



March 11, 2011

✓ New Mexico Environmental Department
Hazardous Waste Bureau (HWB)
1301 Siler Road, Building B
Santa Fe, NM 87507
Attn: Kristen Van Horn

New Mexico Energy, Minerals and Natural Resources
Oil Conservation Division (OCD)
1220 South St. Francis Drive
Santa Fe, NM 87505
Attn: Mr. Carl Chavez



Re: **Passive Bioremediation (Bio-venting) Project Update for remediating Ultra Low Sulfur Diesel (ULSD) in accordance with (NSR Permit No. 0633-M8-R3, Part A.214)**

Dear Ms Van Horn and Mr. Chavez:

Western Refining (Gallup Refinery) was recently granted the new NSR Permit 0633-M8-R3 that was signed on October 6, 2010. Under Part A.214 of the new permit, Western Refining may elect to install a Passive Bioremediation (bio-ventilation) System for any Ultra Low Sulfur Diesel (ULSD) fuel spills.

Agency notification for the installation of the standpipes was made via e-mail (**Refer to Agency Correspondence via e-mail from November 24 and December 7, 2010**) that was based on the Sample Pipe Location Plan as identified in the enclosed attachment. A pipe grid system was devised prior to drilling in order to determine the exact location of each pipe to be installed. The pipe layout or grid system consists of a central pipe location (C1), west of tanks (T-116 and T-115) along the east side of the dike wall, which is used as a reference point for ventilation pipe placement. Concentric semi-circles radiating out from this central point (C1) were identified for pipe placement as shown in the enclosed Sample Pipe Location Plan. (**Refer to Sample Pipe Location Plan**) The standpipes are to have approximately six foot spacing intervals as shown on the drawing.

Preliminary Lay-out- A preliminary lay-out was constructed in order to identify the area and spacing required. A rough drawing was given to the Drafting Department in order to provide maintenance a formal drawing of pipe location before any fabrication could be performed. (**Refer to Sample Pipe Location Plan**)

Pipe Fabrication- A preliminary pipe construction drawing was also given to the Drafting Department to provide maintenance a formal drawing of the bio-ventilation pipe that will be installed. Once the Drafting Department formalized a detailed pipe construction drawing, maintenance was notified of its completion. A work order

was then written so that maintenance could begin pipe fabrication of the sixteen ventilation pipes based on the enclosed drawing. **(Refer to Sample Pipe Detail)** The drawing consists of a 2 inch ID by 5 foot length carbon steel pipe with ½ inch holes drilled at ninety degree apart with two inch spacing intervals between rows. Fabrication was completed by middle of November 2010.

Boring and Pipe Installation- Drilling operation began on November 30, 2010. Sixteen hole borings, six inches in diameter, were drilled to a depth of three feet using a two man motorized auger. Ventilation pipe were installed in each of the sixteen borings. Next, a gravel pack (i.e., gravel greater than ½ inch diameter) was put into each hole as per drawing up to four inches below the surface. Soil was placed at the top of the last four inches of each boring hole to act as a seal for the ventilation pipe and for pipe stabilization. All drilling and pipe installation was completed by December 2, 2010. Some pipe placement modifications that deviated from the six foot spacing were used in order to account for existing aboveground piping and obstructions. Rubber caps were put on each pipe in order to prevent obstructions such rain or snow from enter the pipe. Holes were drilled in each pipe in order to allow proper ventilation. **Refer to Sample Pipe Detail with Location of piping, GPS Coordinates, and enclosed pictures)**

VOC Monitoring and Qa/Qc Procedures- After completion of the installation of all sixteen pipes, LDAR (Leak-Detection and Repair) personnel identified each ventilation pipe with a unique LDAR tag. These tags will be used to correlate between the Monitoring Log and the Sampling Plan Location Map as enclosed. On December 7, 2010, LDAR personnel conducted an initial Volatile Organic Compounds (VOC) monitoring using a Flame Ionizing Detector (FID) (TVA-1000) in order to establish a monitoring baseline.

Method 21 uses a portable instrument to detect VOC leaks from sources. The regulations do not specify a model or type of VOC instrument. However, the type of instrument does have to adhere to certain guidelines and requirements as specified in the regulations. One of the requirements for the instrument is that the detector either should be a catalytic oxidation, flame ionization, infrared absorption, or photo-ionization type of detector. Specific instrument methodology is addressed under Method 21. LDAR personnel use the proper Qa/Qc procedures for Volatile Organic Compounds (VOC) monitoring as prescribed by EPA in accordance with Method 21. This document specifies all guidelines for Qa/Qc procedures and detection of VOC leaks from process equipment. Daily Qa/Qc must be performed prior to VOC monitoring. **(Refer to Method 21 attachment)**

Monitoring Schedule- Initially VOC monitoring was conducted on a bi-monthly basis from December through January in order to establish a VOC base line. As indicated in the enclosed chart, the concentration fluctuated substantially. In February 2011, VOC monitoring frequency was changed from a bi-monthly to a monthly basis. The objective of the bio-ventilation system will be to decrease the average VOC concentration over time to a satisfactory standard. Western will continue monthly voc monitoring through August 2011. At which time, Western will commence a quarterly voc monitoring schedule. **(Refer to Bioventing Monitoring Log for T-115/T-116 Tank Area)**

Report Submittals- Passive bioremediation (bio-ventilation) of ultra low sulfur diesel (ULSD) for spill material in order to augment reduction of VOC concentration is a time dependent process. Western Refining (Gallup Refinery) is prepared to provide the Agency with semi-annual progress report on or about July 31 and January 31 based on the prior semi-annual sampling results.

If you should require any additional information or assistance in this matter, please contact me at the number listed below or via e-mail.

Sincerely,



Beck Larsen, CHMM/REM/PG
Environmental Engineer
Western Refining Southwest

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Cc: File

enc: Bio-venting Monitoring Logs
Letter- Agency E-mail Correspondence
Drawing- "Sample Pipe Location Plan"
Drawing- "Sample Pipe Detail"
Drawing- "Sample Pipe Detail with Location of Piping"
GPS Coordinates
Method 21- Determination of Volatile Organic Compound Leaks" (LDAR Procedures)
EMS Qa/Qc Instrument Calibration Reports for Monitoring Periods
Bio-venting Monitoring Logs
Pictures

