Western Refining Southwest LLC
A subsidiary of Marathon Petroleum Corporation

I-40 Exit 39
Jamestown, NM 87347

February 29, 2024

Mr. Ricardo Maestas, Interim Chief
New Mexico Environment Department
2905 Rodeo Park Drive East, Bldg. 1
Santa Fe, NM 87505-6303

RE: 2024 RCRA Financial Assurance Cost Estimate
Western Refining Southwest LLC
(D/B/A Marathon Gallup Refinery)
EPA ID# NMD000333211

Dear Mr. Maestas:

Western Refining Southwest LLC (D/B/A Marathon Gallup Refinery) (Western) is submitting the 2024 Financial Assurance (FA) Cost Estimate.

This FA estimate includes costs to address those activities specified in the Complaint and Consent Agreement and Final Order (CAFO) (dated August 26, 2009) (USEPA 2009) for implementation of a remedy for Aeration Lagoons (ALs) AL-1 and AL-2 and the requirements of the Resource Conservation and Recovery Act (RCRA) modified permit effective September 2017 (NMED 2022a). The FA estimates were prepared in accordance with Title 40, Code of Federal Regulations (CFR) Part 264.101 and substantially in compliance with the requirements of 40 CFR 264.142 and 264.144.

In addressing the requirements of the CAFO, the original 2009 cost estimate for the ALs ($1,257,000) has been adjusted annually for inflation each year (WRC 2009). The most recent update was conducted in January 2023 (revised January 2024) with an inflation adjusted estimate of $1,661,199. The 2024 estimate for the ALs is $1,714,263 (Attachment A-1). To prepare the 2024 estimate, the following equation was used:

$$\left(\frac{IPD_{latest\ published}}{IPD_{previous\ year}}\right) X\ Cost\ Esimate\ Total_{previous\ year} = Cost\ Estimate\ Total_{latest\ published}$$

The Implicit Price Deflators (IPD) is taken from "Table 1.1.9 – Implicit Price Deflators for Gross Domestic Product" (Bureau of Economic Analysis 2024) using the Gross Domestic Product line

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item. The third quarter IPD for 2022 and 2023 were used to calculate the 2024 estimate (Attachment A-2).

In addition, the 2017 Modified RCRA permit was most recently updated in February 2022 (NMED 2022a). The 2017 Modified RCRA Permit expired on December 2, 2023, however, the New Mexico Environment Department has not provided a new permit, and per Section I.G.6, the current permit shall continue in force and effect. There are two separate provisions in the 2017 Modified RCRA permit, which require FA estimates. These two provisions can be found in Sections II.D.1 and II.D.2 of the 2017 Modified RCRA permit and address the post-closure care of the Land Treatment Unit (LTU) and the facility-wide groundwater monitoring, respectively. The FA estimate also includes the Solid Waste Management Units and Areas of Concern (AOC) (Attachment A-1).

AOC 35 received an Approval With Modifications from NMED December 12, 2022 (NMED 2022b) and a response was submitted to NMED on March 15, 2023 (Western 2023a). AOC 35 includes the main truck loading rack, crude slop and ethanol unloading facility, additive tank farm/loading rack, and the retail tank farm (also known as the marketing tank farm). It is anticipated that the investigation will occur during 2024 and investigation costs have been added to Attachment A-1 for the investigation.

A revised FA estimate for post-closure care of the LTU was prepared in 2010, reflecting the work that had been completed since the first RCRA permit issued in 2000. The 2024 FA estimate includes revisions for updated labor costs, laboratory costs, and years remaining (Attachment A-3), therefore an inflation factor was not applied. The FA estimate for 2024 is $152,015.

Section II.D.2 requires a FA estimate for 20 years of facility-wide groundwater monitoring starting in February of 2014. The initial estimated cost was $1,762,340 in 2014. The FA estimate reflects the "Response to Approval With Modifications, 2022 Facility-Wide Groundwater Monitoring Work Plan" (submitted February 4, 2022 and revised April 1, 2023) (Western 2023b) as the most recent approved work plan. The Facility-Wide Ground Water Monitoring was estimated for 2024 and the years following 2024 using updated laboratory costs (Attachment A-4), therefore an inflation factor was not applied. The cost estimate for 2024 and subsequent sampling years is $7,137,812 (Attachment A-1).

The 2024 total FA estimated cost is $9,074,089 for addressing the ALs pursuant to the CAFO, the AOC 35 investigation, implementation of the 2017 Modified RCRA Post-Closure Permit for the LTU, and 11 years of facility-wide groundwater monitoring.

