



GALLUP

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January 20, 2015

John Kieling, Bureau Chief  
New Mexico Environmental Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303

Re: 2015 Financial Assurance Cost Estimate  
Western Refining Southwest, Inc. – Gallup Refinery  
EPA ID# NMD000333211

Dear Mr. Kieling:

Western Refining Southwest, Inc. – Gallup Refinery submits the referenced Financial Assurance Cost Estimate. The estimate was prepared for Western by DiSorbo Consulting, LLC, a third party environmental engineering company. This cost estimate includes costs to address post-closure care of the Land Treatment Unit (LTU) and other requirements pursuant to the RCRA Post-Closure Care Permit (“RCRA Permit”) (effective date 12/2/2013) and activities specified in the Complaint and Consent Agreement and Final Order dated August 26, 2009 for implementation of a remedy for Aeration lagoons AL-1 and AL-2. The cost estimates were prepared in accordance with 40 CFR 264.101 and substantially in compliance with the requirements of 40 CFR 264.142 and 264.144.

If you have any questions or would like to discuss the Financial Assurance Cost Estimate, please contact me at (505) 722-0217.

#### Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or 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

March 6, 2014

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,

A handwritten signature in black ink that reads "William Carl McClain Jr." in a cursive script.

William C. McClain Jr.  
Refinery Manager  
Western Refining Southwest, Inc. – Gallup Refinery

cc: Ed Riege  
Allen Hains

January 19, 2015

Mr. Ed Riege  
Environmental Manager  
Western Refining Southwest, Inc. – Gallup Refinery  
92 Giant Crossing Road  
Gallup NM 87301

Re: Western Refining Southwest, Inc. - Gallup Refinery  
Financial Assurance Cost Estimate

Dear Mr. Riege:

This cost estimate includes costs to address those activities specified in the Complaint and Consent Agreement and Final Order (CAFO) (dated August 26, 2009) for implementation of a remedy for Aeration Lagoons AL-1 and AL-2 and the requirements of the recently issued RCRA Post-Closure Permit ("RCRA Permit") (effective date 12/2/2013). The initial cost estimates were prepared in accordance with 40 CFR 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 Aeration Lagoons (\$1,257,000) has been adjusted annually for inflation each year. The most recent update was conducted in February 2014 with an inflation adjusted estimate of \$1,337,243. To prepare the January 2015 estimate, the 2014 estimate of \$1,337,243 was multiplied by an annual inflation factor of 1.4% [Implicit Price Deflator (IPD), as taken from the Bureau of Economic Analysis' Table 1.1.9; Implicit price deflator for 2013 / implicit price deflator for 2012 (updated 12/23/2014) =  $107.301/105.824 = 1.4\%$ ] to yield an updated estimate of \$1,355,964.

There are two separate provisions in the new RCRA Permit, which require cost estimates. The first of which is Provision II.D.1 that specifies, "*The Permittee shall adjust the post-closure estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument used to comply with 40 CFR § 264.145.*" This provision addresses post-closure care of the Land Treatment Unit (LTU).

A revised cost estimate for post-closure care of the LTU was prepared in 2010, reflecting the significant amount of work that had been completed since issuance of the previous RCRA Post-Closure Permit in 2000. The estimated cost in 2010 was \$125,185 (see enclosed Table 1B) and it has been adjusted annually since. The most recent annual adjustment prepared in February 2014 produced an updated cost of \$131,909. Applying an annual inflation factor of 1.4 %, the 2014 estimate of \$131,909 is adjusted to \$133,756 to yield an updated estimate for 2014.

**8501 North Mopac Expressway | Suite 300 | Austin, TX 78759**

phone 512.693.4193 | mobile 512.297.3743 | fax 512.279.3118 | [scrouch@disorboconsult.com](mailto:scrouch@disorboconsult.com) | [www.disorboconsult.com](http://www.disorboconsult.com)

