Western Refining
GALLUP

ENTERED

WNR LISTED NYSE

SEP 2011

September 12, 2011

Mr. Carl J. Chavez
Environmental Engineer
New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Final Baseline and Alternate Beneficial Reuse Soil Concentrations, Oil Conservation Division Landfarms, Western Refining Company Southwest, Inc., Gallup Refinery, Gallup, New Mexico

Dear Mr. Chavez:

Western Refining Company's Gallup Refinery (Gallup) is submitting this correspondence to present the baseline and beneficial reuse soil concentrations for Gallup's Oil Conservation Division (OCD) landfarms. A draft submittal presenting the proposed concentrations was submitted to OCD via email on July 14, 2011. The proposed concentrations were discussed with New Mexico Environment Department (NMED) and OCD during a teleconference on August 3, 2011 and a meeting in Santa Fe, New Mexico on August 10, 2011. This correspondence incorporates changes to the baseline/beneficial reuse concentrations resulting from the above-referenced teleconference and meeting.

Gallup's OCD Discharge Permit GW-032 (Discharge Permit) allows for comparison to baseline[1] soil concentrations if they are higher than applicable soil screening standards. To date, OCD baseline soil concentrations for Gallup's OCD landfarms have not been established. During 2009, Gallup worked with OCD to determine an appropriate baseline sampling approach. Based on this approach, a five-point composite soil sample was collected on February 17, 2010, from approximately 6 to 12 inches below ground surface at locations illustrated on Figure 1. This data was submitted to OCD for approval via email on February 22, 2011. In an email dated February 24, 2011, OCD agreed that the sample locations would suffice for the landfarms listed in the Discharge Permit. Additionally, OCD suggested that baseline concentrations should be the greater of the detected concentration or the Practical Quantitation Limit (PQL) listed in the laboratory analytical report. OCD requested that Gallup finalize the baseline concentrations and submit them to OCD by March 24, 2011.

[1] The Discharge Permit uses the term "background" instead of "baseline". However, to avoid confusion with potential RCRA background concentrations, OCD requested that the concentrations in this submittal be referred to as "baseline" concentrations.

Gallup intended to submit finalized baseline concentrations by March 24, 2011, as requested. However, subsequently, it was discovered that certain analytes requiring analysis per the Discharge Permit are not included in the February 17, 2010 baseline data set. Therefore, Gallup requested that an additional baseline sample be collected and incorporated into the finalized baseline concentrations. In an email to OCD dated March 7, 2011, Gallup proposed procedures for collecting the additional baseline sample. In summary, the sample would be collected from the same location as the February 17, 2010 sample utilizing the same procedures. The sample would be analyzed for the analytes listed in Subsections A and B of 20.6.2.3103 NMAC (NMAC 3101 list). OCD approved this approach in an email dated March 8, 2011.

The above-referenced additional baseline sample (sample ID "BG-NE-033011") was collected by Trihydro Corporation (Trihydro) on March 30, 2011 and analyzed for the NMAC 3103 list. To verify that the baseline data set is representative of the entire site, two additional samples were collected on the same date (BG-W-033011 and BG-S-033011). These additional samples were collected in areas that have not been impacted by refinery operations, and were collected utilizing the same procedures described above. Soil destined for Gallup's OCD Landfarms may potentially come from anywhere on refinery property. Therefore, Gallup believes it is appropriate to include data obtained from Samples BG-W-033011 and BG-S-033011 in the baseline soil concentration evaluation as these soils may be representative of soil treated at Gallup's OCD Landfarms. This approach was explained to OCD after the draft submittal presenting the proposed concentrations was provided to OCD via email on July 14, 2011. OCD agreed that the additional samples (BG-W-033011 and BG-S-033011) could be included in the baseline concentration evaluation. Locations of the three March 2011 baseline soil samples are illustrated on Figure 2. The samples were hand-delivered to Hall Environmental Analysis Laboratory of Albuquerque, New Mexico on March 31, 2011. Trihydro conducted a Tier II data validation on the March 2011 data set, and no data were rejected as a result of the data validation. The data validation is provided as Attachment A. Soil sampling logs prepared by field personnel are provided as Attachment B. Analytical reports of the February 2010 data set and the March 2011 data set are provided as Attachment C.

The baseline data are summarized in Table 1. If an analyte was not detected at a particular baseline sample location, the PQL was utilized as the "Sample Baseline Concentration". The average concentration of the available data for each analyte is utilized as the "Final Baseline Concentration".