If you have any questions or comments regarding the information contained herein, please do not hesitate to contact Mr. John Moore at 505-879-7643.

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Certification

I certify under penalty of law that this document and all attachments were prepared under my direction of supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,
Western Refining Southwest LLC, Marathon Gallup Refinery

Timothy J. Peterkoski
Director of Environment and Climate Strategy

Enclosure

cc: L. Tsinnajinnie, NMED HWB
L. Andress, NMED HWB
M. Suzuki, NMED HWB
C. Eads, NMED HWB
L. King, EPA
L. Barr, NMOCD
K. Luka, Marathon Petroleum Corporation
J. Chen, Marathon Petroleum Corporation
J. Moore, Marathon Gallup Refinery
H. Jones, Trihydro Corporation

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References

Bureau of Economic Analysis. 2024. Table 1.1.9. Implicit Price Deflators for Gross Domestic Product. Accessed January 19. Available from: https://apps.bea.gov/iTable/?reqid=19&step=3&isuri=1&1921=survey&1903=13. (Attachment A-5).

New Mexico Environment Department (NMED). 2022a. Resource Conservation and Recovery Act Modified Permit, Effective September 2017. February.

NMED. 2022b. Approval with Modifications, Revised Investigation Work Plan No. 2 Area of Concern 35, Western Refining Southwest Inc., Marathon Gallup Refinery, EPA ID #NMD000333211, HWB-WRG-20-009. December 12.

United States Environmental Protection Agency (USEPA). 2009. Complaint and Consent Agreement and Final Order. August 26.

Western Refining Company, Southwest Inc. (WRC). 2009. Revised Final Closure Cost Estimate, Western Refining Company, Southwest Inc., Gallup Refinery: EPA ID #NMD000333211. Table 1B and 2. November 12. (Attachment A-6).

Western Refining Southwest LLC (Western). 2023a. Response to Approval with Modifications, Revised Investigation Work Plan No. 2 Area of Concern 35, Western Refining Southwest Inc., Marathon Gallup Refinery, EPA ID #NMD000333211, HWB-WRG-20-009. March 15.

Western. 2023b. Response to Approval With Modifications, 2022 Facility-Wide Groundwater Monitoring Work Plan, Western Refining Southwest LLC (D/B/A Marathon Gallup Refinery), EPA ID #NMD000333211, HWB-WRG-22-001. April 1.

