

Norwalk Tank Farm Update

*Presented to the Norwalk Tank Farm
Restoration Advisory Board*

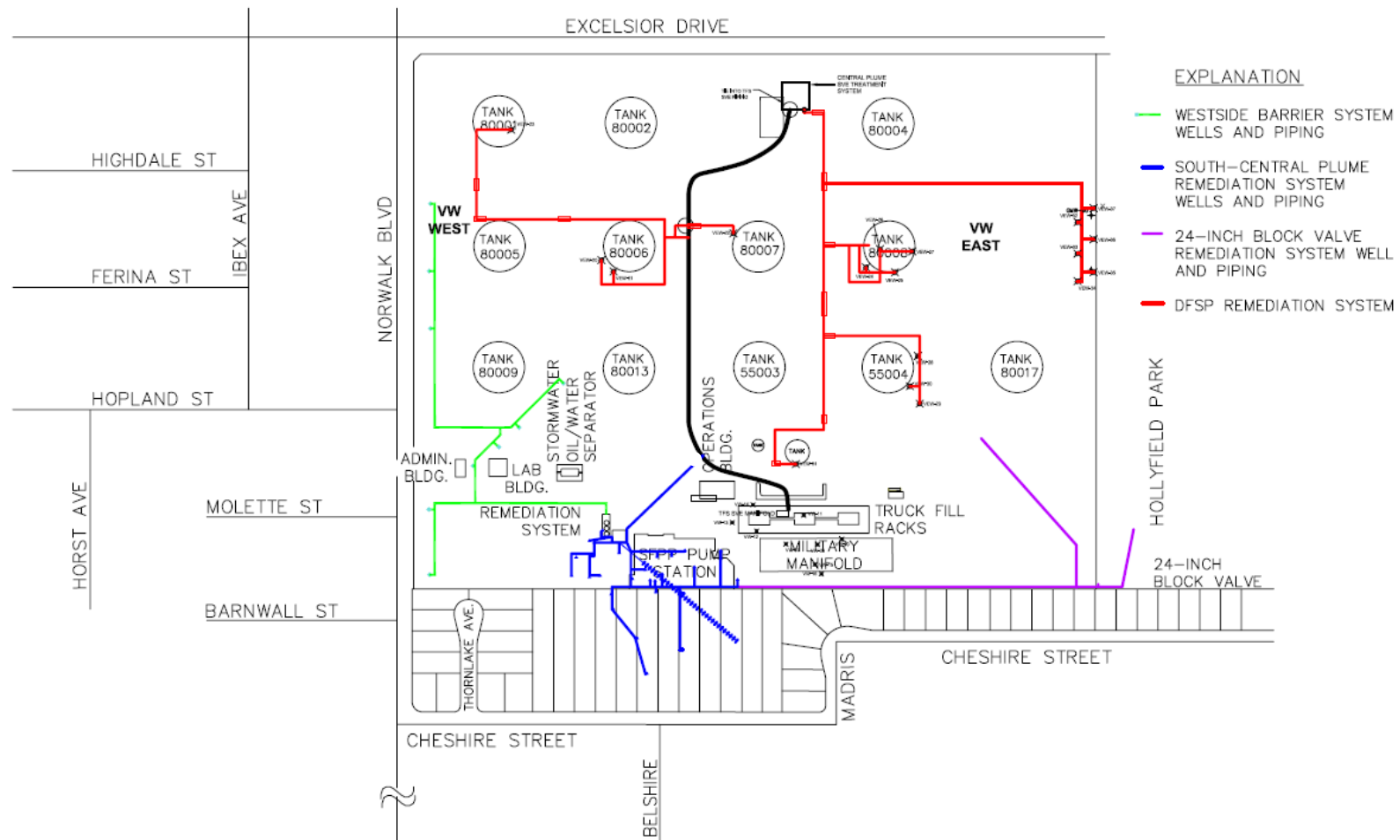
July 30, 2009

Presentation Overview

Topics to be Covered

- Remediation Operations Update
- First Semi-Annual 2009 Groundwater Monitoring Event
- Additional Assessment Update

Map of Remediation Systems



Soil Vapor Extraction System

- 24 on-site and 6 off-site vapor extraction wells in the South-Central Plume area.
- 2 vapor extraction wells in the Southeastern 24-Inch Block Valve area.

Soil Vapor Extraction System Operations Summary

- Approximately 351 gallons equivalent of fuel removed from soil and destroyed by catalytic oxidation during second quarter 2009.
- Approximately 454,200 gallons equivalent of fuel removed from soil and destroyed by catalytic and thermal oxidation since September 1995.
- Approximately 66,200 hours of operation since September 1995.

Soil Vapor Extraction System Operations Summary

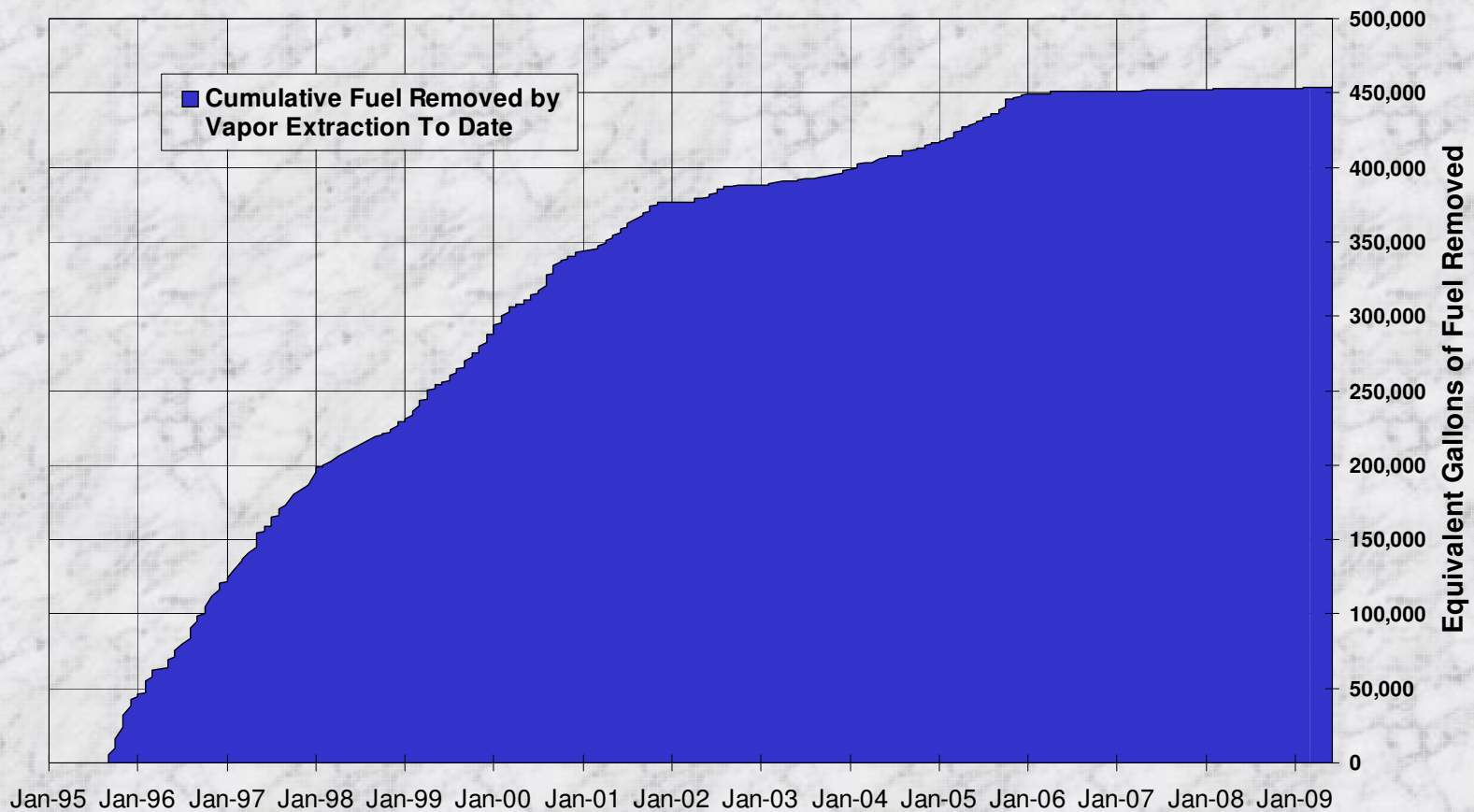
- The SVE system operated continuously during second quarter 2009 with the following exceptions:
 - SVE system was shut down for approximately 8 days due to malfunctioning water level sensors. The water level sensors were cleaned and the system was restarted.
 - SVE system was shut down for approximately 43 days for groundwater monitoring and rebound testing.
 - SVE system was shut down for approximately 2 days due to motor starter alarms. The motor starter was reset each time.
 - SVE system shut down without any alarms for approximately 9 total days.
- Percent operation for second quarter 2009: 32%
- Percent operation excluding planned shutdown period for groundwater monitoring and rebound testing: 60%

