

SECOND SEMIANNUAL 2010 GROUNDWATER MONITORING REPORT

**DEFENSE FUEL SUPPORT POINT NORWALK
15306 NORWALK BOULEVARD
NORWALK, CALIFORNIA**

Prepared for

**Defense Energy Support Center
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January 31, 2011

Prepared by



100 WEST WALNUT STREET • PASADENA • CALIFORNIA 91124

FIGURES

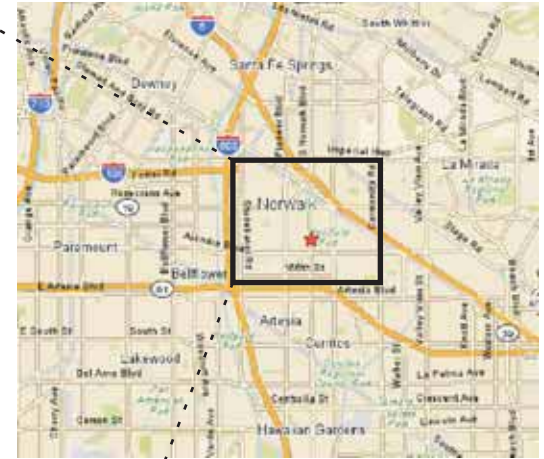
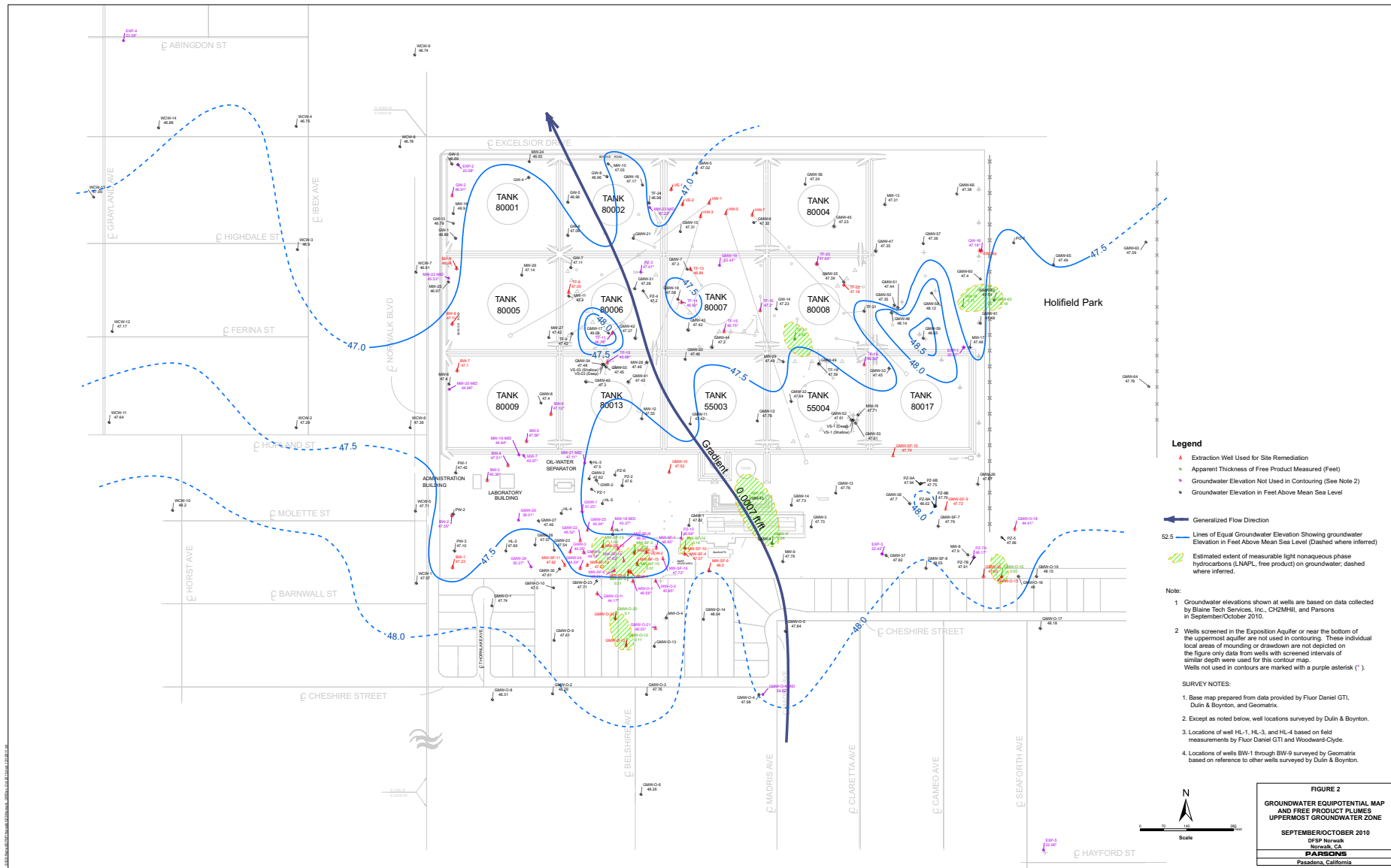