ATTACHMENT A

ATTACHMENT A-1. JANUARY 2024 COST ESTIMATE FOR RCRA POST-CLOSURE PERMIT
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Waste Management Area	Corrective Action/Project	Investigation Costs	Remediation Costs	O&M Costs	Total Costs	Notes
RCRA Regulated Units						
LTU	Groundwater & Soil Monitoring	$0	$0	$152,015	$152,015	Post-closure care for LTU, Attachment A-3 updated to reflect work completed through end of 2023.
SWMUs and AOCs						
SWMU 1 – Aeration Basin	Soil investigation & potential remediation	$0	$0	$0	$0	Remediation cost estimate developed November 2009 pursuant to EPA CAFO; remedy not selected by NMED under the Permit.
SWMU 2 - Evaporation Ponds	IWP submitted March 15, 2023	$0	$0	$0	$0	IWP deferred
SWMU 3 – Empty Container Storage Area/Bundle Cleaning Pad	IR submitted November 28, 2022	$0	$0	$0	$0	IR pending NMED approval
SWMU 4 – Old Burn Pit	IWP submitted April 22, 2022	$0	$0	$0	$0	IWP, combined with AOC 34, pending NMED approval
SWMU 5 – Landfill Areas		$0	$0	$0	$0	
SWMU 6 – Tank Farm	IWP deferred	$0	$0	$0	$0	No final remedy selected; voluntary SPH recovery is conducted once a quarter at three wells & a small passive bioventing system is present, but the operations costs are minimal and no timeframe for operation is specified. No additional O&M costs are included as these actions would be conducted during other routine monitoring events.
SWMU 7 – Fire Training Area	IWP deferred	$0	$0	$0	$0	already capped; IWP submittal deferred
SWMU 8 – Railroad Rack Lagoon, ditch & fan area	CAC without Controls Approved	$0	$0	$0	$0	Remediation completed and reports approved by NMED
SWMU 9 – Drainage Ditch Near Inactive Landfarm	IR submitted December 31, 2022	$0	$0	$0	$0	IR pending NMED approval
SWMU 10 – Sludge Pits	Investigation conducted in 2015 and 2016	$0	$0	$0	$0	IR approved by NMED November 30, 2021
SWMU 11 – Secondary Oil Skimmer	IWP submitted	$0	$0	$0	$0	IWP submitted
SWMU 12 – Contact Wastewater Collection System	IWP deferred	$0	$0	$0	$0	
SWMU 13 – Drainage Ditch between API Evaporation Ponds and Neutralization Tank Evaporation Ponds	Investigation conducted in 2019	$0	$0	$0	$0	IR approved by NMED April 3, 2020
SWMU 14 – Old API Separator	IWP deferred	$0	$0	$0	$0	IWP submittal deferred
AOC 15 – NAPIS	IWP RTD submitted January 26, 2024	$0	$0	$0	$0	IWP RTD pending NMED approval
AOC 16 – NAPIS Overflow Tanks		$0	$0	$0	$0	
AOC 17 – Railroad Loading/Unloading Facility	IWP submitted January 9, 2023	$0	$0	$0	$0	IWP pending NMED approval
AOC 18 – Asphalt Tank Farm	IWP submitted June 15, 2022	$0	$0	$0	$0	IWP, combined with AOC 24, pending NMED approval
AOC 19 – East Fuel Oil Loading Rack	CAC without Controls Approved	$0	$0	$0	$0	
AOC 24 – Crude Oil Tank Farm	IWP submitted June 15, 2022	$0	$0	$0	$0	IWP, combined with AOC 18, pending NMED approval
AOC 25 – Tank 573	CAC without Controls Approved	$0	$0	$0	$0	
AOC 26 – Process Units	IR submitted January 18, 2024	$0	$0	$0	$0	IR pending NMED approval
AOC 27 – Boiler & Cooling Unit Area		$0	$0	$0	$0	
AOC 28 – Warehouse & Maintenance Shop Area	IWP RTD submitted July 10, 2023	$0	$0	$0	$0	IWP pending NMED approval
AOC 29 – Equipment Yard & Drum Storage Area		$0	$0	$0	$0	
AOC 30 – Laboratory		$0	$0	$0	$0	
AOC 31 – Tank 27 & 28	AR submitted March 25, 2021	$0	$0	$0	$0	IWP deferred
AOC 34 – Scrap Yard	IWP submitted April 22, 2022	$0	$0	$0	$0	IWP, combined with SWMU 4 and 5, pending NMED approval
AOC 35 – Main Loading Racks, Crude Slop & Ethanol Unloading /Loading rack, Additive Tank Farm, Retail Tank Farm	IWP approved December 12, 2022	$70,000	$0	$0	$70,000	IWP approved December 12, 2022
Groundwater						
Site-wide	Facility-Wide Groundwater Monitoring	$0	$0	$0	$7,137,812	2024 at $692,419 + 5 years at $595,977 (odd years) + 5 years at $692,419 (even years included Total Metals) and 3 events of PW-2 sampling at $1,138; see Attachment A-4
Other Costs						
Aeration Lagoons	CAFO	$1,714,263	$0	$0	$1,714,263	Attachment A-2 revised annually to account for inflation.
	Total Estimated Costs	$1,784,263	$0	$152,015	$9,074,089	

AOC - Area of Concern
API - American Petroleum Institute
CAC - Corrective Action Complete
CAFO - Consent Agreement and Final Order
EPA - Environmental Protection Agency
IR - Investigation Report
IWP - Investigation Work Plan
LTU - Land Treatment Unit
NAPIS - New American Petroleum Institute Separator
NMED - New Mexico Environment Department
O&M - Operations and Maintenance
RCRA - Resource Conservation and Recovery Act
RTD - Response to Disapproval
SPH - Separate phase hydrocarbon
SWMU - Solid Waste Management Unit

Notes:

New estimates for the LTU and Groundwater costs were prepared by updating the labor costs, laboratory costs, and years remaining. Laboratory costs were acquired from the laboratory and updated. Because the laboratory costs were updated for 2024 an inflation adjustment was not necessary.

Annual inflation factor calculated from Table 1.1.9 Implicit Price Deflators for Gross Domestic Product (See Attachment A-2).

Permit - Resource Conservation and Recovery Act Modified Permit, Effective September 2017, Updated February 2022.