Soil Vapor Extraction Rebound Testing

- The SVE system was shut down on April 16, 2009 for groundwater monitoring and remained shut down through May 29, 2009 for rebound testing.
- An increase in influent vapor VOC concentrations was observed at system restart on May 29, 2009, following the rebound test and resulted in increased mass removal relative to monitoring prior to the April 16, 2009 shutdown.
- Additional SVE rebound tests will be performed when VOC concentrations decrease and remain low.

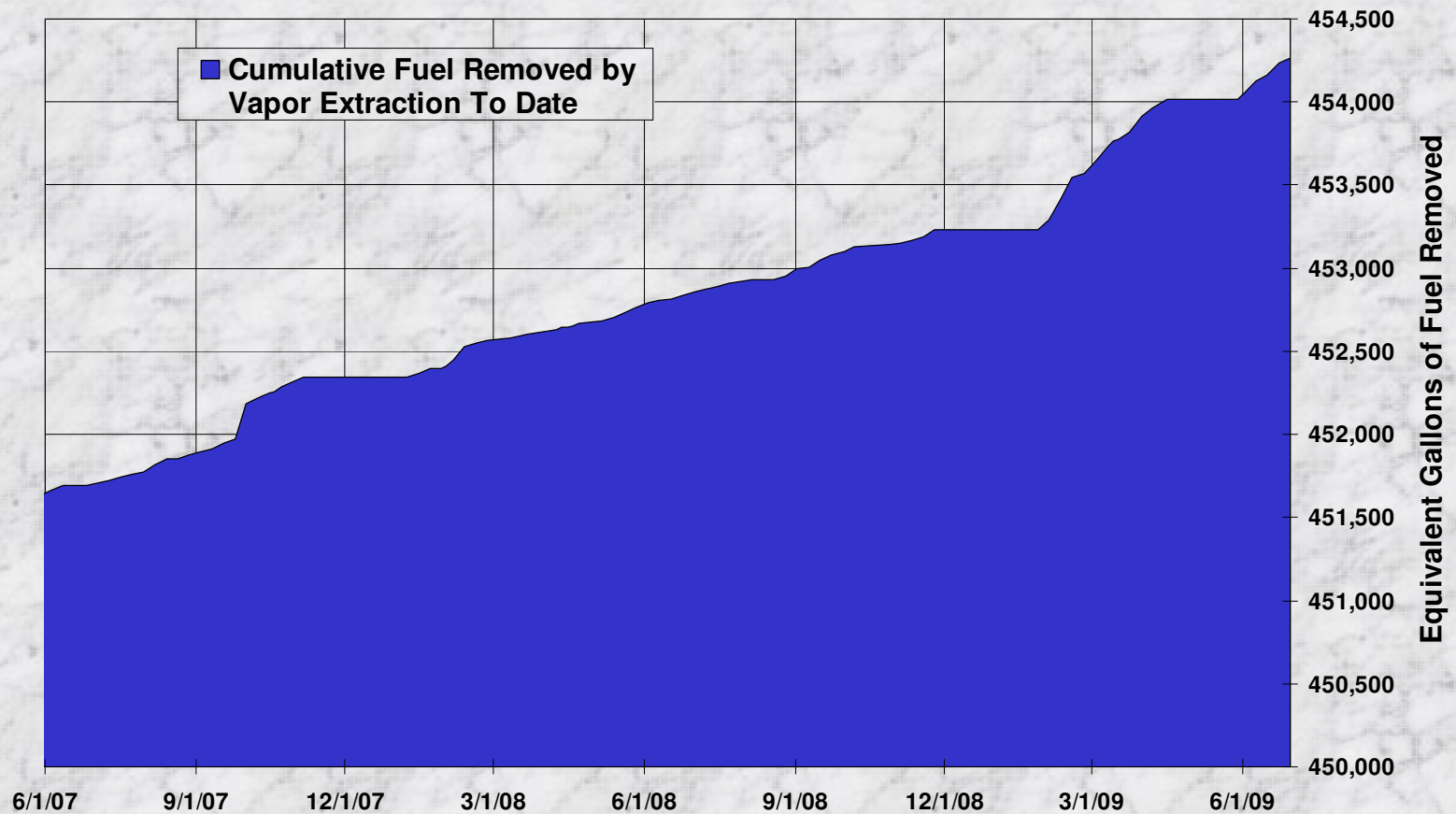
Soil Vapor Extraction System Operations Summary

Cumulative Fuel Removed by Vapor Extraction To Date



Soil Vapor Extraction System Operations Summary

Cumulative Fuel Removed by Vapor Extraction Since June 2007



Groundwater/Product Extraction System

- 18 total fluids (product and groundwater) extraction wells and 2 groundwater extraction wells in the South-Central Plume area
- 2 total fluids (product and groundwater) extraction wells in the Southeastern 24-Inch Block Valve area
- Operation of the West Side Barrier system was discontinued in August 2008.

