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Deputy Secretary

**Certified Mail - Return Receipt Requested**

March 15, 2011

Mr. Randy Schmaltz  
Environmental Manager  
Western Refining, Southwest, Inc.  
Bloomfield Refinery  
P.O. Box 159  
Bloomfield, New Mexico 87413

**RE: PROPOSALS TO MODIFY MONITORING AT THE RIVER TERRACE AREA  
WESTERN REFINING COMPANY SOUTHWEST, INC.  
BLOOMFIELD REFINERY  
EPA ID# NMD089416416  
HWB-WRB-11-001**

Dear Mr. Schmaltz:

The New Mexico Environment Department (NMED) has completed its review of Western Refining Southwest, Inc., Bloomfield Refinery's (Western) February 25, 2011 letter *Proposal to Modify Monitoring at Bloomfield Refinery River Terrace Area*. Sampling modifications at the River Terrace are identified below.

**1. Soil Gas Monitoring Modifications (Attachment 2, Table 2):**

- a. Collect soil gas samples for laboratory analysis from all Temporary Wells (TP), DW-1, and MW-49 on an annual basis. The samples must be collected during low flow of the San Juan River (corresponding to relatively low groundwater levels).

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- b. Conduct soil gas monitoring and sampling for TP wells 1, 2, 5, 6, 7, 8, 9, DW-1, and MW-49 on a semi-annual basis. The soil gas monitoring must be collected during high and low flow stages of the San Juan River.

**2. Groundwater Monitoring Modifications (Attachment 1, Table 1):**

- a. Conduct groundwater monitoring and sampling of TP wells 3, 10, 11, 12, and 13 on a biennially basis (beginning 2011). Samples must be collected during low flow stages of the San Juan River.
- b. Conduct groundwater monitoring and sampling of TP wells 7, 9, and DW-1 biennially (beginning 2011). Samples must be collected during low flow stages of the San Juan River.
- c. Discontinue analyses for barium and chromium at all Temporary Wells and wells MW-49 and DW-1.
- d. Conduct groundwater monitoring and sampling of TP wells 1, 2, 5, 6, 8, and MW-49 on a semi-annual basis. The samples must be collected during high and low flow stages of the San Juan River.

**3. GAC Filter Modification (Attachment 1, Table 1):**

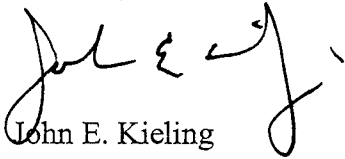
- a. Collect GAC 1 Effluent samples on a quarterly basis.

The sampling requirements for the River Terrace are identified in the updated Table 1 (Groundwater Monitoring) and Table 2 (Soil Vapor Monitoring) in Attachment 1 and 2, respectively. Sampling must be conducted in accordance with these revised Tables.

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If you have any questions regarding this letter, please contact Hope Petrie of my staff at (505) 476-6045.

Sincerely,



John E. Kieling  
Program Manager  
Permits Management Program  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
H. Petrie, NMED HWB  
C. Chavez, OCD  
A. Hains, Western  
File: WRB 2011 and Reading  
HWB-WRB-11-001

Attachment 1

River Terrace Bioventing System Monitoring  
Table 1 - Groundwater Monitoring

Revised March 2011

Location	Matrix	DTW/DTP	Temp	pH	Cond	DO	ORP	Sampling
MW-49	GW	SIA	SAI	SIA	SIA	SIA	SIA	SIA -B, GRO, DRO, Pb
DW-1	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA, B, GRO, DRO, Pb, Hg
TP-1	GW	SIA	SIA	SIA	SIA	SIA	SIA	SIA-B, GRO, DRO, Pb
TP-2	GW	SIA	SIA	SIA	SIA	SIA	SIA	SIA-B, GRO, DRO, Pb
TP-3	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
TP-5	GW	SIA	SIA	SIA	SIA	SIA	SIA	SIA-B, GRO, DRO, Pb
TP-6	GW	SIA	SIA	SIA	SIA	SIA	SIA	SIA-B, GRO, DRO, Pb
TP-7	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
TP-8	GW	SIA	SIA	SIA	SIA	SIA	SIA	SIA-B, GRO, DRO, Pb
TP-9	GW	BIA	BIA	BIA	BIA	BIA	BIA	SIA-B, GRO, DRO, Pb
TP-10	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
TP-11	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
TP-12	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
TP-13	GW	BIA	BIA	BIA	BIA	BIA	BIA	BIA-B, GRO, DRO, Pb
GAC Inf	EW							Q-B, GRO, DRO
GAC 1 Eff	EW							Q - B, GRO, DRO
GAC 2 Eff	EW							Q-B, GRO, DRO

