

March 11, 2013

Kristen Van Horn NMED HWB [Via email and U.S. mail]  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505-6303



**Re: Western Refining Southwest, Inc. ("Western") – Gallup, New Mexico Refinery Responses to NMED/EPA Request For Information**

Dear Kristen:

In a status call with NMED and EPA on February 7, 2013, Western discussed the various CAFO compliance activities it has undertaken relating to the upgraded Wastewater Treatment Plant ("WWTP") since Western provided an August 8, 2012 written response to 38 questions posed by NMED. During our call, NMED requested that Western provide a summary of those activities in writing. NMED also requested a copy of Western's WWTP standard operating procedure for addressing elevated benzene from the MPPE effluent. This letter, and attachment, provide the requested information.

The upgraded WWTP includes an innovative technology for benzene removal. Below are some items Gallup has learned over its ten months of operating the upgraded WWTP. An update of the actions taken to address operational challenges as identified in the August 8, 2012 letter to NMED is provided below along with other items discussed during the conference call.

- Gallup added larger filters to improve filtration of micron-size particles between the DGF and MPPE Units. .
- Installation of the 250 micron filters in parallel to allow changing filters online may be completed as soon as early spring. Gallup will also be adding absolute rated 10 micron filters with installation currently expected to be completed in early summer. Fabrication of the 10 micron filters is complete and shipping is being arranged.
- Pluggage in the interstitial spaces of the MPPE media beds has been improved by increasing steam cycles and using industrial degreasers in the beds. The post DGF Clarifier acid injection for washing the beds was completed and placed into service in the fall of 2012. The acid lowers the post DGF wastewater pH which assists in scrubbing the interstitial spaces. .
- Chemicals have been utilized to process the intermittent difficult to treat flows in the DGF unit. The addition rates of coagulant and flocculant chemicals has been optimized to prevent carry-over of these chemicals to MPPE filters and absorbing columns. . Review of DGF chemicals and optimization of DGF chemical injection continues.
- The backup MPPE media arrived in Albuquerque in October 2012 and is available for immediate use.

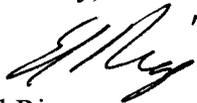
- The upgraded wastewater treatment plant is doing a great job of removing benzene. Most outside lab analysis indicate non detect for benzene and those that are not non detect averaged a very low .02 ppm since startup. The clarity of the wastewater is much improved providing a clear discharge.
- The operators now have over ten months experience running the new equipment in the upgraded plant and are becoming proficient at it.

The agencies also raised the issue of exploring whether we could decrease the industrial storm water footprint. Gallup has reviewed the process area footprint to see if any non process water can be directed elsewhere to reduce flow to WWTP. It does not appear that this is an option as Gallup did a good job identifying these drainage areas within the recent past. However Gallup has improved source reduction over the past two years by:

- Closely monitoring water draws off tanks.
- Closely monitoring sample draws and general operations to reduce oil to sewer.
- Use of catch pools to divert oil from sewer and directly into tankage or process.
- Eliminating or reducing a couple sources that drained to the sewer.

Please let me know if you need any further clarification. We look forward to talking with you in the near future.

Sincerely,



Ed Riege

Cc: Joel Dougherty (6EN-HE) [*Via email, [Dougherty.Joel@epamail.epa.gov](mailto:Dougherty.Joel@epamail.epa.gov), and U.S. mail*]  
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## **GALLUP REFINERY**

### **WASTE WATER TREATMENT PLANT**

#### **CORRECTING HIGH BENZENE PROCEDURE**

##### **PURPOSE**

1. The purpose of this procedure is to inform the Waste Water Operator of what to do in the event of elevated benzene results (concentrations) in the MPPE Column effluent.