Groundwater/Product Extraction System Operations Summary

- Total groundwater extracted during second quarter 2009:
 - South-Central Plume area: 2,368,000 gallons
 - Southeastern 24-Inch Valve area: 486,000 gallons
 - West Side Barrier area: 0 gallons
- Total groundwater extracted since September 1995:
 - South-Central Plume area: 36.9 million gallons
 - Southeastern 24-Inch Valve area: 9.6 million gallons
 - West Side Barrier area: 26.9 million gallons
 - Total groundwater extracted: 73.4 million gallons
 - 8,917 gallons free product removed*

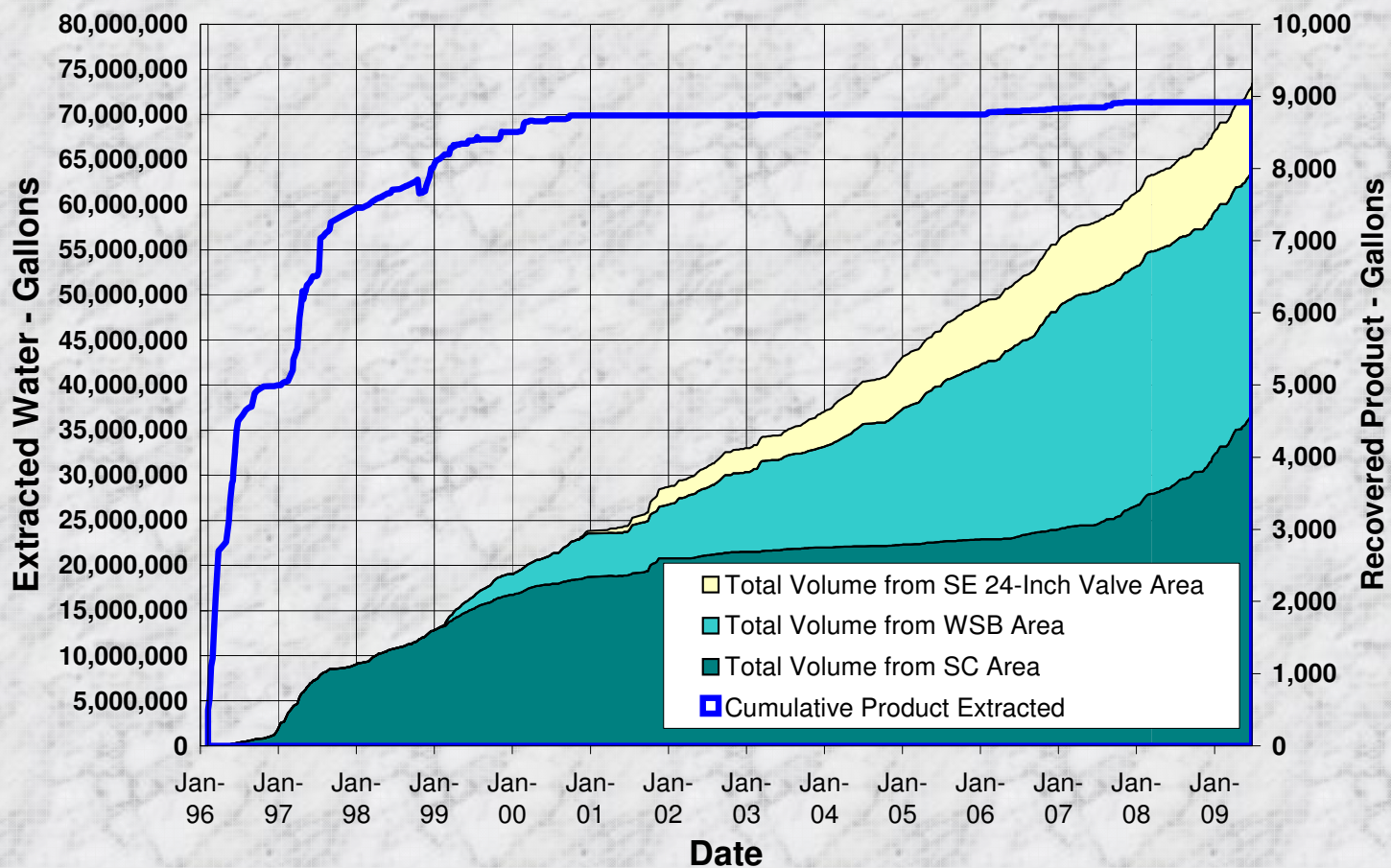
* The total volume of free product removed is estimated based on measurements of free product accumulation in the product holding tank and measurements of free product removed manually from individual wells. This estimate does not account for free product that is removed via total fluids extraction and becomes emulsified in the relatively larger volume of groundwater extracted.

Groundwater/Product Extraction System Operations Summary

- The groundwater/product extraction system operated continuously during second quarter 2009 with the following exceptions:
 - The system was shut down temporarily on April 3, 2009 for servicing of the bag filter valves and was restarted the same day.
 - The system was shut down between April 17 and May 5, 2009 for groundwater monitoring and liquid-phase granulated activated carbon changeout (approximately 17 days).
 - The system was shut down temporarily on May 8 and May 29, 2009 for flow totalizer servicing and was restarted the same day after each shutdown.
- Percent operation for second quarter 2009: 80%
- Percent operation excluding planned shutdown period for groundwater monitoring: approximately 99%