Figure 1
SITE LOCATION MAP

DFSP NORWALK
15306 Norwalk Blvd.
Norwalk, California

PARSONS

Pasadena, California



- Legend**
- ▲ Extraction Well Used for Site Remediation
 - Apparent Thickness of Free Product Measured (Feet)
 - Groundwater Elevation Not Used in Contouring (See Note 2)
 - Groundwater Elevation in Feet Above Mean Sea Level

- ← Generalized Flow Direction
- 52.5 — Lines of Equal Groundwater Elevation Showing groundwater Elevation in Feet Above Mean Sea Level (Dashed where inferred)
- ▨ Estimated extent of measurable light nonaqueous phase hydrocarbons (LNAPL, free product) on groundwater; dashed where inferred.

Note:

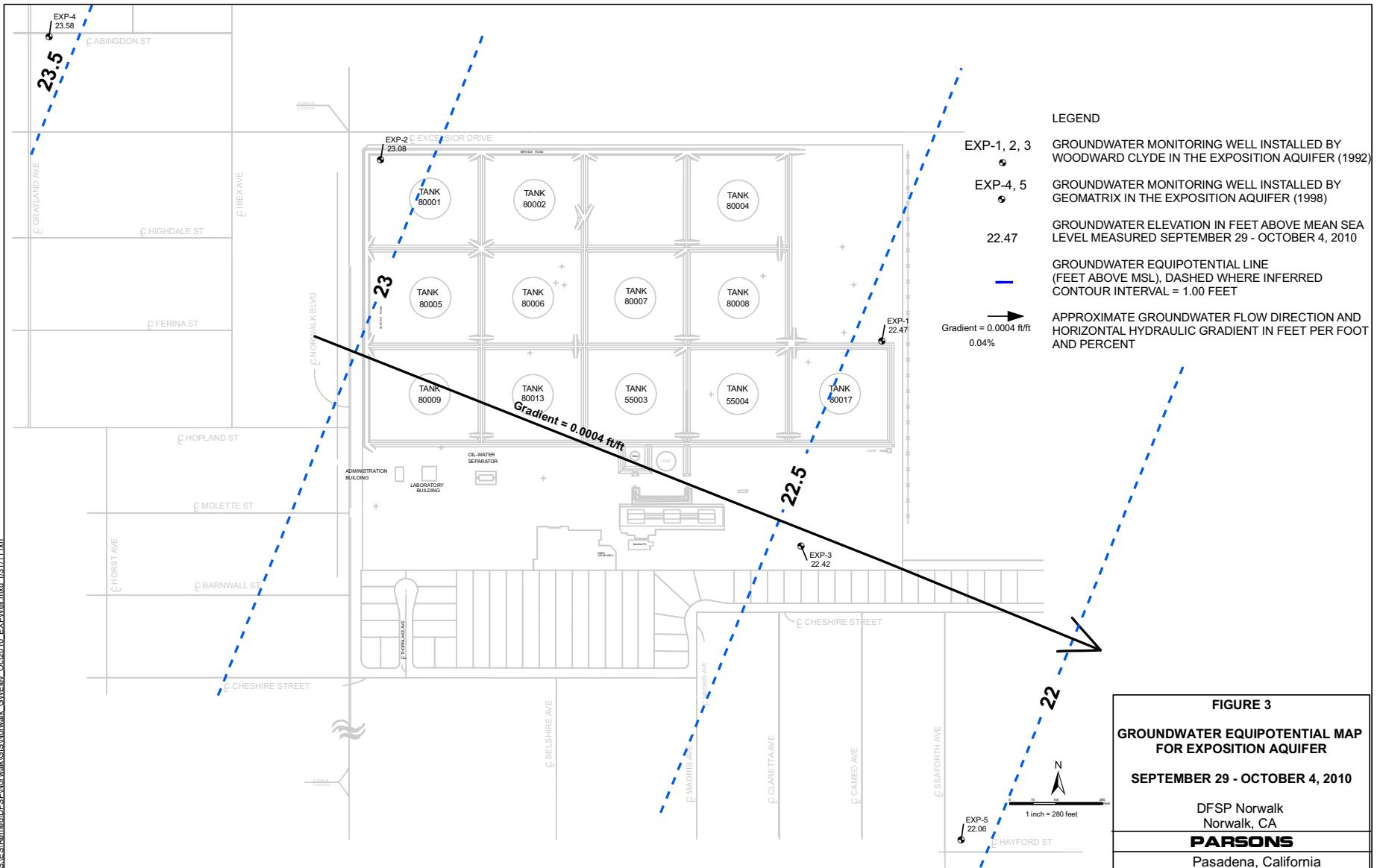
1. Groundwater elevations shown at wells are based on data collected by Blaine Tech Services, Inc., CH2MHill, and Parsons in September/October 2010.
2. Wells screened in the Exposition Aquifer or near the bottom of the uppermost aquifer are not used in contouring. These individual local areas of mounding or drawdown are not depicted on the figure only data from wells with screened intervals of similar depth were used for this contour map. Wells not used in contours are marked with a purple asterisk (*).