Provision II.D.2 in the new RCRA Permit required that a cost estimate be prepared as follows: *"Within 180 days of the effective date of this Permit, the Permittee shall submit to the NMED for approval a detailed written estimate, in current dollars, of the cost of hiring a third party to perform a cleanup of contaminant releases at or migrating from the Facility in accordance with this Permit (hereafter "Estimated Cost of the Work"). The initial Estimated Cost of the Work shall account for the total costs of post-closure care and monitoring the Land Treatment Unit and conducting the Facility Wide Groundwater Monitoring for a period of 20 years."* Pursuant to this requirement, a cost estimate was prepared in February 2014 for 20 years of facility-wide groundwater monitoring. The estimated cost was \$1,762,340. Pursuant to RCRA Permit Provision II.D. 3, the Estimated Cost of Work has been updated to subtract the costs of work completed during the previous calendar year and to account for changes to the Facility-Wide Groundwater Monitoring Work Plan (2013 updates). No adjustment was made for inflation as this is a new cost estimate using current laboratory costs for chemical analyses and current labor rates. The Estimated Cost of Work now includes 19 years of facility-wide groundwater monitoring. Table 1A provides a detailed explanation of the annual cost of implementing facility-wide groundwater monitoring on an annual basis. The updated estimated cost is \$2,094,529.

The current total estimated cost is \$3,584,249 for addressing the Aeration Lagoons pursuant to the CAFO and implementation of the 2013 RCRA Post-Closure Permit. If there are any questions, please contact me at (512) 693-4193.

Sincerely,  
DiSorbo Consulting, LLC



Scott T. Crouch, P.G.  
Senior Consultant

STC/

Enclosure

cc: Allen Hains – Western Refining El Paso

TABLE 1  
 JANUARY 2015 COST ESTIMATE FOR RCRA POST-CLOSURE ORDER  
 WESTERN REFINING SOUTHWEST, INC. - GALLUP REFINERY

Waste Management Area	Corrective Action/Project	Investigation Costs	Remediation Costs	O&M Costs	Total Costs	Notes
<b>RCRA Regulated Units</b>						
Land Treatment Unit	Ground Water & Soil Monitoring	\$0	\$0	\$133,756	\$133,756	Post-closure care for LTU, Table 1B adjusted for inflation since 2010
<b>Solid Waste Management Units (SWMU's)</b>						
SWMU 1 – Aeration Basin	Soil investigation & potential remediation	\$0	\$0	\$0	\$0	remediation cost estimate developed Nov. 2009 pursuant to EPA CAFO; remedy not selected by NMED under the Permit
SWMU 2 - Evaporation Ponds	IWP due 1/31/2021	\$0	\$0	\$0	\$0	
SWMU 3 – Empty Container Storage Area/Bundle Cleaning Pad	IWP due 3/1/2014	\$0	\$0	\$0	\$0	
SWMU 4 – Old Burn Pit	IWP due 6/30/2014	\$0	\$0	\$0	\$0	already capped
SWMU 5 – Landfill Areas	IWP due 9/30/2014	\$0	\$0	\$0	\$0	already capped
SWMU 6 – Tank Farm	IWP due 12/31/2019	\$0	\$0	\$0	\$0	Phase-Separate Hydrocarbon (PSH) 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 due 3/31/2015	\$0	\$0	\$0	\$0	already capped

TABLE 1  
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 WESTERN REFINING SOUTHWEST, INC. - GALLUP REFINERY

Waste Management Area	Corrective Action/Project	Investigation Costs	Remediation Costs	O&M Costs	Total Costs	Notes
SWMU 8 – Railroad Rack Lagoon, ditch & fan area	NFA Petition	\$0	\$0	\$0	\$0	Remediation completed and reports approved by NMED; only NFA petition and permit mod remains to be completed.
SWMU 9 – Drainage Ditch Near Inactive Landfarm	IWP due 6/30/2015	\$0	\$0	\$0	\$0	
SWMU 10 – Sludge Pits	IWP due 9/20/2014	\$0	\$0	\$0	\$0	
SWMU 11 – Secondary Oil Skimmer	IWP due 12/31/2015	\$0	\$0	\$0	\$0	
SWMU 12 – Contact Wastewater Collection System <sup>5</sup>	IWP due 3/31/2016	\$0	\$0	\$0	\$0	0
SWMU 13 – Drainage Ditch between N & S Evaporation	IWP due 6/30/2016	\$0	\$0	\$0	\$0	
SWMU 14 – API Separator	Soil investigation & potential remediation	\$0		\$0	\$0	
AOC 15 (NAPIS)	IWP due 9/30/2016	\$0	\$0	\$0	\$0	
& AOC 16 (NAPIS Overflow Tanks) IWP	IWP due 9/30/2016	\$0	\$0	\$0	\$0	
AOC 17 (Railroad Loading/Unloading Facility) RA	Release Assessment due 12/31/2016	\$0	\$0	\$0	\$0	
AOC 18 (Asphalt Tank Farm) IWP	IWP due 6/30/2017	\$0	\$0	\$0	\$0	

