

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Thursday, September 23, 2010 2:52 PM
To: Van Horn, Kristen, NMENV
Cc: VonGonten, Glenn, EMNRD; Cobrain, Dave, NMENV
Subject: Western Refining SW, Inc.- Gallup Refinery (GW-032) Annual GW Monitoring Report 2009

Kristen:

The OCD has reviewed the 3 binders with maps included in Binder No. 1 and have some observations, comments and/or recommendations. The report was scanned into OCD Online (GW-032).

Observations:

- 1) There appear to be at least 3 water bearing zones with wells seated in each beneath the facility: a) Shallow sand; b) Chinle/Alluvium; and c) Sonsela. It is good to see MWs, RWs, etc. associated with the different zones. The ground water flow direction map provided in Binder No. 1 was based on the MWs seated in the Chinle.
- 2) The total API Separator flow rate for 2009 in Binder No. 2 Section L (Mo. Flow Rates for NAPIS) averaged out over 365 days to be about 551 gpm, which seems high for the treatment system?
- 3) The ponds contain: E-Coli; Coliform; extremely high Chlorides and Fluorides increasing in concentration away from the plant; elevated BOD and COD; Arsenic and Sulfates. Some of these parameters may be useful for evaluation of any NPDES discharges or contaminant fate downgradient from the pond network and toward the Rio Puerco River.

Comments:

- 1) Water quality information from recently installed OWs 50 and 52 was not found in the tables of the report, but may be in the text that I missed....
- 2) Aniline [0.32 ppm] was observed in NAPIS effluent and does not appear to degrade very well through the treatment system.

Recommendations:

- 1) Ground water flow directions triangulated or contoured for each water bearing zone would be helpful in understanding the contamination fate and evaluating current monitor well placements within each water bearing zone.
- 2) BTEX isocon maps would also compliment No. 1 above.
- 3) An evaluation of recovery well and monitoring well locations may be possible after evaluating Nos. 1 and 2 above.
- 4) Isocon maps with BTEX, and other chemicals of concern and others, i.e., dissolved oxygen, pH, ORP, Specific Conductivity, etc., based on monitoring and for each water bearing zone may be helpful in evaluating contaminant hydrogeology in the reports.

Please contact me if you have questions or wish to communicate based on the above. Thank you.

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
Fax: (505) 476-3462
E-mail: CarlJ.Chavez@state.nm.us

Website: <http://www.emnrd.state.nm.us/ocd/index.htm>
(Pollution Prevention Guidance is under "Publications")