SURVEY NOTES:

1. Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, and Geomatrix.
2. Except as noted below, well locations surveyed by Dulin & Boynton.
3. Locations of well HL-1, HL-3, and HL-4 based on field measurements by Fluor Daniel GTI and Woodward-Clyde.
4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by Dulin & Boynton.

FIGURE 2
GROUNDWATER EQUIPOTENTIAL MAP
AND FREE PRODUCT PLUMES
UPPERMOST GROUNDWATER ZONE
 SEPTEMBER/OCTOBER 2010
 DFSP Norwalk
 Irvine, CA
PARSONS
 Pasadena, California

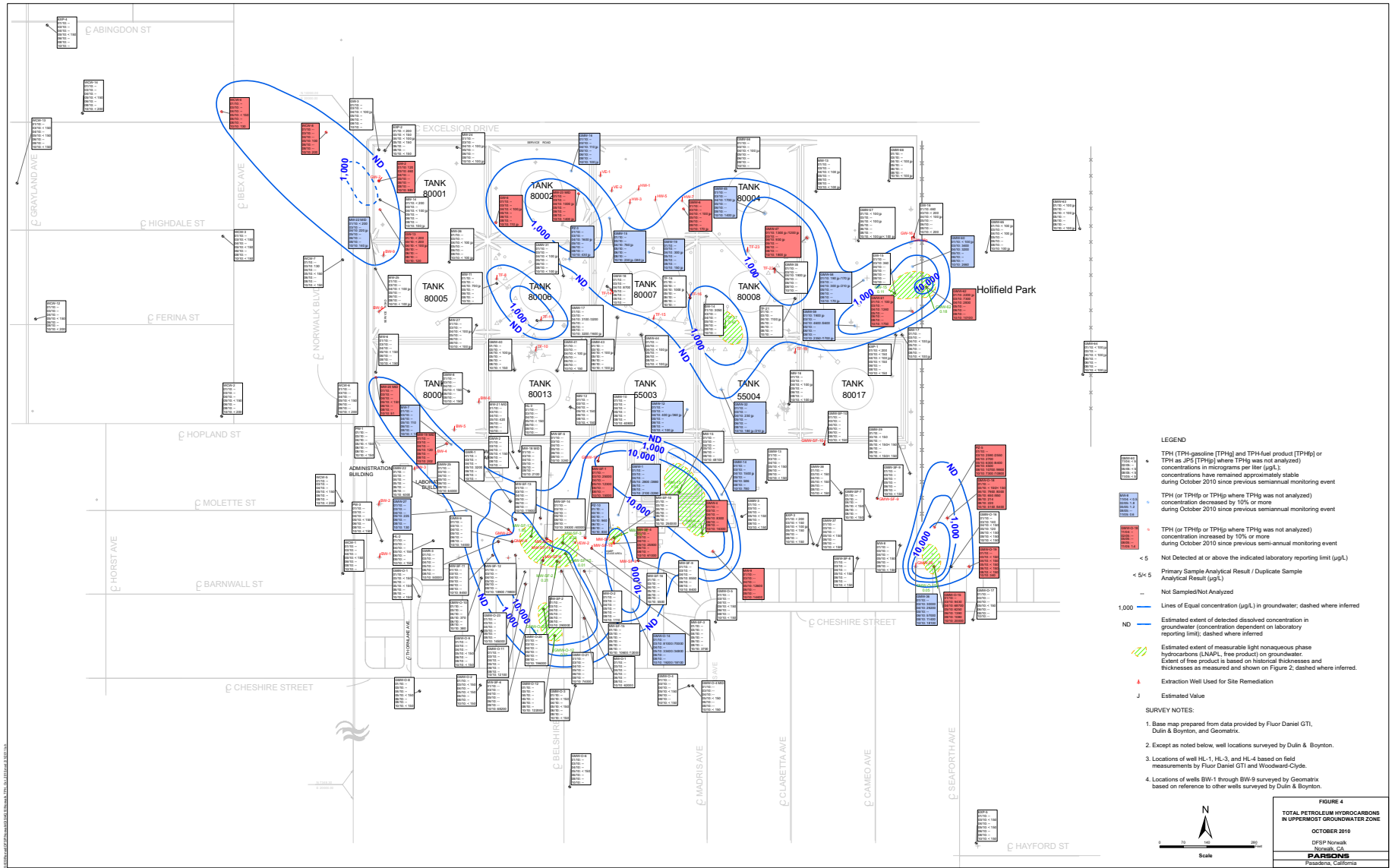
S:\ESI\Bureau\DFSP\Norwalk\GIS\Norwalk_GW\Elev_Oct2010_EXP\Well.mxd, 1/31/11.klt



