NA	NA	**2,000**	720	380	42	**0.25**	0.038	2.3	ND	ND
	2010	7.39	3,700	**3,160**	900	870	900	ND	60	NA	NA	**1,500**	690	290	34	**7.4**	0.18	1.8	**1.2**	ND
	2011	7.49	3,700	**2,750**	1,300	880	1,300	<5.0	52	NA	NA	**920**	740	290	34	**6.1**	0.21	6.9	**32**	NA
	2012	7.80	3,500	**2,720**	1,300	NA	1,300	<5.0	40	NA	NA	**890**	710	220	26	**3.7**	0.079	2.5	**7.6**	0.13
	2013	7.56	4,100	**3,190**	1,300	790	1300	<5.0	45	NA	NA	**1,000**	740	270	30	**3.8**	0.083	2.9	NA	<0.1
	2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-3	1994	7.10	4,250	**3,413**	521	NA	635	0	48	8.14	0	**1,920**	661	439	37	NA	NA	1.4	NA	NA
	1995	7.20	4,420	**3,860**	523	1,480	638	0	56	7.36	0	**2,060**	652	523	43	NA	NA	3.1	NA	NA
	2001	7.30	4,500	**3,960**	459	1,220	559	<1	78	NA	<1	**2,250**	711	423	40.4	NA	NA	2.5	NA	NA
	2002	7.00	4,440	**3,820**	358	1,290	437	<1	46	NA	<1	**2,520**	705	446	43	NA	NA	0.6	NA	NA
	2003	7.00	4,320	**3,660**	560	1,230	683	<1	56	NA	<1	**2,330**	671	428	39.4	NA	NA	1.6	NA	NA
	2004	7.30	4,500	**4,000**	560	1,400	560	1	44	NA	<1	**2,300**	780	320	44	**0.79**	NA	3.6	**3.9**	<0.10
	2005	7.40	4,700	**2,000**	560	1,400	560	1	37	NA	<1	**2,100**	690	450	47	**0.79**	NA	3.9	**3.9**	<0.10
	2006	7.50	5,400	**3,600**	580	1,300	580	1.5	37	NA	<1	**2,200**	680	450	47	**0.38**	NA	3.7	**4.4**	0.36
	2007	7.50	4,780	**3,750**	565	1,120	563	1.92	36.2	NA	<1	**1,920**	649	449	43	**0.41**	NA	10.36	**1.28**	NA
	2008	7.50	4,330	**3,600**	627	1,090	626	1.32	34.8	NA	<1	**1,690**	594	419	39.8	**0.394**	NA	2.36	**1.91**	ND
	2009	7.33	4,000	**3,700**	580	NA	580	ND	37	NA	NA	**2,000**	600	390	37	**6.6**	0.049	2.2	**3.2**	3.1
	2010	7.47	3,500	**3,430**	530	1,100	530	ND	35	NA	NA	**1,800**	600	370	36	0.15	0.024	1.5	ND	5.8
	2011	7.39	4,100	**3,400**	560	1,300	560	<2.0	39	NA	NA	**2,000**	660	450	39	**1.2**	0.075	4.2	**7**	NA
	2012	7.75	4,000	**3,470**	560	NA	560	<2.0	37	NA	NA	**2,400**	620	410	39	**0.55**	0.033	2.3	**2.9**	14
	2013	7.66	4,000	**3,090**	540	960	540	<2.0	38	NA	NA	**1,900**	660	330	36	**0.72**	0.11	4.6	NA	8.9
	2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-4	1994	7.00	5,420	**4,389**	576	NA	703	0	175	10.88	0	**2,470**	907	439	53	NA	NA	3.5	NA	NA
	1995	7.20	5,360	**4,530**	577	1,520	701	0	163	10.1	0	**2,420**	907	523	53	NA	NA	4.3	NA	NA
	2001	7.10	5,090	**4,630**	490	1,460	597	<1	77	NA	<1	**2,680**	900	500	52.5	NA	NA	4.2	NA	NA
	2002	6.90	5,140	**4,420**	358	1,310	437	<1	47	NA	<1	**2,930**	873	449	47	NA	NA	2.6	NA	NA
	2003	7.00	4,460	**3,850**	400	1,070	488	<1	40	NA	<1	**2,570**	667	361	40.8	NA	NA	2.8	NA	NA
	2004	7.30	4,500	**3,900**	400	1,200	400	3	27	NA	<1	**2,500**	810	390	44	**5.2**	NA	6.7	**18**	<0.10
	2005	7.30	4,900	**4,000**	420	1,300	420	1	30	NA	<1	**2,200**	740	450	49	NA	NA	10	**18**	<0.10
	2006	7.40	5,400	**3,700**	450	1,200	450	5.9	31	NA	<1	**2,500**	790	410	47	**5.4**	NA	7	**3.8**	<0.10
	2007	7.20	4,700	**3,690**	455	1,020	454	1.17	54.5	NA	<1	**1,730**	678	410	43.3	**5.73**	NA	12.1	0.56	NA
	2008	7.60	4,500	**3,710**	458	1,040	457	<1	<5	NA	<1	**1,790**	637	394	41.2	**5.41**	NA	3.55	**2.72**	ND
	2009	7.19	4,400	**4,000**	450	NA	450	ND	36	NA	NA	**2,400**	670	400	42	**4.7**	0.037	3.7	ND	ND
	2010	7.49	4,300	**4,060**	490	1,200	490	ND	50	NA	NA	**2,400**	740	420	45	**4.9**	0.024	3.2	ND	ND
	2011	7.33	4,600	**4,010**	460	1,600	460	<2.0	36	NA	NA	**2,600**	760	540	55	**8.2**	0.026	5.4	**1.8**	NA
	2012	7.62	4,500	**4,050**	470	NA	470	<2.0	30	NA	NA	**2,700**	690	480	51	**8.8**	0.11	6.6	**15**	0.18
	2013	7.40	5,000	**4,180**	510	1,400	510	<2.0	41	NA	NA	**2,500**	760	480	58	**7.0**	0.35	12	NA	0.16
	2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
GENERAL CHEMISTRY