During the August 3, 2011 teleconference and the August 10, 2011 meeting, the potential to beneficially reuse soil for on-site applications was also discussed. Per the Discharge Permit, if landfarm soil concentrations do not exceed Final Baseline Concentrations, Gallup may beneficially reuse landfarm soil. Gallup and OCD also agreed that alternate risk-based screening levels may be utilized to determine whether or not landfarm soil may be beneficially reused in the event that the Final Baseline Concentrations are exceeded. Three alternate screening levels were agreed upon:

- NMED Construction Worker Soil Screening Standards
- OCD Form C-137 EZ (Registration/Final Closure Report For Small Landfarm) Screening Standards
- NMAC 20.6.2.3103 Screening Standards with a 20 X dilution factor

During a phone call between Trihydro and OCD on August 18, 2011, it was agreed that the highest of the above-mentioned screening standards would be used to determine if landfarm soil may be beneficially reused when Final Baseline Concentrations are exceeded. These concentrations are presented in Table 1 as "Alternate Beneficial Reuse Screening Concentrations" (ABRSCs). Analytes that don't have an ABRSC based on the three above-mentioned alternate screening standards (i.e. screening levels are not available for the particular analyte in any of the three screening standards) are shown as "NA" (data not available). If Gallup intends to reuse soil that exceeds Final Baseline Concentrations but does not exceed the ABRSCs, Gallup will cover the reused soil with a minimum of 1 foot of clean soil unless OCD approval has been obtained to reuse soil without a clean cover.

Gallup intends to utilize the Final Baseline Concentrations and the ABRSCs included in this correspondence for comparison with Gallup's OCD landfarm soil samples. These screening standards may also be used for other OCD-related evaluations, as applicable. If you have any questions or comments, please do not hesitate to call me at (505) 722-0217.

Sincerely,
Western Refining Company

Ed Riege
Environmental Manager

697-039-002

Attachments

cc: C. Johnson, Western Refining
G. Price, Trihydro Corporation
K. Van Horn, NMED

