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ENVIRONMENT DEPARTMENT

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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

June 13, 2018

Allen S. Hains
Manager Remediation Projects
Western Refining Southwest, Inc.
Bloomfield Terminal
#50 County Road 4490
Bloomfield, New Mexico 87413

**RE: DISAPPROVAL
RIVER TERRACE VOLUNTARY CORRECTIVE MEASURES
BIOVENTING/AIR SPARGING SYSTEM ANNUAL REPORT
(JANUARY – DECEMBER 2017), MARCH 2018
WESTERN REFINING SOUTHWEST, INC. - BLOOMFIELD TERMINAL
EPA ID# NMD089416416
HWB-WRB-18-001**

Dear Mr. Hains:

The New Mexico Environment Department (NMED) has received the Western Refining Southwest, Inc., Bloomfield Terminal (Western or the Respondent) *River Terrace Voluntary Corrective Measures Bioventing/Air Sparging System Annual Report, January – December 2017* (Report), dated March 2018. NMED has reviewed the Report, and hereby issues this Disapproval with the following comments.

Comment 1

Comment 3 in the *Approval with Modifications letter*, dated August 18, 2017 directed Western to collect groundwater samples from dewatering well DW-2 and monitoring well MW-48 for analysis of BTEX, MTBE, TPH-GRO and DRO, and total lead. In the response letter, dated December 21, 2017, Western acknowledges the sampling requirement. Accordingly, a groundwater sample was collected from dewatering well DW-2 in December 2017; however, no

groundwater sample was collected from monitoring well MW-48 and Western did not explain why the sample was not collected. In addition, Section 3.1 (*Groundwater Monitoring*) page 11, Western states, “[p]ursuant to comments received from NMED (dated August 18, 2017) on the previous three River Terrace Annual Monitoring Reports, in December 2017 additional groundwater samples were collected from the groundwater collection gallery and wells DW-2 and DW-3.” The referenced letter directed Western to collect groundwater samples from DW-2, MW-48 and the collection gallery. Correct the statement in the revised Report if necessary, and ensure groundwater samples are collected from both dewatering well DW-2 and monitoring well MW-48 for analyses of BTEX, MTBE, TPH-GRO and DRO, and total lead. The analytical results for monitoring well MW-48 must be presented in the revised Report, if the samples were already collected. Otherwise, explain why the samples were not collected from monitoring well MW-48 in the revised Report and include MW-48 in the next monitoring and sampling event.

Comment 2

Comment 7 in the August 18, 2018 *Approval with Modifications* letter directed Western to collect pressure readings and soil gas samples from dewatering well DW-3, monitoring well MW-48 and the collection gallery. However, Western failed to comply with the direction. In addition, Section 3.2, (*Soil Vapor Monitoring*) page 12, Western states, “[s]oil gas monitoring is no longer conducted at the River Terrace. In a response letter dated June 15, 2015 NMED-HWB agreed soil gas analytical results do not provide any additional information regarding subsurface conditions at the River Terrace System.” Since Western proposes to move forward toward closure, additional samples and analytical data are required to determine if closure is appropriate. Pressure readings and soil gas samples must be collected at all wells (e.g., TP, BV, DW and MW) at the site. Include these wells in the facility-wide groundwater monitoring work plan (FWGMWP) and analyze the soil gas samples for BTEX and TPH-GRO. The analytical results must be included in the next annual report (2019 Report).

Comment 3

Western’s response to Comment 9 in the August 18, 2018 *Approval with Modifications* letter states that “[t]he more likely scenario is that a small volume of sediment was entrained in the groundwater samples that were collected with bailer and then preserved without filtration for totals analyses.” According to Table 1 (*2017 Groundwater Monitoring Data Summary*), the lead concentrations in the groundwater samples collected from monitoring well MW-49 exceeded the screening level consecutively in 2016 and 2017. It appears that the reported analytical results are recurring, but elevated lead concentrations are present at all piezometers and wells in the area. Investigate and propose an appropriate sampling method for total metals in the revised Report and ensure that field technicians are properly trained in the method. In addition, Western states that “[l]ead was detected at concentrations above the respective MCL (0.0150 mg/l) at TP-5, TP-6, TP-7, TP-8, TP-9, and MW-49. The detected concentrations ranged between 0.0068 mg/l and 0.068 mg/l, with the highest concentration detected at TP-5.” Discuss if the analytical results for the piezometer samples also may be caused by sediment entrainment in the revised Report.