ATTACHMENT A-2. INFLATION FACTORS
(2024)
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

$$\left(\frac{IPD_{latest\ \ publis\ hed}}{IPD_{previous\ \ year}}\right) X\ Cost\ Esimate\ Total_{previous\ \ year} = Cost\ Estimate\ Total_{latest\ \ publis\ hed}$$

	GDP (3rd Quarter)[1,2]	Calculated Inflation
2022	118.962	
2023	122.762	1.032

	SWMU 1 Cost Estimate
2022[4]	$ 1,661,199
2023	$ 1,714,263

IPD - Implicit Price Deflators
LTU - Land Treatment Unit
RCRA - Resource Conservation and Recovery Act
SWMU 1 - Solid Waste Management Unit 1

Notes:

[1]3rd Quarter IPD used for 2022 and 2023 as recommended by the New Mexico Environment Department in the Disapproval, 2023 RCRA Financial Assurance Cost Estimate, dated February 20, 2024.
[2]IPD values accessed January 19, 2024 (Attachment A-5).
[3]Inflation factor calculated taking 3rd Quarter 2023 IPD divided by the 3rd Quarter 2022 IPD.
[4]2023 costs reported in 2023 Financial Assurance, dated March 15, 2023, revised February 29, 2024.

ATTACHMENT A-3. LAND TREATMENT UNIT DETAILED COST ESTIMATE (2024)
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

	Cost Estimate in 2000 Part B Permit Application			Updated 2024 Cost Estimate		
Activity	**Material**	**Cost Frequency (over 30 years)**	**Estimated Cost**	**Material**	**Cost Frequency (remaining 7 years)**	**2024 Estimated Costs**
MONITORING						
Sample by Zone						
ZOI	4 samples at $1,450	3	$17,400	4 samples at $595 [1]	1	$2,380
Treatment Zone	4 samples at $1,450	3	$17,400	4 samples at $595 [1]	1	$2,380
Chinle Slope Wash	1 sample at $1,650	8	$13,200	1 sample at $685 [2]	1	$685
Sonsela	4 samples at $1,650	8	$52,800	4 samples at $685 [2]	1	$2,740
Sample QC	25% of $100,800		$25,200	25% of $8,185		$2,046
Mobilization/labor						
ZOI & Treatment Zone	3 events at $1,000/event	3	$3,000	1 event at $16,000/event	1	$16,000
Chinle Slope Wash & Sonsela	8 events at $2,000/event	8	$16,000	1 event at $8,000/event	1	$8,000
COVER ESTABLISHMENT						
Field Technician	$10,000	1	$10,000	completed		$0
Microtox	$300 per test	9	$2,700	completed		$0
Soil Amendments	352,000 sqft at 0.02/sqft		$7,040	completed		$0
Establish Vegetative Cover						
Top Soil	7.8 acres at $2,000/acre		$15,600	completed		$0
Level LTU	7.8 acres at $950/acre		$7,410	completed		$0
Plant Seed	7.8 acres at $750/acre		$5,850	completed		$0
Water	1140 Mgal. At $1/Mgal		$1,140	completed		$0
ROUTINE INSPECTION, MAINTENANCE, & REPAIR						
Site Inspection	Weekly inspection ($200 annually)	30	$6,000	$100 per weekly inspection	364	$36,400
Security Device	$100 annually	30	$3,000	$220 annually	7	$1,540
Run-on/Run-off	$1,000 annually to maintain perimeter berm	30	$30,000	$2,500 annually to maintain perimeter berm	7	$17,500
PREPARE CERTIFICATION						
Certify LTU Closure	120 hours at $125/hour	120	$15,000	120 hours at $148/hour	120	$17,760
Notice in Deed	6 hours at $150/hour	6	$900	6 hours at $124/hour	6	$744
Certify Final Closure	120 hours at $125/hour	120	$15,000	120 hours at $148/hour	120	$17,760
Notice in Deed	6 hours at $150/hour	6	$900	6 hours at $124/hour	6	$744
Task Total			$265,540			$126,679
Gallup Overhead (10%)			$26,554			$12,668
Contingency (10%)			$26,554			$12,668
TOTAL			$318,648			$152,015

LTU - Land Treatment Unit
Mgal - Million gallons
QC - Quality control
sqft - Square feet
ZOI - Zone of Incorporation

[1] Analytical cost breakdown: Method 8260 at $70/sample; Method 8270 and 8270SIM at $260/sample; Method 8015 at $110/sample; Method 200.7/200.8 at $155/sample.

[2] Analytical cost breakdown: Method 8260 at $70/sample; Method 8270 and 8270SIM at $260/sample; Method 8015 at $110/sample; Method 200.7/200.8 at $155/sample; SM4500 at $50/sample; Method 300.0 at $40/sample.