BLOOMFIELD CRUDE STATION
WESTERN REFINING SOUTHWEST, INC.

Well Number	Year	Lab pH (su)	Conductivity (µmhos/cm)	TDS (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Chloride (mg/L)	Sodium Absorption Ratio	Hydroxide (mg/L)	Sulfate (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Barium (mg/L)	Potassium (mg/L)	Iron (mg/L)	Nitrate/ Nitrite (mg/L)
MW-5	1995	6.90	6,000	**4,410**	775	NA	945	0	**996**	8.84	0	**1,390**	861	634	51	NA	NA	6.6	NA	NA
	2001	6.70	7,000	**5,230**	757	2,010	923	<1	**1,320**	NA	<1	**1,230**	924	700	63.2	NA	NA	5.6	NA	NA
	2002	6.50	6,880	**4,810**	567	1,880	692	<1	**1,200**	NA	<1	**1,230**	855	661	55.3	NA	NA	4.9	NA	NA
	2003	6.60	6,910	**5,080**	830	1,780	1,010	<1	**1,090**	NA	<1	**1,330**	829	616	58.1	NA	NA	4.8	NA	NA
	2004	6.80	6,700	**4,600**	840	2,000	840	1	**1,300**	NA	<1	**1,400**	1,000	690	57	**11**	NA	11	**4.3**	<0.10
	2005	7.00	6,800	**4,800**	870	1,900	870	<1	**1,100**	NA	<1	**1,200**	910	670	60	**11**	NA	10	**4.3**	<0.10
	2006	7.10	8,000	**4,300**	990	1,800	990	<1	**1,000**	NA	<1	**1,200**	920	630	58	**58**	NA	12	**11**	<0.10
	2007	7.30	6,630	**4,750**	915	1,320	914	1.11	**884**	NA	<1	**1,800**	896	621	57.6	**10.8**	NA	16.6	0.5	NA
	2008	7.10	6,750	**4,780**	933	1,510	932	<1	109	NA	<1	**1,310**	834	585	51.5	**10.7**	NA	5.11	**1.32**	ND
	2009	6.80	6,200	**5,700**	840	NA	840	ND	**1,000**	NA	840	**1,900**	860	570	50	**10**	0.07	5.6	NA	ND
	2010	7.26	5,600	**4,760**	770	1,600	770	ND	**880**	NA	NA	**1,900**	850	560	52	**9.7**	0.054	4.9	0.22	ND
	2011	7.18	5,800	**4,370**	780	1,600	780	<2.0	**350**	NA	NA	**900**	850	570	48	**9.4**	0.038	5.6	**1.7**	NA
	2012	7.12	4,700	**3,880**	680	NA	680	<2.0	**510**	NA	NA	**1900**	810	520	45	**7.5**	0.086	5.9	**8.2**	0.26
	2013	7.10	6,100	**4,480**	820	1,600	820	<2.0	**680**	NA	NA	**1,900**	830	540	50	**9.5**	0.12	6.8	NA	<2.0
	2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-6	2001	6.90	5,470	**4,508**	740	1,550	903	<1	80	NA	<1	**2,780**	1,030	534	53.3	NA	NA	6.3	NA	NA
	2002	6.80	4,460	**3,560**	669	932	816	<1	55	NA	<1	**1,900**	830	319	33	NA	NA	2.5	NA	NA
	2003	7.00	3,070	**2,180**	1,140	602	1,390	<1	79	NA	<1	540	514	203	23.1	NA	NA	2.1	NA	NA
	2004	7.20	4,100	**3,000**	1,000	1,100	1,000	<1	96	NA	<1	**1,400**	870	390	63	**4**	NA	29	**23**	<0.10