Groundwater/Product Extraction System Operations Summary

Summary of Product Extracted and Water Treated



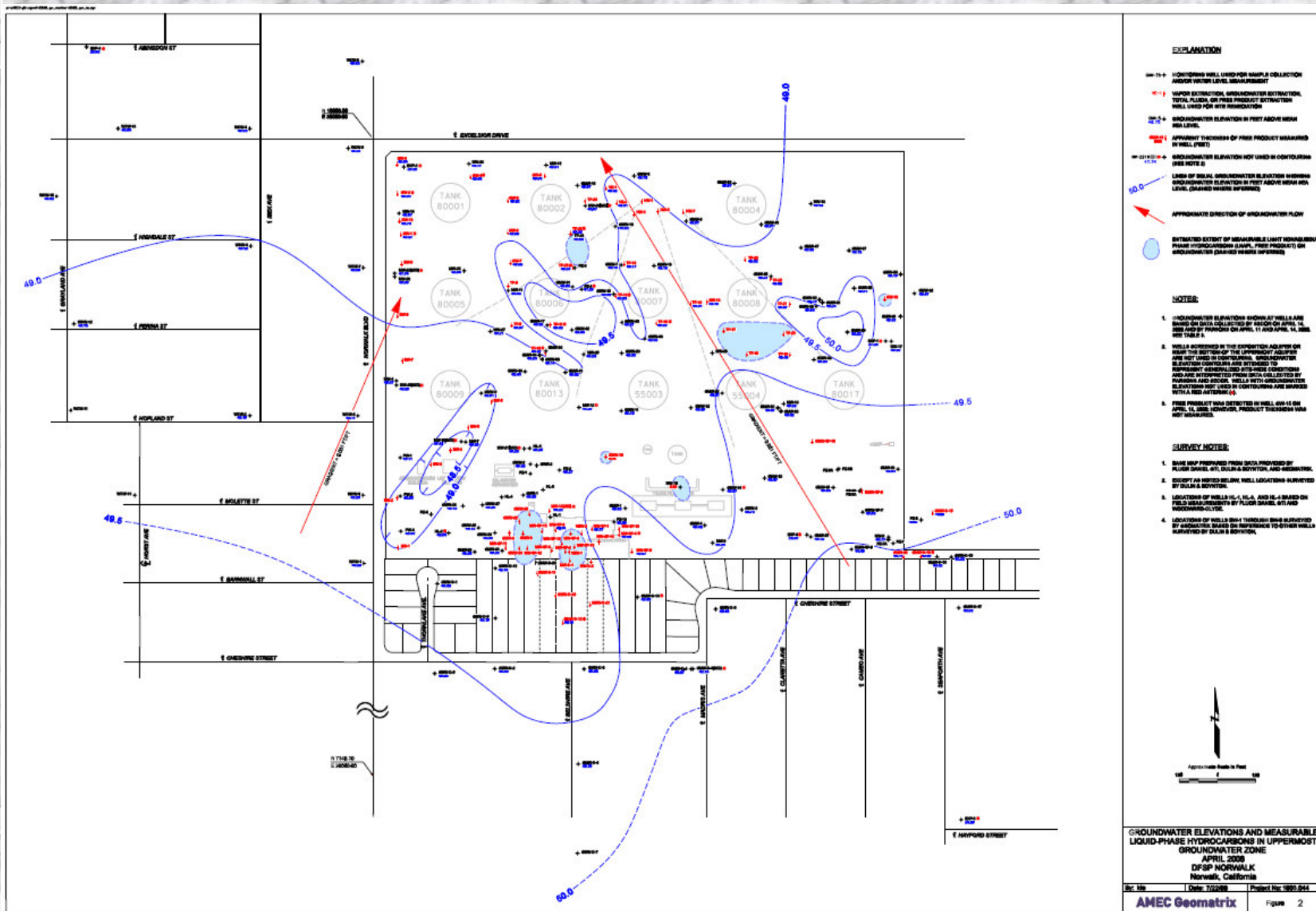
Planned Remediation Activities

- Continue TFE, GWE, and SVE in the South-Central and Southeastern areas.
- Continue to monitor concentrations of dissolved 1,2-DCA and MTBE in western area.
- Continue routine system inspections.
- Continue data collection for monitoring and evaluation of remediation systems.
- Continue adjustments to remediation wells to optimize remediation.
- Continue SVE rebound tests as appropriate.

First Semi-Annual 2009 Groundwater Monitoring Event

- 104 wells sampled, including five Exposition wells.
- Groundwater elevations increased by approximately 0.8 feet in shallow groundwater at the site since October 2008.
- Free product was observed in eleven wells located in the north-central, south-central, southeastern, and truck rack areas.

Groundwater Elevations and Liquid-Phase Hydrocarbons April 2008



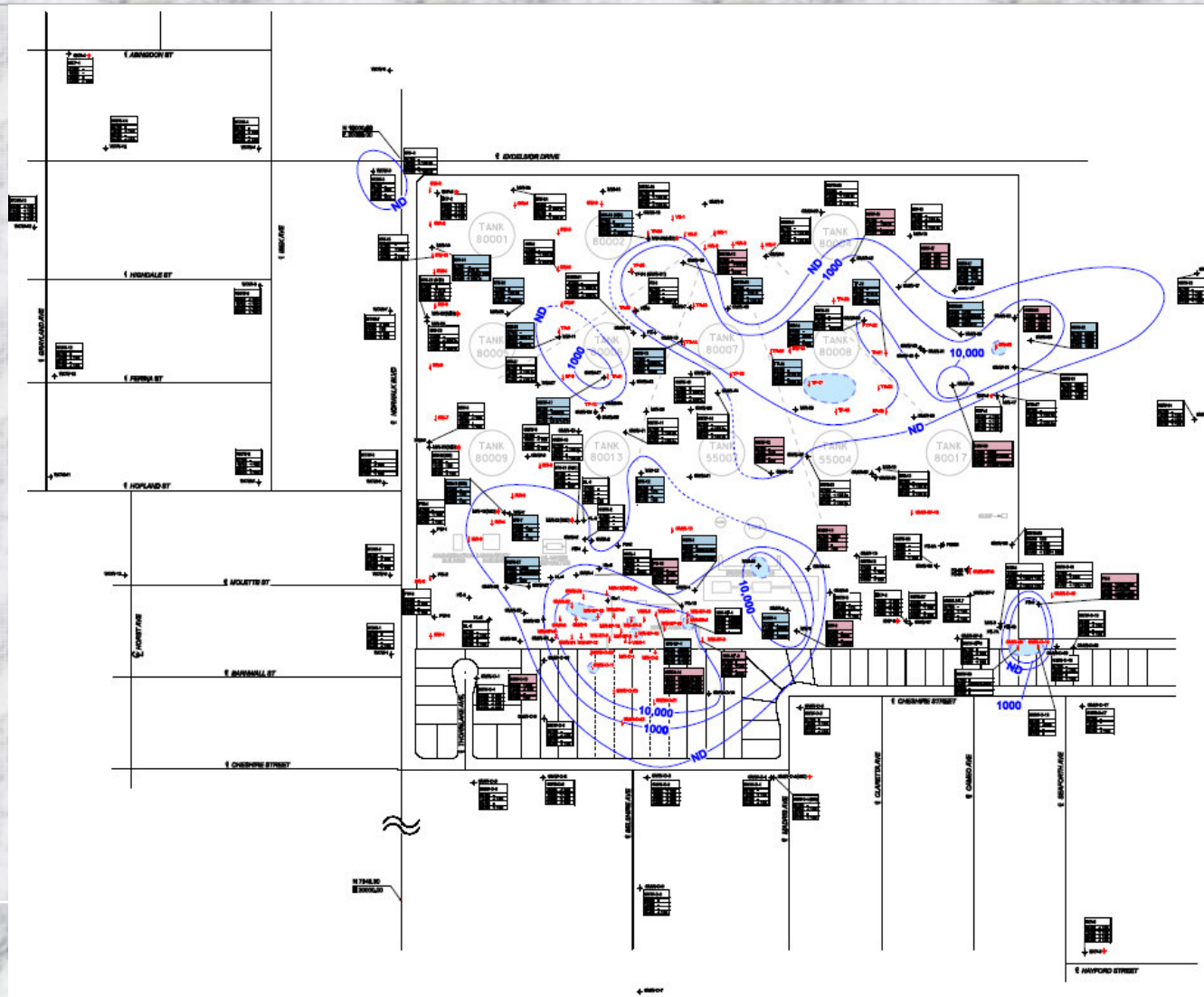
First Semi-Annual 2009 Groundwater Monitoring Event

- VOCs were detected at low concentrations in samples collected from wells EXP-2, EXP-3, and EXP-4. These detections are suspected to be false positives, based on non-detect VOC results in duplicate samples collected from EXP-2 and EXP-3. These three wells were resampled last week.
- In most areas, the lateral extents of TPH, benzene, MTBE, and 1,2-DCA in groundwater remain similar to those interpreted during recent previous monitoring events.
- TBA was generally detected in groundwater samples collected from the same wells that contained MTBE, including wells in the southeastern area, south-central area, north-central area, and truck rack area.