ATTACHMENT A-4. FACILITY-WIDE GROUNDWATER MONITORING ANNUAL COST ESTIMATE (2024)
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Analysis	Frequency	# of Sample Locations[1]	# of QAQC Samples[2]	# of Samples	Cost/Sample	Cost per Year
Quarterly Sampling Events						
8260B - VOCs	Quarterly	96	45	564	$70	$39,480
8270C - SVOCs	Quarterly	96	45	564	$130	$73,320
8270SIM - SVOCs	Quarterly	96	45	564	$130	$73,320
200.7/200.8/245.1 - Metals - Total[3]	Quarterly	96	45	564	$155	$87,420
200.7/200.8/245.1 - Metals - Dissolved[3]	Quarterly, Even Years	96	45	564	$155	$87,420
8015B - GRO, DRO	Quarterly	96	45	564	$110	$62,040
537.1 - PFAS[4]	Quarterly	1	1	8	$400	$3,200
8011 - EDB	Quarterly	96	45	564	$40	$22,560
Gen Chem - BOD, COD, E. Coli	Quarterly	1	0	4	$135	$540
					analyses subtotal (odd years)	$361,880
					analyses subtotal (even years)	$449,300
Level III Data Package					5% of analysis	
					analyses and lab package subtotal (odd years)	$379,974
					analyses and lab package subtotal (even years)	$471,765
Sampling Supplies[5]	Quarterly	NA	NA	4	$1,200	$4,800
Filters	Quarterly	96	45	564	$12	$6,768
					Quarterly Events subtotal (Even Years)[3]	$483,333
					Quarterly Events subtotal (Odd Years)[3]	$391,542
Semi-Annual Sampling Events[6]						
8260B - VOCs	Semi-Annual	12	NA	24	$70	$1,680
8270C - SVOCs	Semi-Annual	12	NA	24	$130	$3,120
8270SIM - SVOCs	Semi-Annual	12	NA	24	$130	$3,120
Method 200.7/200.8/245.1 - Metals - Total[3]	Semi-Annual	12	NA	24	$155	$3,720
Method 200.7/200.8/245.1 - Metals - Dissolved[3]	Semi-Annual, Even Years	12	NA	24	$155	$3,720
8015B - GRO, DRO	Semi-Annual	12	NA	24	$70	$1,680
Gen Chem - BOD, COD, E. Coli	Semi-Annual	11	NA	22	$135	$2,970
8081 - Pesticides[7]	Semi-Annual	1	NA	2	$160	$320
8011 - EDB	Semi-Annual	12	NA	24	$40	$960
					analyses subtotal (odd years)	$17,570
					analyses subtotal (even years)	$21,290
Level III Data Package					5% of analysis	
					analyses and lab package subtotal (odd years)	$18,449
					analyses and lab package subtotal (even years)	$22,355
Filters	Semi-Annual	12	NA	24	$12	$288
					Semiannual Events subtotal (Even Years)[3]	$22,643
					Semiannual Events subtotal (Odd Years)[3]	$18,737
Annual Sampling Event[1]						
8260B - VOCs	Annual	23	9	32	$70	$2,240
8270C - SVOCs	Annual	23	9	32	$130	$4,160
8270SIM - SVOCs	Annual	23	9	32	$130	$4,160
Method 200.7/200.8/245.1 - Metals - Total[3]	Annual	23	9	32	$155	$4,960
Method 200.7/200.8/245.1 - Metals - Dissolved[3]	Annual, Even Years	23	9	32	$155	$4,960
8015B - GRO, DRO	Annual	23	9	32	$110	$3,520
8011 - EDB	Annual	23	9	32	$40	$1,280
335.4 - Cyanide	Annual	131	9	140	$35	$4,900
9223B - Sulfide	Annual	131	9	140	$50	$7,000
300.0 - Anions	Annual	131	9	140	$40	$5,600
					analyses subtotal (odd years)	$37,820
					analyses subtotal (even years)	$30,180
Level III Data Package					5% of analysis	
					analyses and lab package subtotal (odd years)	$39,711
					analyses and lab package subtotal (even years)	$31,689
Filters	Annual	23	9	32	$12	$384
					Annual Events subtotal (Even Years)[3]	$32,073
					Annual Events subtotal (Odd Years)[3]	$40,095

ATTACHMENT A-4. FACILITY-WIDE GROUNDWATER MONITORING ANNUAL COST ESTIMATE (2024)
WESTERN REFINING SOUTHWEST LLC, D/B/A MARATHON GALLUP REFINERY, GALLUP, NEW MEXICO