TABLE 1  
 JANUARY 2015 COST ESTIMATE FOR RCRA POST-CLOSURE ORDER  
 WESTERN REFINING SOUTHWEST, INC. - GALLUP REFINERY

Waste Management Area	Corrective Action/Project	Investigation Costs	Remediation Costs	O&M Costs	Total Costs	Notes
AOC 19 (East Fuel Oil Loading Rack) RA	RA due 6/30/2017	\$0	\$0	\$0	\$0	
AOC 20 (Crude Slop & Ethanol Unloading Facility) RA	RA due 9/30/2017	\$0	\$0	\$0	\$0	
AOC 21 (Mail Loading Racks) RA	RA due 12/31/2017	\$0	\$0	\$0	\$0	
AOC 22 (Loading Rack Additive Tank Farm) IWP	IWP due 3/31/2018	\$0	\$0	\$0	\$0	
AOC 23 (Retail Fuel Tank Farm) IWP	IWP due 3/31/2018	\$0	\$0	\$0	\$0	
AOC 24 (Crude Oil Tank Farm) IWP	IWP due 6/30/2018	\$0	\$0	\$0	\$0	
AOC 25 (Tank 573) RA	RA due 12/31/2016	\$0	\$0	\$0	\$0	
AOC 26 (Process Units) RA	RA due 4/30/2021	\$0	\$0	\$0	\$0	
AOC 27 (Boiler & Cooling Unit Area) RA	RA due 9/30/2018	\$0	\$0	\$0	\$0	
AOC 28 (Warehouse & Maintenance Shop Area) RA	RA due 12/31/2018	\$0	\$0	\$0	\$0	
AOC 29 (Equip. Yard & Drum Storage Area) RA	RA due 3/31/2019	\$0	\$0	\$0	\$0	
AOC 30 (Laboratory) RA	RA due 6/30/2019	\$0	\$0	\$0	\$0	
AOC 31 (Tank 27 & 28) IWP	IWP due 9/30/2019	\$0	\$0	\$0	\$0	
AOC 32 (Flare & Ancillary Tanks) IWP	IWP due 12/31/2019	\$0	\$0	\$0	\$0	

TABLE 1  
 JANUARY 2015 COST ESTIMATE FOR RCRA POST-CLOSURE ORDER  
 WESTERN REFINING SOUTHWEST, INC. - GALLUP REFINERY

Waste Management Area	Corrective Action/Project	Investigation Costs	Remediation Costs	O&M Costs	Total Costs	Notes
AOC 33 (Storm Water Collection System) IWP	IWP due 3/31/2020	\$0	\$0	\$0	\$0	
AOC 34 (Scrap Yard) IWP	IWP due 6/30/2020	\$0	\$0	\$0	\$0	
<b>Groundwater</b>						
Site-wide	Facility-Wide Groundwater Monitoring	\$0	\$0	\$0	\$2,094,529	Assumes one year at \$144,157/yr and \$108,354/yr for 18 years; see Table 1A
<b>Other Costs</b>						
	<b>Total Estimated Costs</b>	\$0	\$0	\$133,756	\$2,228,285	



**TABLE 1A**  
**Facility-Wide Groundwater Monitoring Annual Cost Estimate**  
**Western Refining Southwest, Inc. - Gallup Refinery**