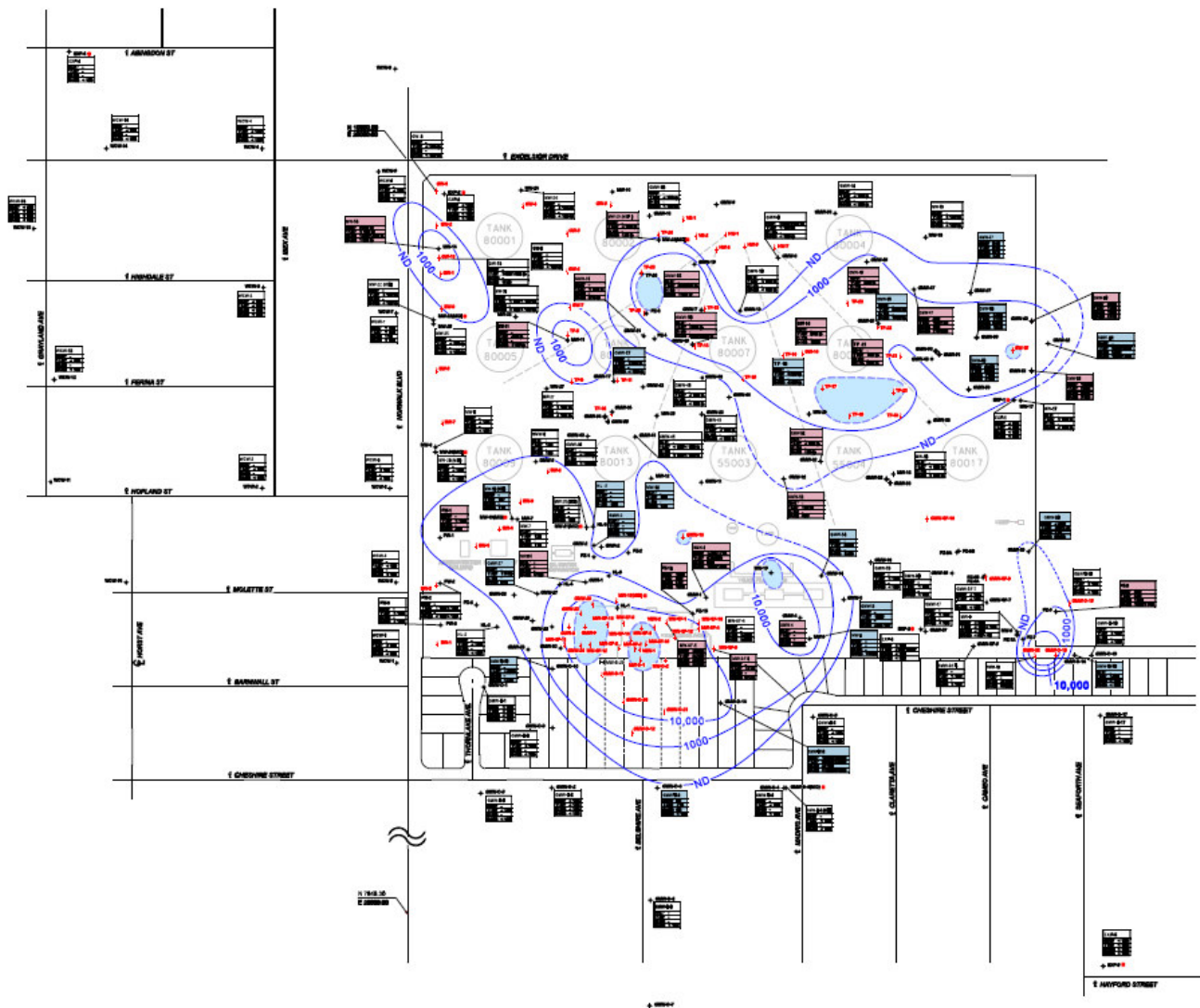
First Semi-Annual 2009 Groundwater Monitoring Event

- With the exception of 1,2-DCA in GMW-O-14, detected concentrations of 1,2-DCA were below the conservative risk-based clean up goal for 1,2-DCA (70 µg/L).
- With the exceptions of MTBE in MW-SF-1 in the south-central area, PZ-5 in the southeastern area, and GMW-6 in the north-central area, the detected concentrations of MTBE were below the conservative risk-based cleanup goal for MTBE (40 µg/L).
- Based on 1,2-DCA and MTBE concentrations that have remained consistently below the risk-based cleanup goals in the western area and in off-site wells west of the site, the West Side Barrier pumping system will remain shut down.

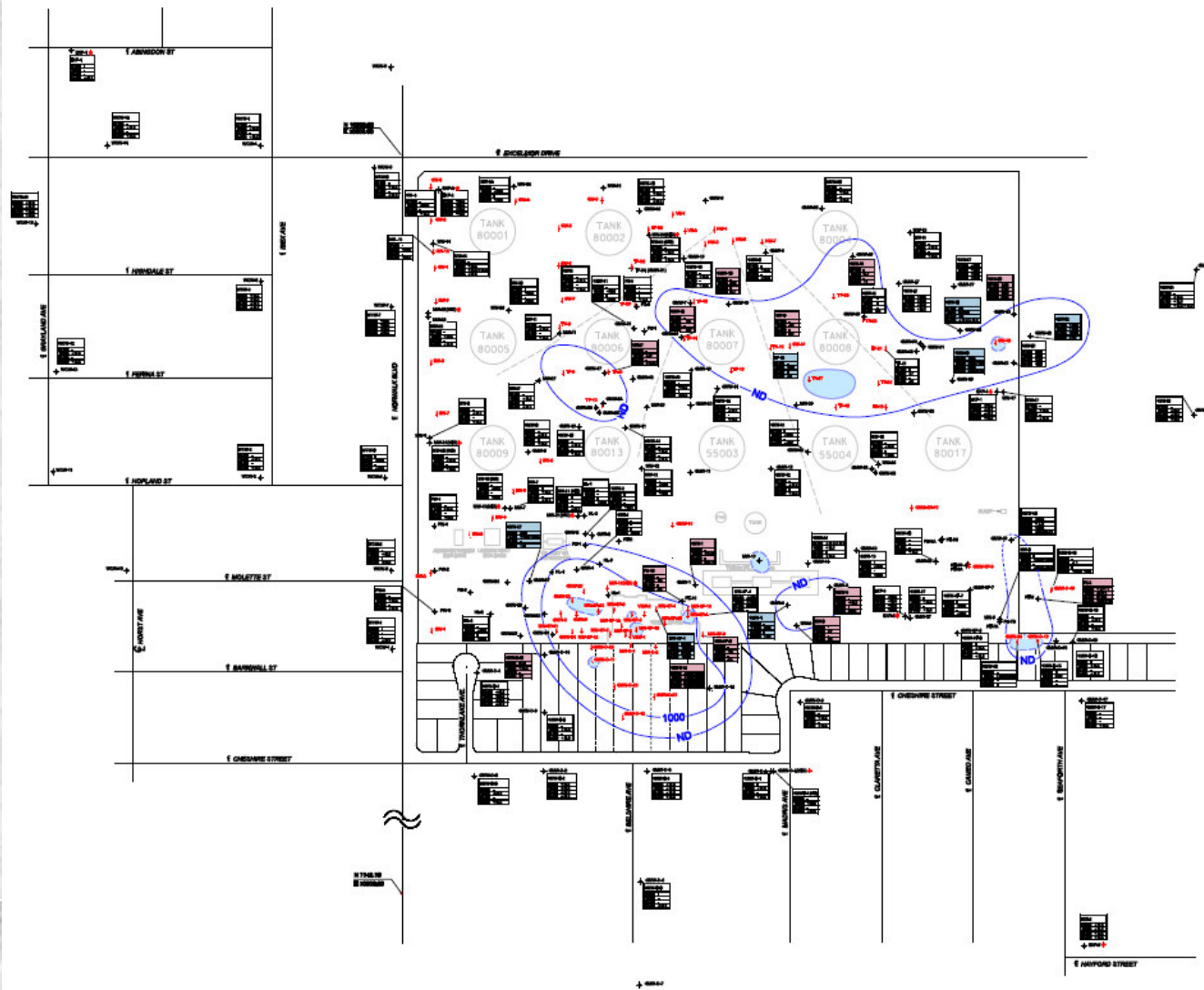
Total Petroleum Hydrocarbons In Uppermost Groundwater Zone April 2009