TABLE

TABLE 1. FINAL BASELINE AND ALTERNATE BENEFICIAL REUSE SOIL CONCENTRATIONS , OIL CONSERVATION DIVISION LANDFARMS
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Sample ID "Background" Collected February 2010			Sample ID "BG-NE-033011" Collected March 2011			Sample ID "BG-W-033011" Collect March 2011			Sample ID "BG-S-033011" Collected March 2011			Final Baseline Concentration	Alternate Benefical Reuse Screening Concentration
			Result	PQL	Sample Baseline Concentration	Result	PQL	Sample Baseline Concentration	Result	PQL	Sample Baseline Concentration	Result	PQL	Sample Baseline Concentration		
Chloride	E300	mg/kg	ND	7.500	7.500	7.600	7.500	7.600	ND	7.500	7.500	ND	7.500	7.500	**7.525**	**5000**
Fluoride	E300	mg/kg	3.300	1.500	3.300	4.300	1.500	4.300	2.400	1.500	2.400	1.800	1.500	1.800	**2.950**	**18600**
Nitrogen, Nitrate (As N)	E300	mg/kg	2.200	1.500	2.200	ND	1.500	1.500	3.000	1.500	3.000	2.100	1.500	2.100	**2.200**	**496000**
Sulfate	E300	mg/kg	18.000	7.500	18.000	42.000	7.500	42.000	15.000	7.500	15.000	11.000	7.500	11.000	**21.500**	**12000**
Radium-226	E901.1	pCi/g	1.500	NA	1.500	1.290	NA	1.290	NA	NA	NA	NA	NA	NA	**1.395**	**NA**
Radium-228	E901.1	pCi/g	1.100	NA	1.100	1.400	NA	1.400	NA	NA	NA	NA	NA	NA	**1.250**	**NA**
Radium-226+Radium-228	E901.1	pCi/g	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.645**	**600**
Arsenic	SW6010A	mg/kg	ND	13.000	13.000	ND	13.000	13.000	ND	13.000	13.000	ND	13.000	13.000	**13.000**	**65.4**
Barium	SW6010A	mg/kg	310.000	1.000	310.000	380.000	1.000	380.000	380.000	1.000	380.000	390.000	1.000	390.000	**365.000**	**4350**
Cadmium	SW6010A	mg/kg	ND	0.500	0.500	ND	0.500	0.500	ND	0.500	0.500	ND	0.500	0.500	**0.500**	**309**
Chromium	SW6010A	mg/kg	8.000	1.500	8.000	17.000	1.500	17.000	16.000	1.500	16.000	9.800	1.500	9.800	**12.700**	**447000**
Copper	SW6010A	mg/kg	4.000	1.500	4.000	4.200	1.500	4.200	1.700	1.500	1.700	1.900	1.500	1.900	**2.950**	**12400**
Iron	SW6010A	mg/kg	NA	NA	NA	20000.000	500.000	20000.000	19000.000	500.000	19000.000	13000.000	500.000	13000.000	**17333.333**	**217000**
Lead	SW6010A	mg/kg	NA	NA	NA	6.000	1.300	6.000	8.200	1.300	8.200	2.400	1.300	2.400	**5.533**	**800**
Manganese	SW6010A	mg/kg	NA	NA	NA	370.000	1.000	370.000	370.000	1.000	370.000	820.000	50.000	820.000	**520.000**	**463**
Selenium	SW6010A	mg/kg	ND	13.000	13.000	ND	13.000	13.000	ND	13.000	13.000	ND	13.000	13.000	**13.000**	**1550**
Silver	SW6010A	mg/kg	ND	1.300	1.300	ND	1.300	1.300	ND	1.300	1.300	ND	1.300	1.300	**1.300**	**1550**
Uranium	SW6010A	mg/kg	ND	25.000	25.000	ND	50.000	50.000	ND	50.000	50.000	ND	50.000	50.000	**43.750**	**929**
Zinc	SW6010A	mg/kg	NA	NA	NA	23.000	13.000	23.000	20.000	13.000	20.000	21.000	13.000	21.000	**21.333**	**92900**
Mercury	SW7471	mg/kg	ND	0.330	0.330	ND	0.033	0.033	ND	0.033	0.033	ND	0.033	0.033	**0.107**	**63.6**
Aroclor 1016	SW8082	mg/kg	NA	NA	NA	ND	0.020	0.020	NA	NA	NA	NA	NA	NA	**0.020**	**15.3**
Aroclor 1221	SW8082	mg/kg	NA	NA	NA	ND	0.020	0.020	NA	NA	NA	NA	NA	NA	**0.020**	**71.3**
Aroclor 1232	SW8082	mg/kg	NA	NA	NA	ND	0.020	0.020	NA	NA	NA	NA	NA	NA	**0.020**	**71.3**
Aroclor 1242	SW8082	mg/kg	NA	NA	NA	ND	0.020	0.020	NA	NA	NA	NA	NA	NA	**0.020**	**75.8**
Aroclor 1248	SW8082	mg/kg	NA	NA	NA	ND	0.020	0.020	NA	NA	NA	NA	NA	NA	**0.020**	**75.8**
Aroclor 1254	SW8082	mg/kg	NA	NA	NA	ND	0.020	0.020	NA	NA	NA	NA	NA	NA	**0.020**	**4.36**
Aroclor 1260	SW8082	mg/kg	NA	NA	NA	ND	0.020	0.020	NA	NA	NA	NA	NA	NA	**0.020**	**75.8**
1,1,1-Trichloroethane	SW8260B	mg/kg	ND	0.050	0.050	ND	0.050	0.050	NA	NA	NA	NA	NA	NA	**0.050**	**64300**
1,1,2-Trichloroethane	SW8260B	mg/kg	ND	0.050	0.050	ND	0.050	0.050	NA	NA	NA	NA	NA	NA	**0.050**	**1240**
1,1-Dichloroethane	SW8260B	mg/kg	ND	0.100	0.100	ND	0.100	0.100	NA	NA	NA	NA	NA	NA	**0.100**	**6880**
1,1-Dichloroethene	SW8260B	mg/kg	ND	0.050	0.050	ND	0.050	0.050	NA	NA	NA	NA	NA	NA	**0.050**	**1830**
1,2-Dichloroethane	SW8260B	mg/kg	ND	0.050	0.050	ND	0.050	0.050	NA	NA	NA	NA	NA	NA	**0.050**	**751**
Benzene	SW8260B	mg/kg	ND	0.050	0.050	ND	0.050	0.050	NA	NA	NA	NA	NA	NA	**0.050**	**50****
Carbon tetrachloride	SW8260B	mg/kg	ND	0.100	0.100	ND	0.100	0.100	NA	NA	NA	NA	NA	NA	**0.100**	**199**
Chloroform	SW8260B	mg/kg	ND	0.050	0.050	ND	0.050	0.050	NA	NA	NA	NA	NA	NA	**0.050**	**671**
Dibromomethane	SW8260B	mg/kg	ND	0.100	0.100	ND	0.100	0.100	NA	NA	NA	NA	NA	NA	**0.100**	**0.002**
Ethylbenzene	SW8260B	mg/kg	ND	0.050	0.050	ND	0.050	0.050	NA	NA	NA	NA	NA	NA	**0.050**	**50****
Methylene chloride	SW8260B	mg/kg	ND	0.150	0.150	ND	0.150	0.150	NA	NA	NA	NA	NA	NA	**0.150**	**10600**
Tetrachloroethene	SW8260B	mg/kg	ND	0.050	0.050	ND	0.050	0.050	NA	NA	NA	NA	NA	NA	**0.050**	**338**
Toluene	SW8260B	mg/kg	ND	0.050	0.050	ND	0.050	0.050	NA	NA	NA	NA	NA	NA	**0.050**	**50****
Trichloroethene	SW8260B	mg/kg	ND	0.050	0.050	ND	0.050	0.050	NA	NA	NA	NA	NA	NA	**0.050**	**4600**
Vinyl chloride	SW8260B	mg/kg	ND	0.050	0.050	ND	0.050	0.050	NA	NA	NA	NA	NA	NA	**0.050**	**248**
Xylenes, Total	SW8260B	mg/kg	ND	0.100	0.100	ND	0.100	0.100	NA	NA	NA	NA	NA	NA	**0.100**	**50****