Field Parameters

**DTW** - depth to water measurement  
**DTP** - depth to product measurement  
**T** - temperature  
**Cond** - electrical conductivity  
**DO** - dissolved Oxygen  
**ORP** - oxidation Reduction Potential

Analytical Analysis

**B** - BTEX and MTBE by EPA Method 8021B  
**GRO** - gasoline range organics by EPA Method 8015B  
**DRO** - diesel range organics by EPA Method 8015B  
**Pb** - lead EPA Method 6010  
**Hg** -mercury by EPA Method 7470

Sampling Frequency

**Q** - quarterly  
**SIA** - Semi -annual (2 x a year during the high and low flows of the San Juan River)  
**A** - annual (collected during low flow stage of the San Juan River)  
**BIA** - Biennially (1 x every two years, collected during low flow stages of the San Juan River)

Matrix

**GW** - groundwater  
**EW** -extracted groundwater

Attachment 2

River Terrace Bioventing System Monitoring  
Table 2 - Soil Vapor Monitoring

Revised March 2011

Location	Matrix	* Injection Pressure	* Injection Flow Rate	% CO2	%O2	Organic Vapors PID	Pressure	Analytical
MW-49	A			SIA	SIA	SIA	SIA	A-b, GRO
DW-1	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-1	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-2	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-3	A			---	---	---	---	A-b, GRO
TP-5	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-6	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-7	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-8	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-9	A			SIA	SIA	SIA	SIA	A-b, GRO
TP-10	A			---	---	---	---	A-b, GRO
TP-11	A			---	---	---	---	A-b, GRO
TP-12	A			---	---	---	---	A-b, GRO
TP-13	A			---	---	---	---	A-b, GRO
BV-1	A	Q	Q					
BV-2	A	Q	Q					
BV-3	A	Q	Q					
BV-4	A	Q	Q					
BV-5	A	Q	Q					
BV-6	A	Q	Q					
BV-7	A	Q	Q					
BV-8	A	Q	Q					
BV-9	A	Q	Q					
BV-10	A	Q	Q					
BV-11	A	Q	Q					
BV-12	A	Q	Q					
BV-13	A	Q	Q					

Matrix

A - soil gas

Field Parameters

% CO<sub>2</sub> - percent carbon dioxide

% O<sub>2</sub> - percent oxygen

PID - photoionization detector

Analytical Analysis

b - BTEX by EPA Method 8021B

GRO - gasoline range organics  
by EPA Method 8015B

Sampling Frequency

Q - quarterly

A - Annual (1 x year, San Juan River low flow)

--- No sample collection

SIA- Semi-annual (2 x a year during the high and low flow stages of the San Juan River)

\*Pressure - Full system and individual well injection pressures and injection flow rates must be recorded during each monitoring event.

**In-SITU RESPIRATION TEST -Suspended**

**Requirements established in NMED 11-23-2010 letter (Request to Suspend In-Situ Respiration Test)**

Must be conducted under similar conditions as the 9/07 respiration test (e.g. similar groundwater levels and river levels)

Shutdown blowers and monitoring oxygen/carbon dioxide levels in TP-1, 2, 5, 6, 8, 9, and each of the 13 BV wells.

Monitor location	Analytes(s)	Frequency	Duration
TP-1, 2, 5, 6, 8, 9	O <sub>2</sub> , CO <sub>2</sub> , VOCs	every 1 hour	first 8 hours
TP-1, 2, 5, 6, 8, 9	O <sub>2</sub> , CO <sub>2</sub> , VOCs	every 12 hours	next 48 hours
All BV wells	O <sub>2</sub>	every 12 hours	first 72 hours

TP - Temporary Wells

VOCs - Volatile Organic Carbons

O<sub>2</sub> - Oxygen

CO<sub>2</sub> - Carbon Dioxide