

**Monzeglio, Hope, NMENV**

ENTERED

**From:** Jim Lieb [Jim.Lieb@wnr.com]  
**Sent:** Thursday, March 06, 2008 4:11 PM  
**To:** Monzeglio, Hope, NMENV  
**Cc:** Ed Riege; Chavez, Carl J, EMNRD  
**Subject:** FW: Railroad Rack Lagoon Fan Out Area Update Memo  
**Attachments:** 200803\_Fan\_Out\_Memo.pdf

Hope:

Update on the RR Rack Lagoon fan Out area investigation as per your request.

Jim Lieb  
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**From:** Regina Allen [mailto:[rmallen@trihydro.com](mailto:rmallen@trihydro.com)]  
**Sent:** Wednesday, March 05, 2008 5:01 PM  
**To:** Jim Lieb  
**Cc:** Grant Price  
**Subject:** Railroad Rack Lagoon Fan Out Area Update Memo

Hi Jim,

I have attached the Memo that updates the progress on the Railroad Rack Lagoon Fan-out Area project.

Let me know if you have any questions or concerns.

Regina Allen  
Environmental Scientist



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3/7/2008

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## memorandum

**To:** Western Refining, LLC  
**From:** Trihydro Corporation  
**CC:** \_\_\_\_\_  
**Date:** March 5, 2008  
**Re:** Railroad Rack Lagoon Fan-out Area

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The purpose of this memo is to provide a progress update for the Railroad Rack Lagoon Fan-out Area. Trihydro personnel were onsite December 17 through December 19, 2007 to collect additional samples as described in the letter titled "Change Order – Railroad Rack Lagoon Fan-out Area Soil Sampling and Excavation" dated November 13, 2007. In this letter, Trihydro had proposed to collect additional samples to delineate the extent of diesel range organics (DRO) soil contamination.

### **Horizontal Delineation**

Soil samples were collected extending outward in a radial pattern 20, 40 and 60 feet away from existing boreholes K, G, I and M at depths of 3, 8, and 13 feet below ground surface (ft-bgs). The proposed step-out distances of 20, 40, and 60 feet are designated as 1, 2, and 3, respectively. The 20 foot step out locations (M-1, I-1, G-1, and K-1) are illustrated on Figure 1. Boreholes M-1, I-1, G-1, and K-1 were installed on December 17, 2007 using a CME 75 drill rig. A 6 3/4" hollow stem auger was advanced to 1 foot above the discrete sampling depth. A split-spoon sampling device was then advanced from 1 foot above to 1 foot below the discrete sampling depth. Samples were taken directly from the split spoon sampling device. Samples were collected at 3, 8, and 13 ft bgs and submitted to Hall Environmental for 24 hour analysis on the same day. No visual contamination or odor was noted at any of these boreholes. Borehole logs were recorded for each location and a photograph was taken of each split spoon. Field documentation will be provided as needed as part of Trihydro's Railroad Rack Lagoon Fan-out Area Final Report.

On December 18<sup>th</sup>, while waiting for laboratory results of the December 17<sup>th</sup> sampling, boreholes K-2, K-3, G-2, G-3, I-2, and M-2 were installed and sampled in the same manner described above. The remaining proposed boreholes, M-3 and I-3, were installed on December 19, 2007.