LEGEND

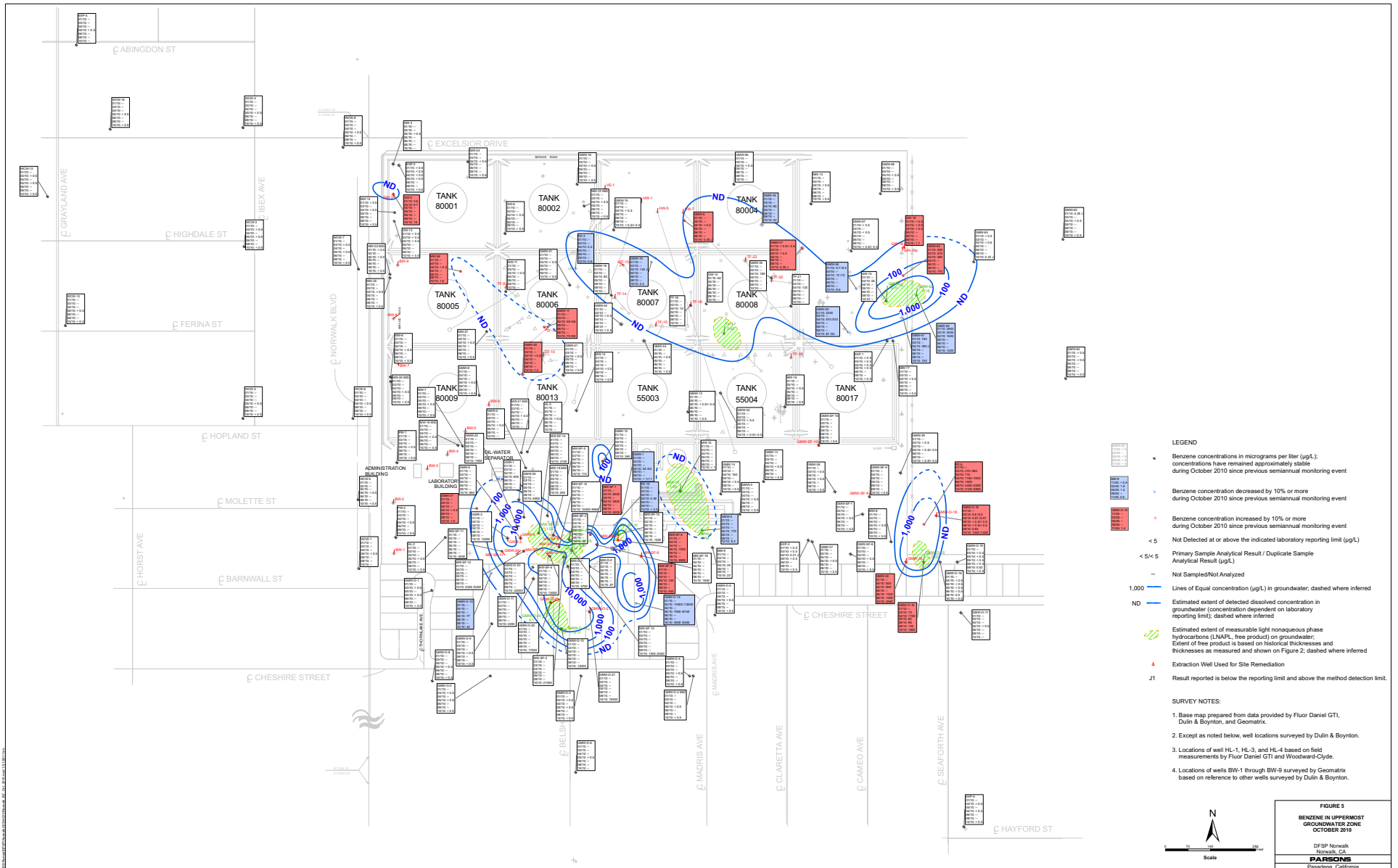
- EXP-1, 2, 3 GROUNDWATER MONITORING WELL INSTALLED BY WOODWARD CLYDE IN THE EXPOSITION AQUIFER (1992)
- EXP-4, 5 GROUNDWATER MONITORING WELL INSTALLED BY GEOMATRIX IN THE EXPOSITION AQUIFER (1998)
- 22.47 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL MEASURED SEPTEMBER 29 - OCTOBER 4, 2010
- GROUNDWATER EQUIPOTENTIAL LINE (FEET ABOVE MSL), DASHED WHERE INFERRED CONTOUR INTERVAL = 1.00 FEET
- APPROXIMATE GROUNDWATER FLOW DIRECTION AND HORIZONTAL HYDRAULIC GRADIENT IN FEET PER FOOT AND PERCENT
Gradient = 0.0004 ft/ft
0.04%

FIGURE 3
GROUNDWATER EQUIPOTENTIAL MAP
FOR EXPOSITION AQUIFER
SEPTEMBER 29 - OCTOBER 4, 2010
 DFSP Norwalk
 Norwalk, CA
PARSONS
 Pasadena, California



- LEGEND**
- 10,000 TPH (TPH-gasoline [TPHg] and TPH-fuel product [TPHfp] or TPH as JP-5 [TPHj] where TPHg was not analyzed) concentrations in micrograms per liter (µg/L) concentrations have remained approximately stable during October 2010 since previous semiannual monitoring event
 - 1,000 TPH (or TPHg or TPHfp where TPHg was not analyzed) concentration decreased by 10% or more during October 2010 since previous semiannual monitoring event