	2005	7.20	4,100	**3,000**	1,100	670	1,100	2	93	NA	<1	**940**	670	220	28	**4**	NA	6.7	**23**	<0.10
	2006	7.20	7,000	**4,500**	800	1,400	800	3.6	82	NA	<1	**2,600**	1,200	440	68	**11**	NA	24	**87**	<0.10
	2007	7.10	7,460	**6,070**	678	1,320	676	2.23	57.5	NA	<1	**3,140**	1,500	529	65.1	**13.8**	NA	17.3	**17.7**	NA
	2008	7.50	2,840	**1,920**	1,140	533	1,140	1.25	<1	NA	1.25	312	442	195	25.6	**2.62**	NA	2.83	**24.5**	ND
	2009	7.14	2,800	**1,900**	1,100	NA	1,100	ND	180	NA	NA	260	430	180	23	**1.9**	1.2	2.2	**9.1**	ND
	2010	7.53	2,900	**2,130**	1,000	630	1,000	ND	170	NA	NA	500	510	210	26	**3.1**	**2.3**	1.6	**6.8**	ND
	2011	7.50	3,100	**1,890**	1,100	980	1,100	<2.0	150	NA	NA	490	570	320	46	**5.1**	**4.9**	12	**99**	NA
	2012	7.62	3,400	**2,560**	1,100	NA	1,100	<2.0	130	NA	NA	**970**	580	280	37	**4.2**	0.5	6.4	**100**	4
	2013	7.46	3,600	**2,630**	1,100	1000	1,100	<2.0	120	NA	NA	**920**	580	290	72	**6.8**	1.8	25	NA	<0.1
	2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-7	2001	6.70	2,160	**1,710**	600	843	732	<1	52	NA	<1	**642**	234	296	25.6	NA	NA	1.6	NA	NA
	2002	6.80	1,870	**1,570**	432	758	527	<1	20	NA	<1	**700**	151	258	27.8	NA	NA	2.2	NA	NA
	2003	6.70	1,310	810	696	531	849	<1	35	NA	<1	57	126	152	36.8	NA	NA	1	NA	NA
	2004	6.80	1,400	920	720	520	720	<1	13	NA	<1	120	170	170	23	**3**	NA	7	**27**	<0.10
	2005	7.00	1,500	930	740	540	740	1	15	NA	<1	190	150	180	20	**0.3**	NA	3.3	**27**	<0.10
	2006	7.40	1,800	**1,200**	750	660	750	3.2	16	NA	<1	310	170	220	23	**2.9**	NA	3.3	**49**	<0.10
	2007	7.10	1,460	858	638	402	636	1.8	22.4	NA	<1	127	124	161	20.2	**2.34**	NA	8.84	**32.7**	NA
	2008	7.30	1,320	810	748	369	747	<1	18.1	NA	<1	50.9	120	139	15.4	**1.6**	NA	1.2	**14.4**	ND
	2009	7.03	1,200	750	680	NA	680	ND	22	NA	NA	6.8	140	150	17	**1.5**	1.4	0.9	**11**	ND
	2010	7.63	1,200	762	650	390	650	ND	24	NA	NA	6.5	130	130	15	**1.2**	**2.4**	ND	**8.4**	ND
	2011	7.50	1,300	734	670	460	670	<2.0	26	NA	NA	7.8	130	150	19	**1.3**	**2.7**	1.3	**47**	NA
	2012	7.75	1,300	800	720	NA	720	<2.0	24	NA	NA	4.4	160	150	17	**0.89**	**2.1**	2.6	**22**	<0.20
	2013	7.58	1,600	**1,100**	670	580	670	<2.0	22	NA	NA	210	160	200	22	**1.5**	**4.9**	3.1	NA	<0.1
	2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NMWQCC Standard		**6-9**	NE	**1,000**	NE	NE	NE	NE	**250**	NE	NE	**600**	NE	NE	NE	**0.2**	**2.0**	NE	**1.0**	NE