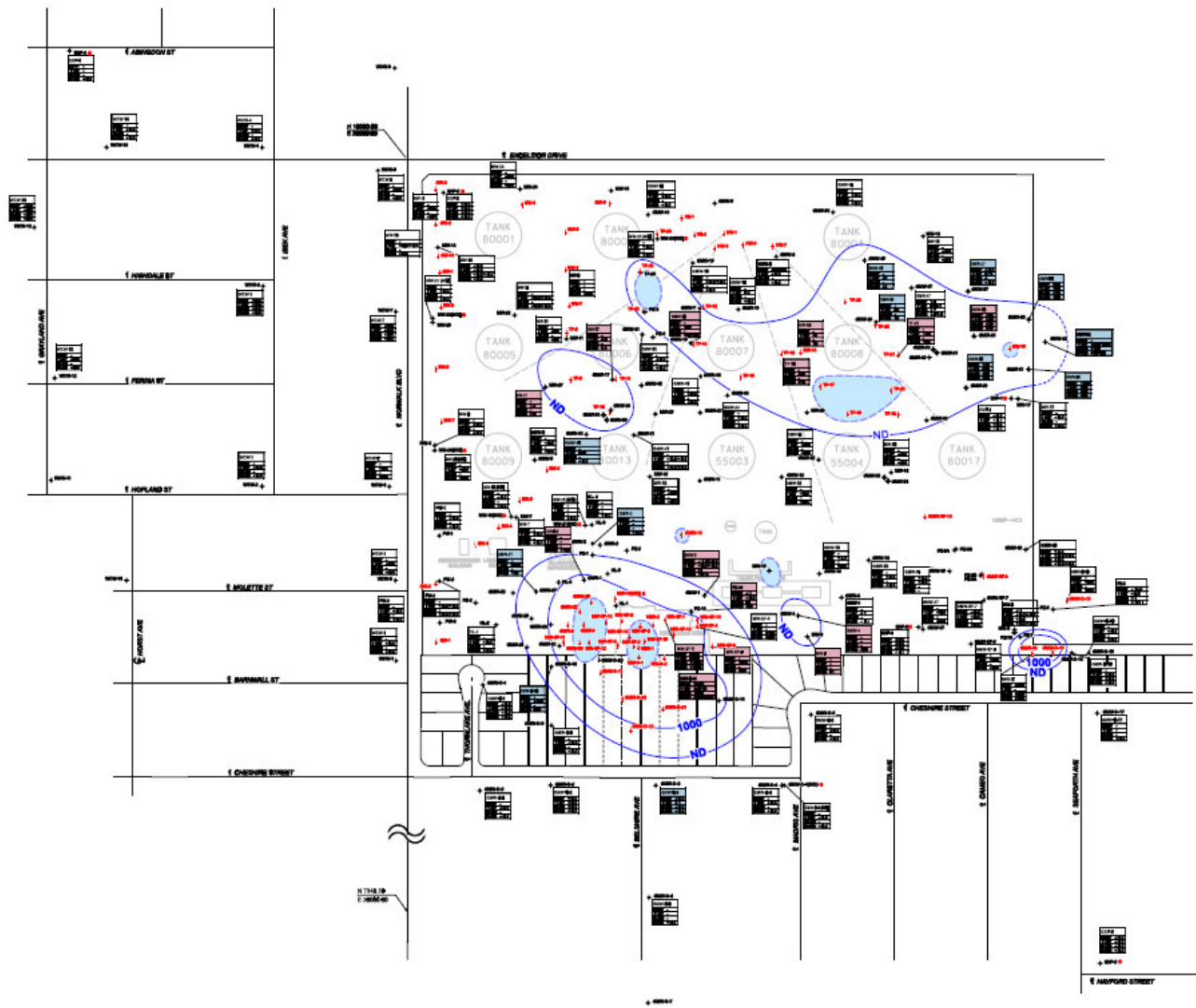
Total Petroleum Hydrocarbons In Uppermost Groundwater Zone April 2008



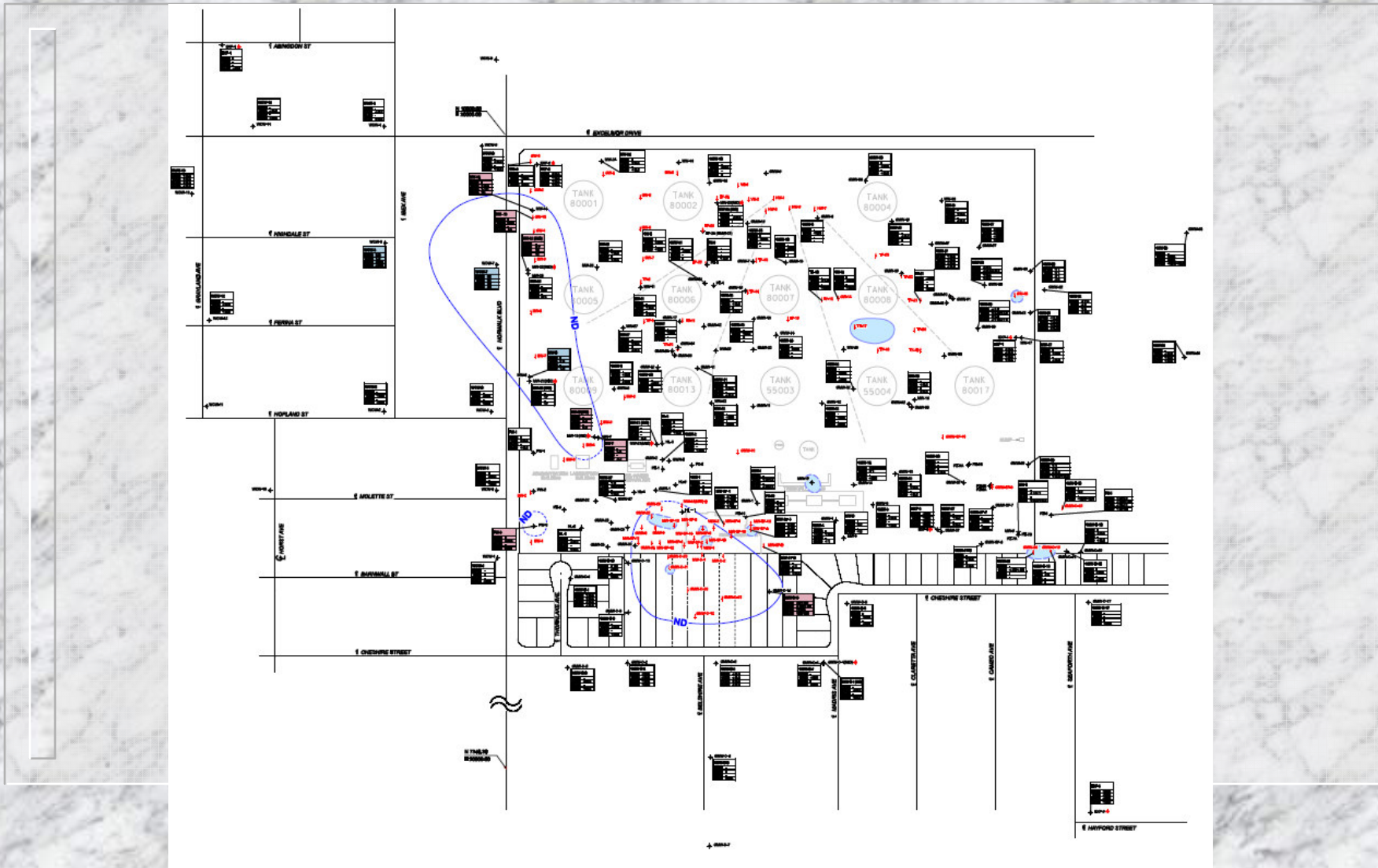
Benzene In Uppermost Groundwater Zone April 2009