##### **REFERENCE MATERIAL**

1. MSDS
2. Safe work procedures manual
3. Western Refinery Laboratory Purge & Trap Instrument followed by Gas Chromatograph

##### **MINIMUM PERSONNEL**

1. Waste Water Treatment Plant Operator
2. API Operator
3. Laboratory Technician

##### **SAFETY EQUIPMENT**

1. Nitrile gloves
2. MSDS
3. Safework Procedures Manual
4. Safety glasses
5. Splash shield
6. Steel toe boots (refinery PPE)
7. H2S Monitor

##### **EQUIPMENT INVOLVED**

1. Post MPPE Column sample point
2. Western Refinery Laboratory Purge & Trap Instrument followed by Gas Chromatograph
3. Capture vials, 40 ml VOA vials.
4. PPE (nitrile gloves, splash shield, steel toe boots, H2S Monitor)

##### **OBJECTIVES**

1. Safely, and effectively, shut down MPPE flow to STP-1 and circulate Tank 35 when laboratory benzene results exceed the refinery's precautionary operating concentration of 0.4 ppm (mg/L).

##### **PREREQUISITES / PRECAUTIONS**

1. **PRIOR:** Before sampling, don proper PPE prior to capturing all benzene samples.
2. **REVIEW PROCEDURE:** Shut down the MPPE flow according to the WWTP Operations manual located in the WWTP Control Room.

3. **CAUTION:** If the current benzene sample results are increasing from the previous sample, Operator is to increase sample monitoring to ensure the discharge to STP-1 stays below **0.5ppm**. Follow steps 1 – 11 if the results continue to increase.
4. **NOTE:** If the MPPE column effluent benzene samples are at **0.2 ppm** or higher, the following actions should be taken in order to determine if the results are because of incorrect internal analysis or are due to MPPE operating conditions:
  - a. **Reduce unit flow rate through the MPPE columns to 100 – 120 gpm.**
  - b. **After approximately 45 minutes, sample MPPE effluent and send to the Lab for analysis.**
  - c. **If analysis is lower than 0.2 ppm, begin increasing the flow at a rate of 30-50 gpm through the MPPE columns. Sample at hourly intervals to confirm the benzene results are continuing to drop.**
  - d. **If analysis is higher, but less than 0.4 ppm, go to step a. above and sample at hourly intervals to determine what direction unit conditions are heading.**
  - e. **If conditions are continuing to climb and reach 0.4 ppm, proceed to the Shutdown Procedure.**

## PROCEDURE

**NOTE: Begin this procedure when Lab results show benzene levels are at a maximum of 0.4 ppm benzene.**

### SHUT DOWN/START CIRCULATION OF MPPE DUE TO HIGH BENZENE NUMBERS:

Date/Time    Initial

- |       |       |  |
|-------|-------|--|
| _____ | _____ | 1. Immediately shut down MPPE flow through the Columns after the laboratory technician notifies WWTP Operator of benzene results greater than or equal to 0.4 ppm. |
| _____ | _____ | 2. Circulate DGF effluent back to the DGF Feed Tank.   |
| _____ | _____ | 3. Shut off chemical dosing pumps to prevent over-injection.   |
| _____ | _____ | 4. Shut down the Tank 35 pumps routed to the API.  |
| _____ | _____ | 5. Evaluate turning on the mixer at Tank 35 and circulating the tank for a minimum of one (1) hour.  |
| _____ | _____ | 6. Steam out the Columns as you wait for Tank 35 to mix to get them both ready for effective benzene absorption.   |
| _____ | _____ | 7. Check API oil skimmers and adjust them if need be, for proper oil skimming. (High oil levels in the API can cause high benzene numbers.)                        |
| _____ | _____ | 8. After a good Tank 35 mix, (approximately 1 hour minimum) start up the Tank 35 pumps routed to the API.  |
| _____ | _____ | 9. Start up all chemical injection pumps at the WWTP.  |
| _____ | _____ | 10. Start up the MPPE Columns.   |

\_\_\_\_\_ 11. Capture the benzene sample as soon as the unit operation is stable  
\_\_\_\_\_ and immediately take the sample to the laboratory for analysis.  
**(See Precaution #3 above)**