Analysis	Frequency	# of Sample Locations	# of Samples <sup>1</sup>	Cost/Sample	Cost per Year
<b>Year One Quarterly Sampling Events <sup>2</sup></b>					
8260B	Quarterly	47	80	\$120	\$9,600
8021	Quarterly	0	0	\$55	\$0
8015B (GRO, DRO)	Quarterly	48	77	\$100	\$7,700
8021 + 8015B (GRO, DRO)	Quarterly	7	8	\$115	\$920
8270C	Quarterly	42	70	\$300	\$21,000
Cations/Anions -General Chemistry	Quarterly	47	76	\$165	\$12,540
WQCC Metals	Quarterly	51	80	\$225	\$18,000
Filters			80	\$12	\$960
Level 4 Data Packet				15% of analysis	\$10,464
subtotal					\$81,184
<b>After Year One Quarterly Sampling Events <sup>2</sup></b>					
8260B	Quarterly	10	47	\$120	\$5,640
8021	Quarterly	0	0	\$55	\$0
8015B (GRO, DRO)	Quarterly	4	18	\$100	\$1,800
8021 + 8015B (GRO, DRO)	Quarterly	7	31	\$115	\$3,565
8270C	Quarterly	5	22	\$300	\$6,600
Cations/Anions -General Chemistry	Quarterly	10	44	\$165	\$7,260
WQCC Metals	Quarterly	14	62	\$225	\$13,950
Filters			62	\$12	\$744
Level 4 Data Packet				15% of analysis	\$5,822
subtotal					\$45,381
<b>Semi-Annual Sampling Events <sup>3</sup></b>					
8260B	Semi-Annual	12	27	\$120	\$3,240
8270C	Semi-Annual	12	26	\$300	\$7,800
Cations/Anions	Semi-Annual	13	29	\$165	\$4,785
WQCC Metals	Semi-Annual	12	26	\$225	\$5,850
BOD / COD	Semi-Annual	12	26	\$90	\$2,340
Filters	Semi-Annual		26	\$12	\$312
Level 4 Data Packet	Semi-Annual			15% of analysis	\$3,602
subtotal					\$27,929

**TABLE 1A  
Facility-Wide Groundwater Monitoring Annual Cost Estimate  
Western Refining Southwest, Inc. - Gallup Refinery**

Annual Sampling Events <sup>4</sup>					
8260B	Annual	60	69	\$120	\$8,280
8015B (GRO, DRO)	Annual	6	7	\$100	\$700
8270C	Annual	1	2	\$300	\$600
Cations/Anions	Annual	19	21	\$165	\$3,465
WQCC Metals	Annual	11	12	\$225	\$2,700
RCRA Metals	Annual	9	10	\$120	\$1,200
Cyanide, Nitrates	Annual	1	2	\$70	\$140
BOD / COD	Annual	1	2	\$90	\$180
TDS	Annual	1	2	\$25	\$50
Filters	Annual		12	\$12	\$144
Level 4 Data Packet	Annual			15% of analysis	\$2,597
subtotal					\$20,056
Three-Year Sampling Events <sup>5</sup>					
8260B	Every third year	2	0.7	\$120	\$84
8270C	Every third year	2	0.7	\$300	\$210
WQCC Metals	Every third year	2	0.7	\$225	\$158
Cyanide, Nitrates	Every third year	2	0.7	\$70	\$49
Filters	Every third year		1	\$12	\$12
Level 4 Data Packet	Every third year			15% of analysis	\$75
subtotal					\$588
Sampling Labor	Three quarterly events		15 Days of 8 hour days	\$72/hour	\$8,640
	Combined annual, one quarterly & three-year event		10 Days of 8 hour days	\$72/hour	\$5,760
subtotal					\$14,400
<b>First Year Annual Total</b>					<b>\$144,157</b>
<b>Subsequent Years Annual Total</b>					<b>\$108,354</b>

1 - # of Samples includes additional QA/QC samples and is adjusted based on the number of annual samples

2 - The wells included in the quarterly monitoring events include GWM-1, GWM-2, GWM-3, NAPIS-1, NAPIS-2, NAPIS-3, KA-3, OW-1, OW-10, OW-13, OW-14, OW-29, OW-30, OAPIS-1, MKTF-1 through MKTF-44, and API secondary containment. The MKTF wells move to annual sampling after year one.

3 - The semi-annual sampling includes boiler water & cooling blow down inlet to EP-2 and evaporation ponds EP-1 through EP-9, EP-11, EP-12a, & EP-12b

4 - The wells included for annual sampling include BW-1A, BW-1B, BW-1C, BW-2A, BW-2B, BW-2C, BW-3A, BW-3B, BW-3C, MW-1, MW-2, MW-4, MW-5, OW-11, OW-12, OW-50, OW-52, SMW-2, SMW-4, and PW-3; and pond 2 inlet from STP-1. Wells MKTF-1 through MKTF-44 (VOCs only) move to annual after first year (i.e., 2016)

5 - Three-year sampling event locations are PW-2 and PW-4.