Analysis	Frequency	# of Sample Locations[1]	# of QAQC Samples[2]	# of Samples	Cost/Sample	Cost per Year
MNA Annual Sampling Event[8]						
8260B - TBA	Annual	13	6	19	$45	$855
Method 200.7/200.8 - Metals - Total Fe and Mn	Annual	13	6	19	$35	$665
Method 200.7/200.8 - Metals - Dissolved Fe	Annual	13	6	19	$30	$570
Methane	Annual	4	1	5	$140	$700
2320B - Alkalinity	Annual	13	6	19	$30	$570
5310B - Total Organic Carbon	Annual	13	6	19	$40	$760
Carbon Dioxide	Annual	13	6	19	$30	$570
Method 5560 - Volatile Fatty Acids	Annual	13	6	19	$180	$3,420
					analyses subtotal	$8,110
Level III Data Package					5% of analysis	
					analyses and lab package subtotal	$8,516
Filters	Annual	13	6	19	$12	$228
					MNA Annual Event subtotal	$8,744
Three-Year Sampling Events (next event 2026)[9]						
8260B - VOCs	Every third year	1	NA	1	$70	$70
8270C - SVOCs	Every third year	1	NA	1	$130	$130
8270SIM - SVOCs	Every third year	1	NA	1	$130	$130
Method 200.7/200.8/245.1 - Metals - Total[3]	Every third year	1	NA	1	$155	$155
Method 200.7/200.8/245.1 - Metals - Dissolved[3]	Every third year	1	NA	1	$155	$155
8015B - GRO, DRO	Every third year	1	NA	1	$110	$110
8011 - EDB	Every third year	1	NA	1	$40	$40
335.4 - Cyanide	Every third year	1	NA	1	$35	$35
					analyses subtotal	$825
Level III Data Package					5% of analysis	
					analyses and lab package subtotal	$866
Filters	Every third year	1	NA	1	$12	$12
					Sampling Event subtotal	$878
Sampling Labor[10]	Four Quarterly Events		12 Days, 10 hour days		$70/hour $86/hour	$74,880
	Two Semiannual Events		1 Day, 10 hour day		$70/hour $86/hour	$3,120
	Annual Event		3 Days, 10 hour days		$70/hour $86/hour	$4,680
	PW-2 event (every 3 years)		1 hour		$70/hour $86/hour	$156
					Labor subtotal	$82,836
					Annual Total (without PW-2 event) - Even Years[3]	$629,472
					Annual Total (without PW-2 event) - Odd Years[3]	$541,797
					PW-2 Event Total - Every 3 Years	$1,034
					Annual Total (without PW-2 event) - Even Years[3] + 10% Contingency	**$692,419**
					Annual Total (without PW-2 event) - Odd Years[3] + 10% Contingency	**$595,977**
					PW-2 Event Total - Every 3 Years + 10% Contingency	**$1,138**

Notes:
2013 RCRA Permit Section II.D.2 requires 20 years of facility-wide groundwater monitoring beginning in February 2014.
Annual Total (without PW-2 event) - Even Years: This line item is used for all even years of monitoring.
Annual Total (without PW-2 event) - Odd Years: This line item is used for all odd years of monitoring.
PW-2 Event Total: Used every 3 years including 2026, 2029, 2032

- Number
BOD - Biological Oxygen Demand
COD - Chemical Oxygen Demand
DRO - Diesel Range Organics
EDB - 1,2 Dibromoethane
EPA - Environmental Protection Agency
Fe - Iron
Gen Chem - General Chemistry
GRO - Gasoline Range Organics
Mn - Manganese
MNA - Monitored Natural Attenuation
NA - Not applicable
NMED - New Mexico Environment Department
PFAS - Per- and polyfluoroalkyl substances
QAQC - Quality assurance/quality control
RCRA - Resource Conservation and Recovery Act
SIM - Selected Ion Monitoring
SVOCs - Semi-volatile organic compounds
TBA - tert-Butyl alcohol
VOCs - Volatile organic compounds

[1] New monitoring wells were installed in 2021 and added to the 2022 and subsequent sampling events: OW-12A, OW-66, OW-67, OW-68, OW-70, RW-2R, MKTF-01R, MKTF-02R, MKTF-04R, MKTF-17R, and MKTF-18R.

[2] QAQC samples are accounted for in quarterly and annual events. Samples include field duplicates, field blanks, equipment blanks, and trip blanks. QAQC samples are collected at minimum of 1 per day.

[3] Total metals are sampled every year. Dissolved metals are only samples in even years. Metals analyses include EPA Methods 200.7, 200.8, and 245.1.

[4] PFAS analysis completed for monitoring well OW-63 per NMED Comment. NMED. 2020. Disapproval, Annual Groundwater Monitoring Report Gallup Refinery -2019, Western Refining Southwest Inc., Gallup Refinery, EPA ID #NMD000333211, HWB-WRG-20-013. November 23. Comments 25 (Pesticides) and 30 (PFAS).

[5] Sampling supplies include, bailers, deionized water, and miscellaneous items for sampling.