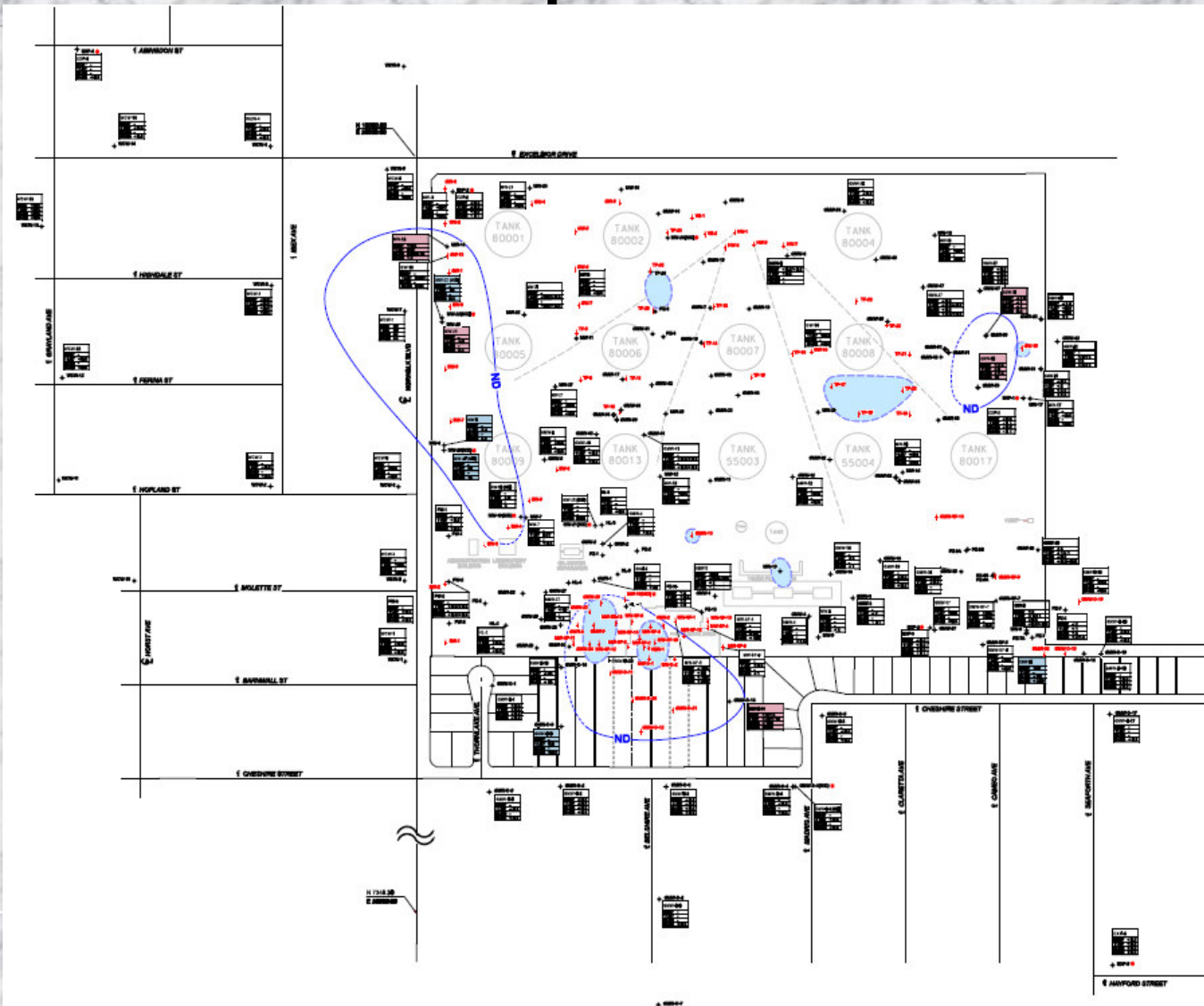
Benzene In Uppermost Groundwater Zone April 2008