**TABLE 1B**  
**Land Treatment Unit Detailed Cost Estimate**  
**Western Refining Southwest, Inc. - Gallup Refinery**

Activity	Cost Estimate in 2000 Part B Permit Application			Updated 2010 Cost Estimate				
	Material	Cost Frequency (over 30 years)	Estimated Cost	Material	Cost Frequency (remaining 20 years)	Revised Costs	Inflation Adjustment <sup>3</sup>	2010 Estimated Costs
<b>MONITORING</b>								
Sample by Zone								
ZOI	4 samples at \$1,450	3	\$17,400	4 samples at \$709 <sup>1</sup>	2	\$5,672	0	\$5,672
Treatment Zone	4 samples at \$1,450	3	\$17,400	4 samples at \$709 <sup>1</sup>	2	\$5,672	0	\$5,672
Chinle Slope Wash	1 sample at \$1,650	8	\$13,200	1 sample at \$834 <sup>2</sup>	2	\$1,668	0	\$1,668
Sonsela	4 samples at \$1,650	8	\$52,800	4 samples at \$834 <sup>2</sup>	2	\$6,672	0	\$6,672
Sample QC	25% of \$100,800		\$25,200	25% of \$19,684		\$4,921	0	\$4,921
Mobilization/labor								
ZOI & Treatment Zone	3 events at \$1,000/event		\$3,000	2 events at \$1,000/event		\$2,000	\$500.80	\$2,501
Chinle Slope Wash & Sonsela	8 events at \$2,000/event		\$16,000	2 events at \$2,000/event		\$4,000	\$1,001.60	\$5,002
<b>COVER ESTABLISHMENT</b>								
Filed Technician	\$10,000		\$10,000	completed		\$0		\$0
Microtox	\$300 per test	9	\$2,700	completed		\$0		\$0
Soil Amendments	352,000 ft <sup>2</sup> at 0.02/ft <sup>2</sup>		\$7,040	completed		\$0		\$0
Establish Vegetative Cover								
Top Soil	7.8 acres at \$2,000/acre		\$15,600	completed		\$0		\$0
Level LTU	7.8 acres at \$950/acre		\$7,410	completed		\$0		\$0
Plant Seed	7.8 acres at \$750/acre		\$5,850	completed		\$0		\$0
Water	1140 Mgal. At \$1/Mgal		\$1,140	completed		\$0		\$0
<b>Routine Inspection, Maintenance &amp; Repair</b>								
Site Inspection	Weekly inspection		\$6,000	Weekly inspection (remaining 20 years)		\$4,000	\$1,001.60	\$5,002
Security Device	\$100 annually		\$3,000	\$100 annually		\$2,000	\$500.80	\$2,501
Runon/Runoff	\$1,000 annually to maintain perimeter berm		\$30,000	\$1,000 annually to maintain perimeter berm		\$20,000	\$5,008.00	\$25,008
<b>Prepare Certification</b>								
Certify LTU Closure	120 hours at \$125/hour		\$15,000	120 hours at \$125/hour		\$15,000	\$3,756.00	\$18,756
Notice in Deed	6 hours at \$150/hour		\$900	6 hours at \$150/hour		\$900	\$225.36	\$1,125
Certify Final Closure	120 hours at \$125/hour		\$15,000	120 hours at \$125/hour		\$15,000	\$3,756.00	\$18,756
Notice in Deed	6 hours at \$150/hour		\$900	6 hours at \$150/hour		\$900	\$225.36	\$1,125
Total Task			\$265,540					\$104,381
Gallup Overhead		10%	\$26,554					\$10,402
Contingency		10%	\$26,554					\$10,402
<b>TOTAL</b>			<b>\$371,756</b>					<b>\$125,185</b>

Mgal. = million gallons

ZOI = Zone of Incorporation

1 - 8260 @ \$120, 8270 @ \$280, 8015 @ \$80, metals @ \$229

2 - 8260 @ \$120, 8270 @ \$280, 8015 @ \$80, metals @ \$229, pH @ \$35, cation/anions @ \$90

3- Inflation adjustment for costs in the original 2000 estimate. Annual inflation adjustment for years 2001 through 2010 based on implicit price deflator of US Gross National Product of most recent year divided by previous year; 2001=2.06%, 2002=2.17%, 2003=1.3%, 2004=1.67%, 2005=2.37%, 2006=3.03%, 2007=2.94%, 2008=3.95%, 2009=2.18%, 2010=0.96%; cumulative adjustment of 25.04%