 - 10,000 TPH (or TPHg or TPHfp where TPHg was not analyzed) concentration increased by 10% or more during October 2010 since previous semiannual monitoring event
 - < 5 Not Detected at or above the indicated laboratory reporting limit (µg/L)
 - < 5µg/L Primary Sample Analytical Result / Duplicate Sample Analytical Result (µg/L)
 - Not Sampled/Not Analyzed
 - 1,000 — Lines of Equal concentration (µg/L) in groundwater; dashed where inferred
 - ND — Estimated extent of detected dissolved concentration in groundwater (concentration dependent on laboratory reporting limit); dashed where inferred
 - Estimated extent of measurable light nonaqueous phase hydrocarbons (LNAPL, free product) on groundwater. Extent of free product is based on historical thicknesses and thicknesses as measured and shown on Figure 2, dashed where inferred.
 - ▲ Extraction Well Used for Site Remediation
 - J Estimated Value
- SURVEY NOTES:**
- 1 Base map prepared from data provided by Fluor Daniel GTI, DuIn & Boynton, and Geomatrix.
 - 2 Except as noted below, well locations surveyed by DuIn & Boynton.
 - 3 Locations of well HL-1, HL-3, and HL-4 based on field measurements by Fluor Daniel GTI and Woodward-Clyde.
 - 4 Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by DuIn & Boynton.