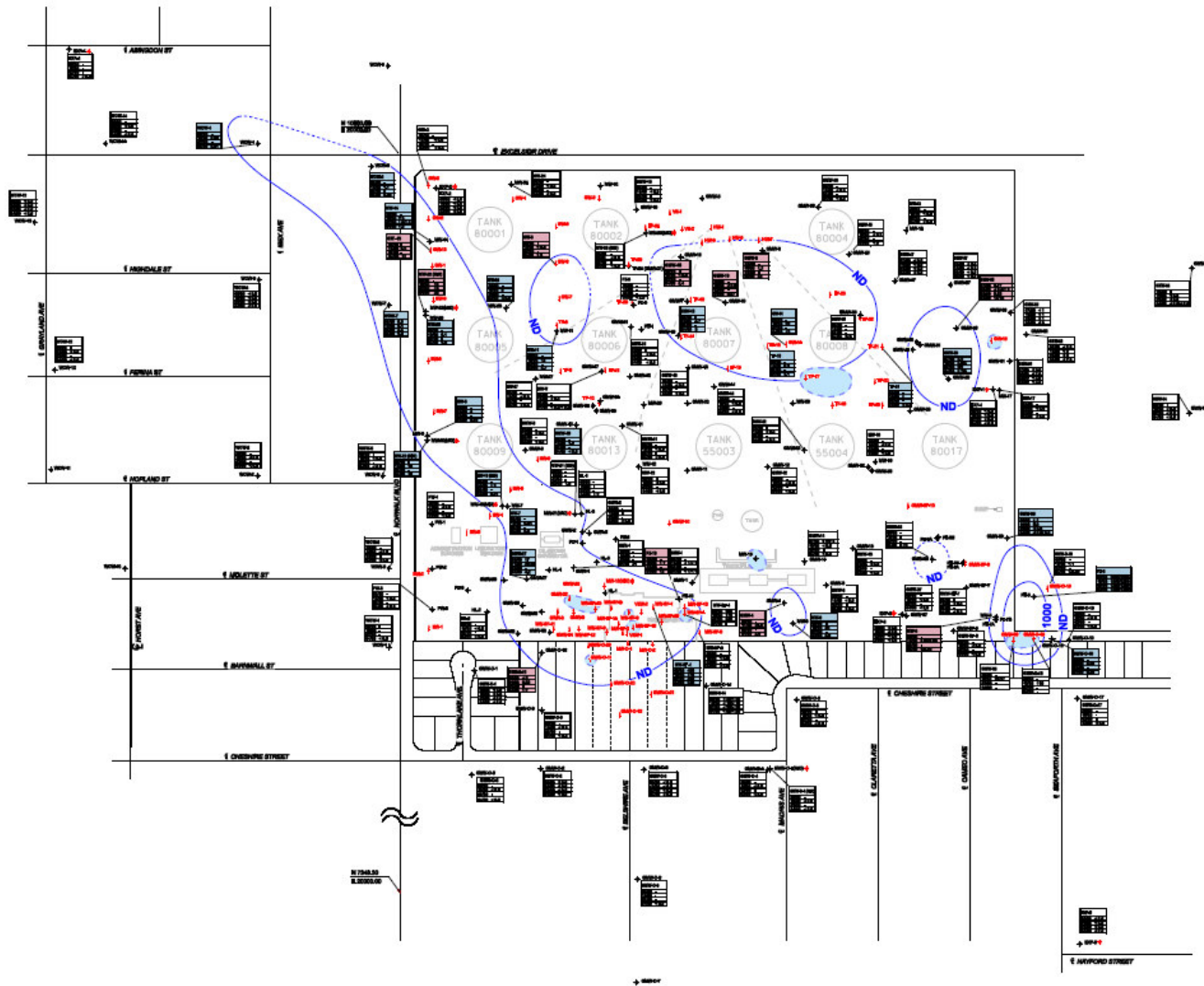
1,2-Dichloroethane In Uppermost Groundwater Zone April 2009



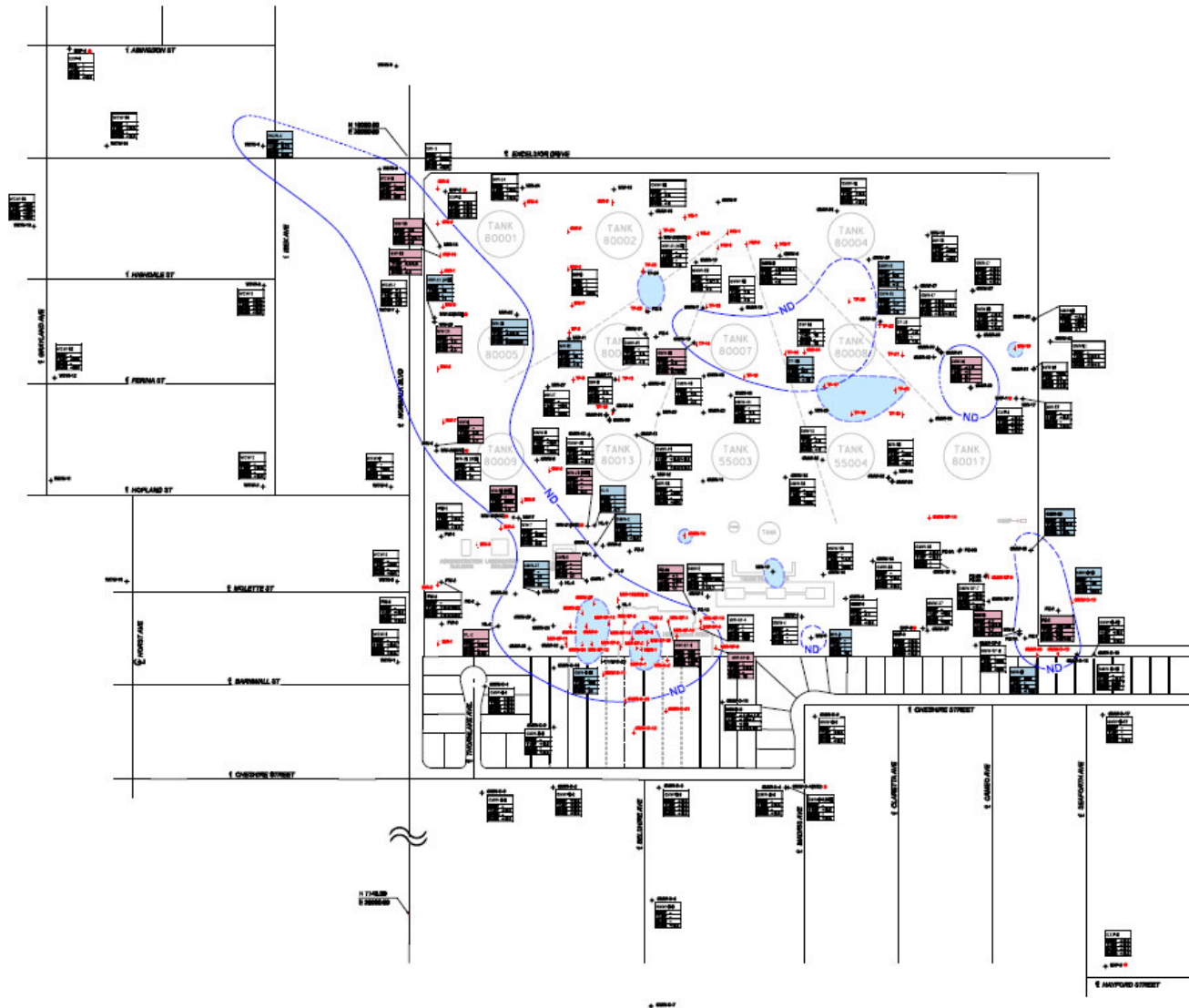
1,2-Dichloroethane In Uppermost Groundwater Zone April 2008



Methyl tert-Butyl Ether In Uppermost Groundwater Zone April 2009



Methyl tert-Butyl Ether In Uppermost Groundwater Zone April 2008



Additional Assessment Update

- In a letter dated November 26, 2008, the RWQCB commented on the report titled “Additional Off-Site Assessment Report, Off-Site 24-Inch Block Valve Area” dated August 28, 2008.
- The RWQCB questioned the presence or continuity of an aquitard in the vicinity of the block valve and requested a work plan for further vertical delineation of contaminants in that area.
- The work plan was submitted to the RWQCB on January 26, 2009.
- The work plan will be implemented after receiving written approval from the RWQCB.