TABLE 1. FINAL BASELINE AND ALTERNATE BENEFICIAL REUSE SOIL CONCENTRATIONS , OIL CONSERVATION DIVISION LANDFARMS
WESTERN REFINING SOUTHWEST. GALLUP REFINERY. GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Sample ID "Background" Collected February 2010			Sample ID "BG-NE-033011" Collected March 2011			Sample ID "BG-W-033011" Collect March 2011			Sample ID "BG-S-033011" Collected March 2011			Final Baseline Concentration	Alternate Benefical Reuse Screening Concentration
			Result	PQL	Sample Baseline Concentration	Result	PQL	Sample Baseline Concentration	Result	PQL	Sample Baseline Concentration	Result	PQL	Sample Baseline Concentration		
2,4,5-Trichlorophenol	SW8270C	mg/kg	ND	0.200	0.200	ND	0.200	0.200	NA	NA	NA	NA	NA	NA	**0.200**	**23800**
2,4,6-Trichlorophenol	SW8270C	mg/kg	ND	0.200	0.200	ND	0.200	0.200	NA	NA	NA	NA	NA	NA	**0.200**	**238**
2,4-Dichlorophenol	SW8270C	mg/kg	ND	0.400	0.400	ND	0.400	0.400	NA	NA	NA	NA	NA	NA	**0.400**	**715**
2,4-Dimethylphenol	SW8270C	mg/kg	ND	0.300	0.300	ND	0.300	0.300	NA	NA	NA	NA	NA	NA	**0.300**	**4760**
2,4-Dinitrophenol	SW8270C	mg/kg	ND	0.400	0.400	ND	0.400	0.400	NA	NA	NA	NA	NA	NA	**0.400**	**476**
2-Chlorophenol	SW8270C	mg/kg	ND	0.200	0.200	ND	0.200	0.200	NA	NA	NA	NA	NA	NA	**0.200**	**1550**
2-Methylphenol	SW8270C	mg/kg	ND	0.500	0.500	ND	0.500	0.500	NA	NA	NA	NA	NA	NA	**0.500**	**0.1**
2-Nitrophenol	SW8270C	mg/kg	ND	0.200	0.200	ND	0.200	0.200	NA	NA	NA	NA	NA	NA	**0.200**	**0.1**
3+4-Methylphenol	SW8270C	mg/kg	ND	0.200	0.200	ND	0.200	0.200	NA	NA	NA	NA	NA	NA	**0.200**	**0.1**
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	ND	0.500	0.500	ND	0.500	0.500	NA	NA	NA	NA	NA	NA	**0.500**	**23.8**
4-Chloro-3-methylphenol	SW8270C	mg/kg	ND	0.500	0.500	ND	0.500	0.500	NA	NA	NA	NA	NA	NA	**0.500**	**0.1**
4-Nitrophenol	SW8270C	mg/kg	ND	0.200	0.200	ND	0.250	0.250	NA	NA	NA	NA	NA	NA	**0.225**	**0.1**
Pentachlorophenol	SW8270C	mg/kg	ND	0.400	0.400	ND	0.400	0.400	NA	NA	NA	NA	NA	NA	**0.400**	**1030**
Phenol	SW8270C	mg/kg	ND	0.200	0.200	ND	0.200	0.200	NA	NA	NA	NA	NA	NA	**0.200**	**68800**
1-Methylnaphthalene	SW8310/8260B	mg/kg	NA	NA	NA	ND	0.250	0.250	NA	NA	NA	NA	NA	NA	**0.200***	**0.6**
2-Methylnaphthalene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.250	0.250	NA	NA	NA	NA	NA	NA	**0.200***	**0.6**
Acenaphthene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.250	0.250	NA	NA	NA	NA	NA	NA	**0.200***	**18600**
Acenaphthylene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.250	0.250	NA	NA	NA	NA	NA	NA	**0.200***	**0.6**
Anthracene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.015	0.015	NA	NA	NA	NA	NA	NA	**0.200***	**66800**
Benzo(a)anthracene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.010	0.010	NA	NA	NA	NA	NA	NA	**0.200***	**213**
Benzo(a)pyrene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.010	0.010	NA	NA	NA	NA	NA	NA	**0.200***	**21.3**
Benzo(b)fluoranthene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.010	0.010	NA	NA	NA	NA	NA	NA	**0.200***	**213**
Benzo(g,h,i)perylene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.010	0.010	NA	NA	NA	NA	NA	NA	**0.200***	**0.6**
Benzo(k)fluoranthene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.010	0.010	NA	NA	NA	NA	NA	NA	**0.200***	**2060**
Chrysene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.011	0.011	NA	NA	NA	NA	NA	NA	**0.200***	**20600**
Dibenz(a,h)anthracene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.010	0.010	NA	NA	NA	NA	NA	NA	**0.200***	**21.3**
Fluoranthene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.020	0.020	NA	NA	NA	NA	NA	NA	**0.200***	**8910**
Fluorene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.030	0.030	NA	NA	NA	NA	NA	NA	**0.200***	**8910**
Indeno(1,2,3-c,d)pyrene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.100	0.100	NA	NA	NA	NA	NA	NA	**0.200***	**213**
Naphthalene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.250	0.250	NA	NA	NA	NA	NA	NA	**0.200***	**702**
Phenanthrene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.015	0.015	NA	NA	NA	NA	NA	NA	**0.200***	**7150**
Pyrene	SW8310/8270C	mg/kg	NA	NA	NA	ND	0.025	0.025	NA	NA	NA	NA	NA	NA	**0.200***	**6680**
Cyanide	SW9012	mg/kg	ND	0.500	0.500	ND	0.350	0.350	NA	NA	NA	NA	NA	NA	**0.425**	**6190**
Diesel Range Organics (DRO)	SW8015	mg/kg	ND	10.000	10.000	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10.000**	**NA**
Gasoline Range Organics (GRO)	SW8015	mg/kg	ND	5.000	5.000	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.000**	**NA**
Total BTEX	SW8260B	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.250**	**50**
Petroleum Hydrocarbons, TR	E418.1	mg/kg	ND	20.000	20.000	NA	NA	NA	NA	NA	NA	NA	NA	NA	**20.000**	**2500**
DRO+GRO	SW8015	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**15.000**	**500**