Comment 4

In the *Executive Summary*, page 1, Section 4.1.1 (*Groundwater Monitoring*) page 14, Western states, “TPH-DRO was detected above the NMED screening level (0.039 mg/l) at TP-5, TP-6, and TP-8. The detected concentrations ranged between 1.3 mg/l and 1.7 mg/l, with the highest concentration detected at TP-6.” According to Table 1, the TPH-DRO concentration in the groundwater sample collected from dewatering well DW-2 was also above the screening level in 2017. The lowest TPH-DRO concentration was 0.4 mg/L detected in the groundwater sample collected from dewatering well DW-2. Revise the Report to correct the information. In the past, semi-volatile organic compounds (SVOCs) were originally eliminated as a cost saving measure; however, if Western plans to recommend closure, SVOCs must be analyzed. Analysis of SVOCs for temporary piezometers TP-5, TP-6, TP-8 and dewatering well DW-2 must be reported in the 2019 Report. Propose to include SVOC analysis for all temporary piezometers, dewatering wells, and monitoring wells in the revised Report and upcoming FWGMWP.

Comment 5

In the *Executive Summary*, page 1, Section 4.1.1 (*Groundwater Monitoring*) page 14, Western states, “TPH-GRO was detected above the respective laboratory reporting limit at TP-5, TP-6, TP-7, TP-8, and DW-3. The detected concentrations ranged between 0.099 mg/l and 13 mg/l, with the highest concentration detected at TP-5.” According to Table 1, the TPH-GRO concentration in the groundwater sample collected from temporary piezometer TP-7 is reported as non-detect, <0.05 mg/L. In addition, the TPH-GRO concentrations in the groundwater samples collected from temporary piezometer TP-9 and dewatering well DW-2 and collection gallery are reported as 0.11 mg/L, 1 mg/L and 0.11 mg/L, respectively in 2017. These detections are not addressed in the statement; revise the Report accordingly. In the past, NMED only required BTEX and MTBE to be reported; however, since Western plans to recommend closure at the site, a full range of volatile organic compound (VOC) analysis is required. Propose to analyze groundwater samples for the full VOC analytical suite at all of the wells at the site in the upcoming FWGMWP.

Comment 6

In the *Executive Summary*, page 2, Western states, “[r]esults from the analytical sampling of the GAC system show that the GAC filters continue to be effective in treating the extracted groundwater prior to discharging into the facility raw water ponds.” According to Table 2 (*2017 River Terrace Annual Report GAC Filter Monitoring*), the TPH-GRO concentration in the water sample collected from GAC-Lag is reported as 0.026J mg/L in the fourth quarter of 2017. Since some potential constituents (e.g., low-molecular weight ketones) in TPH-GRO may not be amenable to the GAC adsorption, the concentrations of VOCs must be monitored during the upcoming 2018 sampling event and reported in the 2019 Report. In addition, if Western plans to recommend closure at the site, a full VOC analytical suite is required. Propose to collect water

samples from the GAC-Inlet, GAC-Lead and GAC-Lag and analyze for the full VOC analytical suite in the upcoming FWGMWP. Report the results in the 2019 Report.

Comment 7

In Section 1.1 (*Site Location and Description*) page 3, the owner is listed as San Juan Refining Company and the operator is listed as Western Refining Southwest. During a May 2, 2018 meeting between Western (Andeavor) representatives and NMED, the Respondent notified NMED that the owner had been changed at the Gallup Refinery. Since the change is also applicable to the Bloomfield Facility, update the information in the revised Report and provide a letter of notification.

Comment 8

In Section 3.1.1 (*Groundwater Measurements*) page 11, Western states, “[n]o product was detected in any of the wells.” In order to investigate the extent of hydrocarbon impacts, the screened intervals of these wells must intercept with water table. The screened interval of temporary piezometer TP-5 is submerged below water table in 2017. In the revised Report, provide the screened interval elevations for each well and temporary piezometer in Table 1.

Comment 9

In Section 2 (*Background*) page 7, Western states, “[q]uarterly performance monitoring of the Bioventing System was conducted in February, June, August, and October 207.” There is a typographical error in the statement. Correct the error in the revised Report.

Comment 10

In Section 2 (*Background*) page 10, Western states, “Western received approval to discontinue sampling of groundwater at piezometers TP-3, TP-10, TP-11, TP-12, and TP-13; however, groundwater elevation information will continue to be collected from these locations (NMED, 2015).” The data for groundwater depth measurements are provided in Table 1; however, the groundwater elevation data are not provided. Provide groundwater elevation data for all wells in the River Terrace area in the revised Report. Revise Table 1 to include the elevation data in addition to depth to water and total well depth data in the revised Report.

Comment 11

In Section 3.1 (*Groundwater Monitoring*) page 11, Western states, “[g]roundwater samples were collected at TP-7 and DW-1 in December 2017.” According to Table 1, the sampling dates are April 26, 2017. The footnote in Table 1 states that a water level was measured on April 26, 2017 and sample for chemical analysis was collected on December 29, 2017. Groundwater depth and water quality measurements should also have been conducted during the December 29, 2017 sampling event. In future submittals, provide three tables (i.e., groundwater depths/elevations, water quality parameters and analytical data). The data table presentation must be consistent

with the annual groundwater monitoring report.