[6] QAQC samples included with quarterly sampling event

[7] Pesticide sample completed for evaporation pond EP-2 semiannually per NMED comment. NMED. 2020. Disapproval, Annual Groundwater Monitoring Report Gallup Refinery -2019, Western Refining Southwest Inc., Gallup Refinery, EPA ID #NMD000333211, HWB-WRG-20-013. November 23. Comments 25 (Pesticides) and 30 (PFAS) and NMED. 2021. Second Disapproval, [Revised] Facility Wide Groundwater

[8] MNA sampling includes the following monitoring wells: MKTF-02R, MKTF-04R, MKTF-09, MKTF-10, MKTF-13, MKTF-16, MKTF-17R, MKTF-19, MKTF-20, MKTF-21, MKTF-22, MKTF-24, MKTF-25.

[9] Production well PW-2 sampled once every 3 years, will be sampled in 2023.

[10] Sampling labor is calculated using two field staff members ($83/hour and $67/hour).

[11] The sampling requirements addressed in the table are per the Facility-Wide Ground Water Monitoring Work Plan - Updates for 2022 (dated February 2022 - pending approval).

Table 1.1.9. Implicit Price Deflators for Gross Domestic Product

[Index numbers, 2017=100] Seasonally adjusted

Last Revised on: December 21, 2023 - Next Release Date January 25, 2024

Line		2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3
1	**Gross domestic product**	**107.668**	**109.305**	**110.920**	**112.848**	**115.135**	**117.671**	**118.962**	**120.093**	**121.261**	**121.766**	**122.762**
2	**Personal consumption expenditures**	**106.547**	**108.174**	**109.673**	**111.487**	**113.574**	**115.568**	**116.902**	**118.098**	**119.309**	**120.044**	**120.814**
3	Goods	101.348	103.450	105.379	108.051	111.145	113.795	114.617	114.643	114.844	114.911	115.163
4	Durable goods	97.844	101.218	103.593	105.894	108.072	108.435	109.214	108.764	108.521	108.547	107.332
5	Nondurable goods	103.245	104.572	106.240	109.127	112.754	116.745	117.591	117.899	118.366	118.457	119.600
6	Services	109.091	110.445	111.701	113.043	114.572	116.205	117.809	119.624	121.370	122.461	123.506
7	**Gross private domestic investment**	**105.514**	**106.528**	**108.074**	**110.457**	**112.891**	**115.431**	**117.389**	**118.176**	**119.228**	**119.087**	**119.557**
8	Fixed investment	105.881	106.920	108.772	111.042	113.626	116.227	118.098	119.140	120.384	120.370	120.890
9	Nonresidential	102.377	102.430	103.555	105.438	107.135	109.070	110.673	111.545	113.278	113.334	113.581
10	Structures	106.613	108.254	110.631	116.512	120.356	124.898	129.638	131.830	134.127	134.429	133.634
11	Equipment	99.752	98.915	100.091	101.524	103.584	105.640	107.073	108.610	110.700	110.381	111.009
12	Intellectual property products	102.745	102.901	103.374	103.876	104.286	104.992	105.446	105.158	106.326	106.610	106.985
13	Residential	118.262	122.622	127.003	130.673	136.374	141.401	144.306	146.043	145.102	144.779	146.487
14	Change in private inventories	---	---	---	---	---	---	---	---	---	---	---
15	**Net exports of goods and services**	---	---	---	---	---	---	---	---	---	---	---
16	Exports	106.518	111.128	113.718	115.581	120.539	126.104	123.075	121.326	121.359	120.169	121.362
17	Goods	105.215	111.074	114.083	116.167	122.478	129.886	125.159	121.694	120.799	118.816	120.088
18	Services	108.891	110.806	112.519	113.901	115.923	117.610	118.141	120.013	122.021	122.504	123.531
19	Imports	102.425	105.452	107.052	108.876	112.364	115.284	114.025	112.795	112.426	111.052	111.145
20	Goods	101.495	104.663	106.251	108.200	112.147	115.147	113.368	111.429	110.763	109.048	109.240
21	Services	106.550	108.807	110.486	111.700	112.903	115.420	116.629	118.687	119.701	119.938	119.550
22	**Government consumption expenditures and gross investment**	**110.707**	**112.381**	**113.918**	**115.759**	**118.109**	**121.271**	**122.113**	**123.086**	**123.548**	**123.221**	**124.756**
23	Federal	107.395	108.445	109.543	110.784	112.726	114.600	115.953	117.119	118.311	118.917	120.081
24	National defense	107.443	108.582	109.704	111.059	113.494	115.983	116.800	117.838	118.805	119.356	120.596
25	Nondefense	107.346	108.282	109.347	110.439	111.749	112.827	114.876	116.207	117.684	118.359	119.428
26	State and local	112.770	114.848	116.664	118.889	121.503	125.482	126.005	126.858	126.855	125.936	127.707
	Addendum:											
27	Gross national product	107.591	109.225	110.838	112.765	115.050	117.582	118.872	120.002	121.168	121.673	122.668