Notes:
PQL = practical quantitation limit.
ND = Not detected above the PQL.
NA = Data not available.
PAHs = polycyclic aromatic hydrocarbons.

The "Final Baseline Concentrations" shown above are the average of the data available from the four baseline samples with the exception mentioned below:
The Final Baseline Concentration for Total BTEX = the sum of the Final Baseline Concentrations for each of the four individual analytes.
The Final Baseline Concentration for DRO+GRO = the sum of the Final Baseline Concentrations for DRO and GRO.
The Final Baseline Concentration for Radium-226+Radium-228 = the sum of the Final Baseline Concentrations for Radium-226 and Radium-228.
*PAHs were only analyzed for one of four baseline sample locations utilizing SIM analysis (SW8310).
A lower PQL (0.020 mg/kg) is achieved utilizing SIM analysis than standard analysis (SW8270C).
Gallup intends to analyze future soil samples using the standard analysis.
Therefore, the SIM analysis PQLs would not be achievable.
The PQLs utilized above for PAH Final Baseline Concentrations (0.100 mg/kg) are the PQLs provided from Hall Environmental for the standard analysis (SW8270C).

The "Alternate Beneficial Reuse Screening Concentrations" (ABRSCs) shown above are the highest of the following three screening standards:
NMED Construction Worker Soil Screening Standards
OCD Form C-137 EZ (Registration/Final Closure Report For Small Landfarm) Screening Standards
NMAC 20.6.2.3103 Screening Standards with a 20 X dilution factor

In the event that a screening standard for a particular analyte does not exist for each of the above-three screening standards, the ABRSC has be set to "NA".

**The ABRSCs for benzene, ethylbenzene, toluene, and total xylenes have been reduced to 50 mg/kg so that the individual analyte ABRSCs do not exceed the Total BTEX ABRSC.

FIGURES