### **Vertical Delineation**

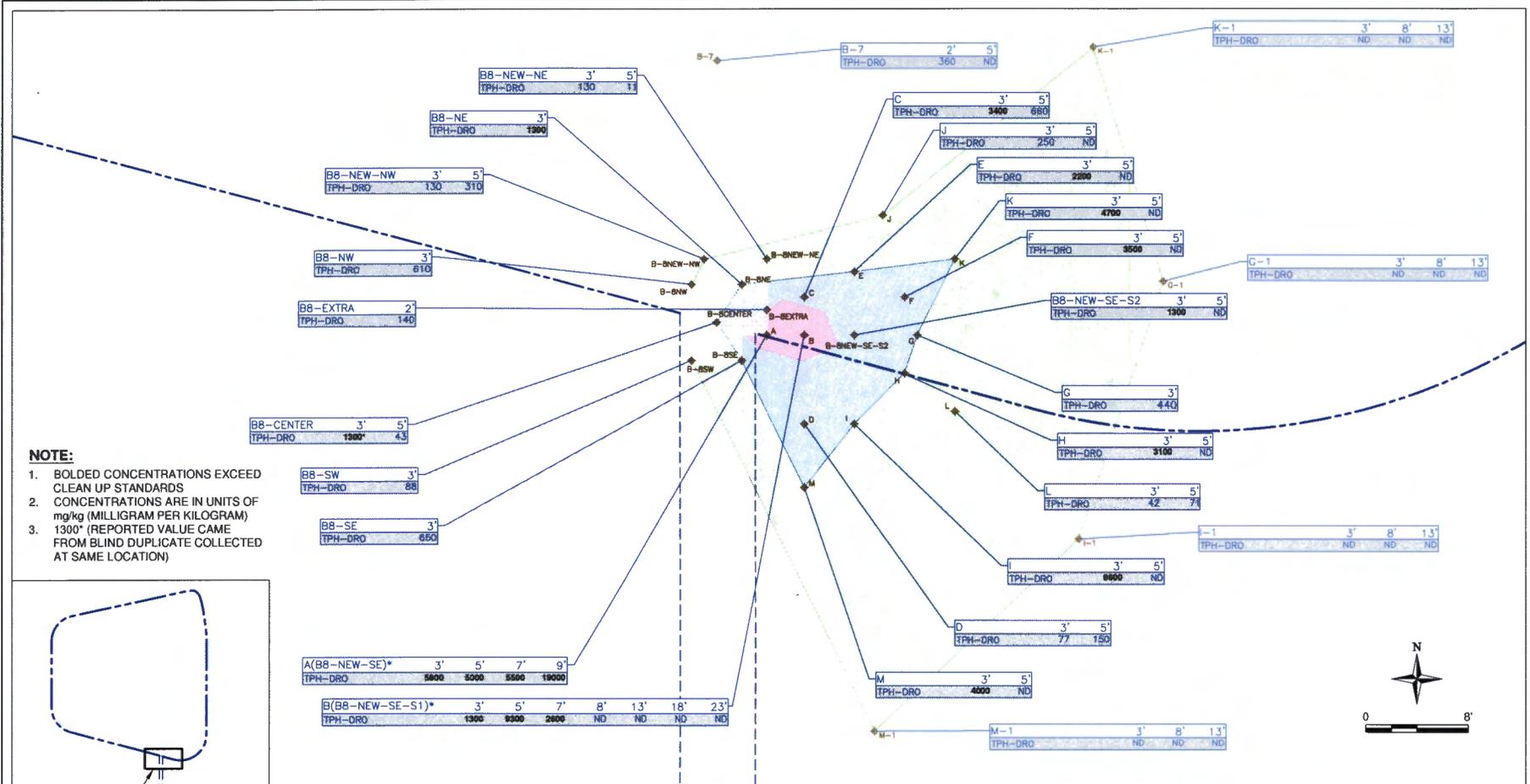
Existing borehole B (B8-NEW-SE-S1) was drilled to a depth of 23 ft-bgs to vertically delineate the extent of DRO contamination. This borehole was selected for vertical delineation because a previous sampling event showed that this borehole had a DRO exceedance of 2,600 mg/kg at 7 ft-bgs. Samples were collected on December 17 at 8, 13, 18, and 23 ft-bgs using the same methods described above. These samples were submitted to Hall Environmental for 24 hour DRO analysis on the same day that they were collected.

**Results**

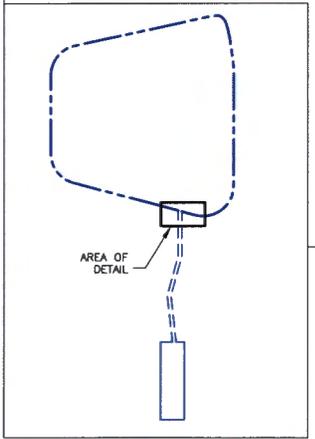
The results for samples collected from new boreholes M-1, I-1, G-1, and K-1 at depths of 3, 8, and 13 and B ft-bgs and existing borehole B (B8-NEW-SE-S1) at 8, 13, 18, and 23 ft-bgs were all non-detect for DRO. Trihydro believes that this new data effectively delineates both the horizontal and vertical extent of DRO contamination associated with test pit B-8. In a meeting on December 20 between Gallup and Trihydro personnel, it was agreed that no further analysis of samples collected during the week of December 17 would be required since the delineation objectives had been met.

**Path Forward:**

Figure 1 has been prepared to approximate the area and volume of soil that exceeds clean-up standards. Because the field measurements were collected with a measuring tape, the areas and volumes calculated should be considered approximations. At the direction of the refinery, a final report including a detailed overview of the field activities completed at the Fan-out Area is being drafted.



**NOTE:**  
 1. BOLD CONCENTRATIONS EXCEED CLEAN UP STANDARDS  
 2. CONCENTRATIONS ARE IN UNITS OF mg/kg (MILLIGRAM PER KILOGRAM)  
 3. 1300\* (REPORTED VALUE CAME FROM BLIND DUPLICATE COLLECTED AT SAME LOCATION)



**KEY MAP**  
 0 200'

**EXPLANATION**

	OUTFLOW DITCH
	FAN-OUT AREA
	RAILROAD RACK LAGOON
	PREVIOUSLY EXCAVATED AREA
	EXCAVATE TO 3 FEET
	EXCAVATE TO 5 FEET
	EXCAVATE TO 13 FEET

**EXPLANATION**

◆ M-1  
 ND NON DETECT  
 \* A(B8-NEW-SE) = MAY EVENT(AUGUST EVENT)  
 B(B8-NEW-SE-S1) = MAY EVENT(AUGUST EVENT)

**CONSTITUENT TABLE EXPLANATION**

WELL DESIGNATION	M-1	3' 8' 13"	SAMPLE DEPTH
TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE ORGANICS	TPH-DRO	ND ND ND	CONCENTRATION SHOWN HERE IN MAXIMUM VALUE



**FIGURE 1**  
**RAILROAD RACK LAGOON**  
**OVERFLOW DITCH AND FAN-OUT AREA**  
**SOIL SAMPLE LOCATIONS AND RESULTS**  
**WESTERN REFINING, LLC**  
**GALLUP REFINERY**  
**GALLUP, NEW MEXICO**

