TECHNICAL BRIEFING – 2012 ANNUAL MONITORING REPORT
SITE 78 (PICA 013) GROUNDWATER – APRIL 2013

The document reviewed was an annual data report for Site 78 (PICA 013) groundwater and surface water monitoring. The response action for groundwater at Site 78 is monitored natural attenuation (MNA) along with land use controls (LUCs). The remedy has been in effect since 2010. The sampling results contained in the annual report were obtained in accordance with the Final Remedial Design. Sampling was performed in December 2012 and those results are described in the report along with trend evaluation for results accumulated since remedy inception.

Site 78 was formerly used as an optics laboratory. Prior to the response action implementation a pilot study using injection of sodium lactate to accelerate degradation of the volatile organic compounds (VOCs) was undertaken between January 2004 and January 2005. Concentrations of VOCs in groundwater decreased and the pilot effort may have reduced the bulk of the contaminant mass paving the way for MNA.

Monitoring Schedule

The Final Remedial Design prescribed a schedule for monitoring wherein during the first two years sampling was performed on a quarterly frequency, for the next three years sampling was to be performed semi-annually, and thereafter on an annual basis. The MNA monitoring program was designed to evaluate long-term plume behavior and to verify that exposure to contaminants and their breakdown products do not pose additional risks. In 2012 the first and second quarters of sampling completed the first two years of quarterly monitoring. Semi-annual sampling was initiated in the second half of the year.

Contaminants of Concern (COCs)

The following constituents are COCs at the site:

- 1,1,1-Trichloroethane (1,1,1- TCA)
- Trichloroethene (TCE)
- cis-1,2-Dichloroethene (cis-1,2-DCE)
- Vinyl chloride (VC)

Monitoring Locations

Four monitoring wells are included in the program as follows: 78MW-1, 78MW-3, 78MW-4, and 78MW-6. Samples from the monitoring wells were collected using passive diffusion bags (PDBs). There are three surface water sampling locations as follows: SW-4, SW-5, and SW-6. Surface water samples were collected using a bailer. VOCs were analyzed by Method 8260B. Field parameters included pH, specific conductance, temperature, dissolved oxygen, and oxidation-reduction potential.

Groundwater Results

Only one compound, (VC), exceeded the site cleanup level (SCL). The exceedances of the 1 microgram per liter (ug/L) SCL for VC occurred in samples from Wells 78MW-3 (4.51 ug/L) and 78MW-6 (53.6 ug/L). 1,1,1-TCA was not detected. TCE was detected at less than the SCL in a single well (0.69 J ug/L in 78MW-1). Cis-1,2-DCE was detected at less than the SCL of 70 ug/L in three of the four wells at concentrations ranging from 0.692 ug/L (78MW-1) to 9.44 ug/L (78MW-6).

Surface Water Results

VC was detected at a concentration (0.27 ug/L) greater than the SCL of 0.082 ug/L in a single sample (SW-5).

Data Trends

Results for COCs with the exception of VC were below SCLs in 2012. Well 78MW-1 has generally had low to non-detected concentrations throughout monitoring without any deviations. The other two wells – 78MW-3 and 78MW-6 – have shown occasional spikes but overall have shown reductions in contaminant concentrations.

Future Actions

Monitoring will continue in accordance with the program outlined in the Final Remedial Design. Semi-annual frequency monitoring will continue through December 2014. The first annual sampling will occur in December 2015. The timeframe predicted to attain cleanup was approximately 13 years. The site will be the subject of the next Five Year Review as are other sites in which remedies are in progress.