TABLE 1B
Final Closure Cost Estimate
Option 2 - Stabilization and Disposal
Lagoons AL-1 & AL-2 Closure
November 10, 2009

Item	Description	Quantity	Units	Unit Cost	Cost
	Professional Services				
1	Investigation & clean soil confirmation sampling	1	LS	$87,000	$87,000
2	Final closure report	1	LS	$20,000	$20,000
3	Project administration (engineering, bidding, construction administration, etc.)	1	LS	$115,000	$115,000
	Demolition				
4	Dismantling and disposal of benzene strippers	1	LS	$5,000	$5,000
	Construction				
5	Mobilization	1	LS	$25,000	$25,000
6	Administrative costs (office facilities & staff, H&S plan, SWPPP, insurance, equipment decon, QA/QC, etc.)	1	LS	$28,000	$28,000
7	Dewater lagoons (3 ft water over 0.8 ac). Dispose at API Separator (200' distance)	800,000	Gal	$0.011	$9,000
8	Stabilize sludges in place and in unused adjacent evaporation pond	5,600	CY	$25	$140,000
9	Dispose 75% of stabilized sludges as special waste[1]	4,600	CY	$55	$253,000
10	Dispose 25% of stabilized sludges as hazardous waste[2]	1,500	CY	$250	$375,000
11	Excavate top 1 ft of clay liner (AL-1 & AL-2)	850	CY	$7	$6,000
12	Dispose of excavated clay as special waste[3]	850	CY	$55	$47,000
13	Sludge characterization sampling - one per 100 CY[4]	71	EA	$610	$43,000
14	Backfill lagoons	6,000	CY	$15	$90,000
15	Demobilization	1	LS	$14,000	$14,000
	TOTAL				**$1,257,000**

Notes

1 Assumes 10% increase in sludge volume due to stabilization and disposal at Waste Management landfill in San Juan (TPH > 1,000 ppm, metals < 20X rule)

2 Assumes 10% increase in sludge volume due to stabilization and disposal at U.S. Ecology landfill in Battie, NV (<500 mg/kg volatiles).

3 Assumes disposal of liner soils at same location as nonhazardous sludges.

4 Assumes one sample per 100 CY analyzed for Haz Characteristics per 40 CFR 261 ($140), TCLP Skinner Metals ($190), TCLP BTEX ($130), TPH ($90) + 10% markup

TABLE 2
Investigation & Confirmation Sampling Cost Estimate
Lagoon AL-1 & AL-2 Closure
November 10, 2009

Analysis	# of Samples	Cost/Sample	Costs
Dike & Surrounding Soils Characterization Samples			
8260B	101	$90	$9,090
8270C	101	$220	$22,220
8015B (GRO, DRO, MRO)	101	$90	$9,090
Skinner List Metals & Fe, Mn	101	$185	$525
Sampling Labor	five 8-hour days	$75/hour	$3,000
Sampling Equipment	two days	$1500/day	$3,000
		Subtotal	**$46,925**
Benzene Stripper Area Characterization Samples			
8260B	11	$90	$990
8270C	11	$220	$2,420
8015B (GRO, DRO, MRO)	11	$90	$990
Skinner List Metals & Fe, Mn	11	$185	$2,035
Sampling Labor	one 8-hour day	$75/hour	$600
Sampling Equipment	one day	$1500/day	$1,500
		Subtotal	**$8,535**
AL-1 & AL-2 Confirmation Samples			
8260B	49	$90	$4,410
8270C	49	$220	$10,780
8015B (GRO, DRO, MRO)	49	$90	$4,410
Skinner List Metals & Fe, Mn	49	$185	$9,065
Sampling Labor	four 8-hour days	$75/hour	$2,400
		Subtotal	**$31,065**
		Total	**$86,525**

GRO - Gasoline Range Organics
DRO - Diesel Range Organics
MRO - Motor Oil Range Organics
AL - Aeration Lagoon

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 319236

CONDITIONS

Operator: Western Refining Southwest LLC 539 South Main Street Findlay, OH 45840	OGRID: 267595
	Action Number: 319236
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
joel.stone	Approved for OCD record retention purposes.	8/16/2024