TABLE 3
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
GENERAL CHEMISTRY

BLOOMFIELD CRUDE STATION
WESTERN REFINING SOUTHWEST, INC.

Well Number	Year	Lab pH (su)	Conductivity (µmhos/cm)	TDS (mg/L)	Alkalinity (mg/L)	Hardness (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Chloride (mg/L)	Sodium Absorption Ratio	Hydroxide (mg/L)	Sulfate (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Barium (mg/L)	Potassium (mg/L)	Iron (mg/L)	Nitrate/ Nitrite (mg/L)

Notes:
mg/L - milligrams per liter
NE - not established
NA - not analyzed
ND - not detected
< - indicates value is less than laboratory detection limit
NSP - not sampled due to product in the well
Bold indicates value exceeds NMWQCC standard
SU - standard units
TDS - Total Dissolved Solids
umhos/cm - microhms per centimeter
NMWQCC - New Mexico Water Quality Control Commission

TABLE 4
2019 GROUNDWATER ELEVATION DATA

BLOOMFIELD CRUDE STATION
WESTERN REFINING SOUTHWEST, INC.

Well Number	Casing Elevation (ft)	Date	Depth to Water (ft BTOC)	DTP	Product Thickness	Groundwater Elevation (ft)
MW-2	5485.33	2/13/2019	16.30	-	-	5469.03
		5/15/2019	17.00	-	-	5468.33
		7/31/2019	17.04	-	-	5468.29
		11/13/2019	16.09	-	-	5469.24
MW-3	5488.61	2/13/2019	16.97	-	-	5471.64
		5/15/2019	17.47	-	-	5471.14
		7/31/2019	17.90	-	-	5470.71
		11/13/2019	17.38	-	-	5471.23
MW-4	5486.18	2/13/2019	17.68	-	-	5468.50
		5/15/2019	17.84	-	-	5468.34
		7/31/2019	17.98	-	-	5468.20
		11/13/2019	17.50	-	-	5468.68
MW-5	5481.61	2/13/2019	17.34	-	-	5464.27
		5/15/2019	17.81	-	-	5463.80
		7/31/2019	17.49	-	-	5464.12
		11/13/2019	16.96	-	-	5464.65
MW-6	5486.18	2/13/2019	19.19	-	-	5466.99
		5/15/2019	19.72	-	-	5466.46
		7/31/2019	19.75	-	-	5466.43
		11/13/2019	18.99	-	-	5467.19
MW-7	5491.86	2/13/2019	24.21	24.09	0.12	5467.75
		5/15/2019	25.43	24.09	1.34	5467.50
		7/31/2019	24.62	24.09	0.53	5467.66
		11/13/2019	23.63	-	-	5468.23

Notes:
BTOC - Below Top of Casing
ft - feet
Water level elevation is given in feet above mean sea level
*Product detected/observed