Comment 12

In Section 3.3.1, (*GAC Sampling*) page 13, Western states, “[a]ll sample results for the Lag GAC filter were non-detect.” According to Table 2 (*GAC Filter Monitoring 2017*), the TPH-GRO concentration was detected at 0.026J mg/L in December 13, 2017. Correct the discrepancy in the revised Report.

Comment 13

In Section 4.1.1, (*Groundwater Monitoring*) page 14, Western states, “[l]ead was detected at concentrations above the respective MCL (0.0150 mg/l) at routine monitoring locations TP-5, TP-6, TP-7, TP-8, TP-9, and MW-49. The detected concentrations ranged between 0.0068 mg/l and 0.068 mg/l, with the highest concentration detected at TP-59.” The statement contains multiple errors. First, there is a typographical error in the statement (TP-59). The highest lead concentration was not detected in the sample collected from well TP-5. The highest lead concentration was detected at 0.11 mg/L in the groundwater sample collected from the collection gallery. In addition, the lowest lead concentration was detected at 0.00083 mg/L in the groundwater sample collected from well DW-3. Correct the statement accordingly in the revised Report.

Comment 14

In Section 4.1.1, (*Groundwater Monitoring*) page 14, Western states, “[p]ursuant to comments received from NMED on previous River Terrace Annual Monitoring Reports, additional groundwater samples were collected from the collection gallery and wells DW-2 and DW-3.” Groundwater samples have been routinely collected from well DW-3 and NMED did not require additional groundwater sampling from well DW-2 in the referenced letter. However, NMED directed Western to collect groundwater samples from the collection gallery and wells DW-2 and MW-48. In the upcoming FWGMWP, include these wells as part of the proposed monitoring and sampling.

Comment 15

In Section 4.1.1, (*Groundwater Monitoring*) pages 14-15, Western states, “[t]he screening level for TPH-DRO was exceeded at DW-2 (reported concentration of 0.4 mg/l) and the lead screening level was exceeded in the groundwater sample collected at the collection gallery (reported concentration of 0.11 mg/l).” Due to the exceedances, Western must update the sampling plan to collect groundwater samples on an annual basis from dewatering well DW-2 and the collection gallery. The analytical results must be presented in future reports.

Comment 16

In Section 4.2 (*Recommendations*), Western states, “[a]n evaluation of the increasing xylenes concentrations in groundwater samples collected at TP-5 should be conducted.” Revise Section 4.2 to provide additional discussion of how the evaluation will be conducted and include the additional analysis associated with the evaluation in the FWGMWP, as necessary.

Comment 17

In Figure 3 (*River Terrace Location Map*), the location of the sheet piling-slurry wall is not depicted. The wall was reportedly installed on the south side of the riverbank extending from the perimeter of the riverbank to the outlet of the former water make-up ponds. Revise the figure to depict the location of the barrier wall. In addition, Section 2 (*Background*), Western states, “the barrier extends approximately 35 feet below ground surface...” In Section 4.6.5 of the *Discharge Plan Application Site Investigation and Abatement Plan Volume II* dated September 2001, Western states, “[t]he design of the sheet piling system includes the sheet piling installed at a depth of approximately 22 feet...” There is a discrepancy in the construction details of the barrier wall. Provide construction details (e.g., as-built drawings) for the wall in the revised Report and include a more accurate description (e.g., length of the wall) in Section 2.

Comment 18

In Figure 5 (*Groundwater BTEX Concentration Map*), the ethylbenzene and xylenes concentrations in the groundwater samples collected from dewatering well DW-3 are recorded as 0.0032 mg/L and <0.0015 mg/L, respectively. The reported concentrations were collected during the April 2017 sampling event. The higher detections of ethylbenzene and xylenes concentrations are recorded at 0.0040 mg/L and 0.0020 mg/L, respectively during the December 2017 sampling event according to Table 1. Include both the April and December 2017 detections in Figure 5. Revise the Report accordingly.

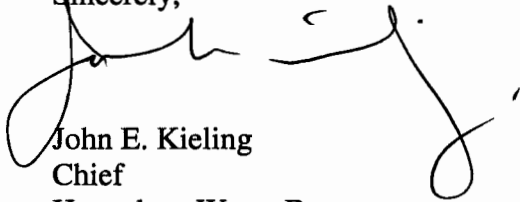
Mr. Hains
June 13, 2018
Page 7

Western must address all comments in this Disapproval and submit a revised Report no later than **September 30, 2018**. The revised Report must be accompanied by a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. In addition, Western must submit a redline-strikeout version that identifies all changes and edits to the Report.

Western must also update the FWGMWP to address Comments 2, 4, 5, 6, 14, 15 and 16 in accordance with the Section IV.A.1 of the Order. The updated FWGMWP must be submitted no later than **July 31, 2018**.

If you have questions regarding this Disapproval, please contact Michiya Suzuki of my staff at 505-476-6059.

Sincerely,



John E. Kielling
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
K. Van Horn, NMED HWB
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File: Reading File and WRB 2018 File
HWB-WRB-18-001