FIGURE 4
TOTAL PETROLEUM HYDROCARBONS
IN UPPERMOST GROUNDWATER ZONE
OCTOBER 2010
 DfSP Norwalk
 Norwalk, CA
PARSONS
 Pasadena, California



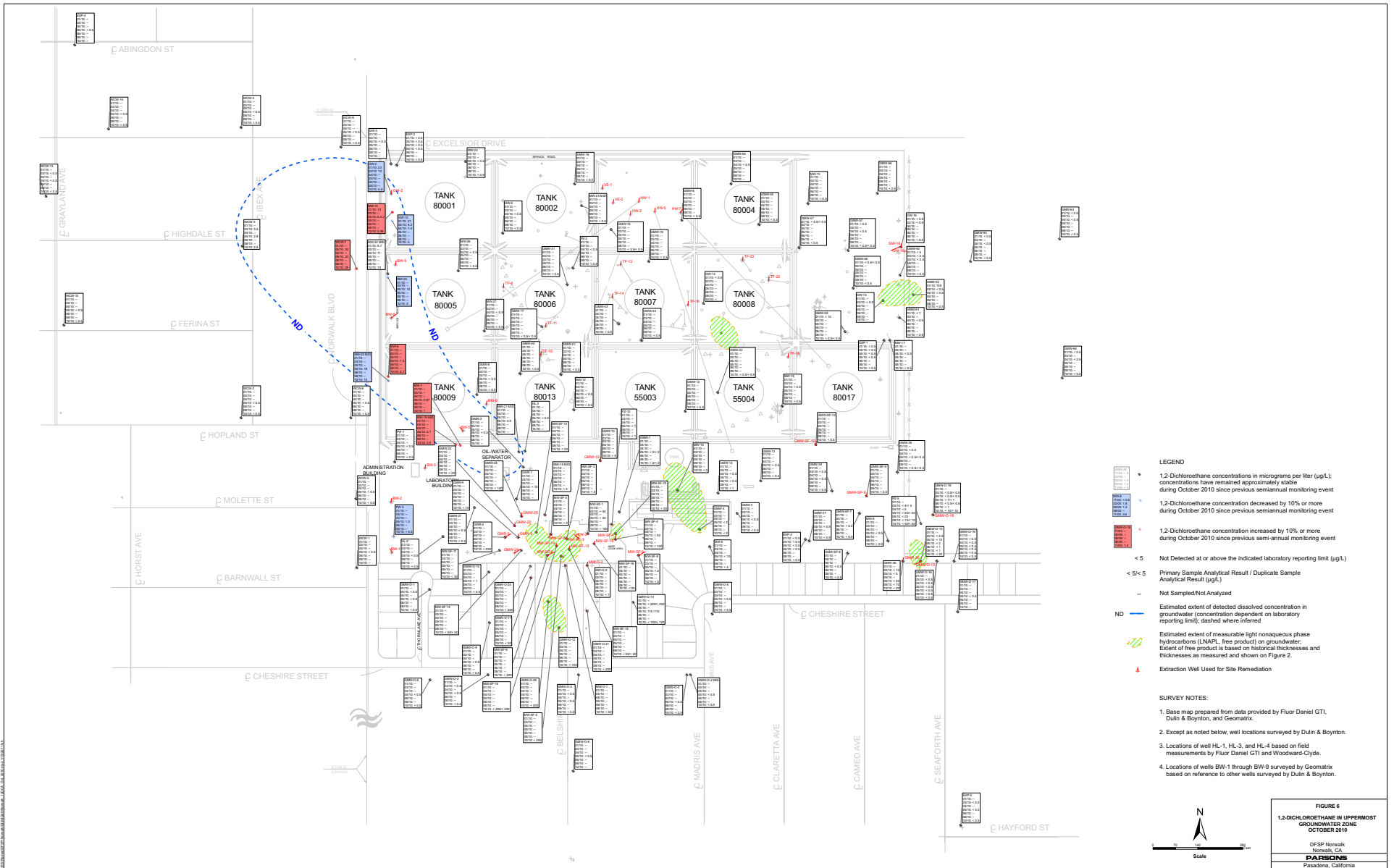
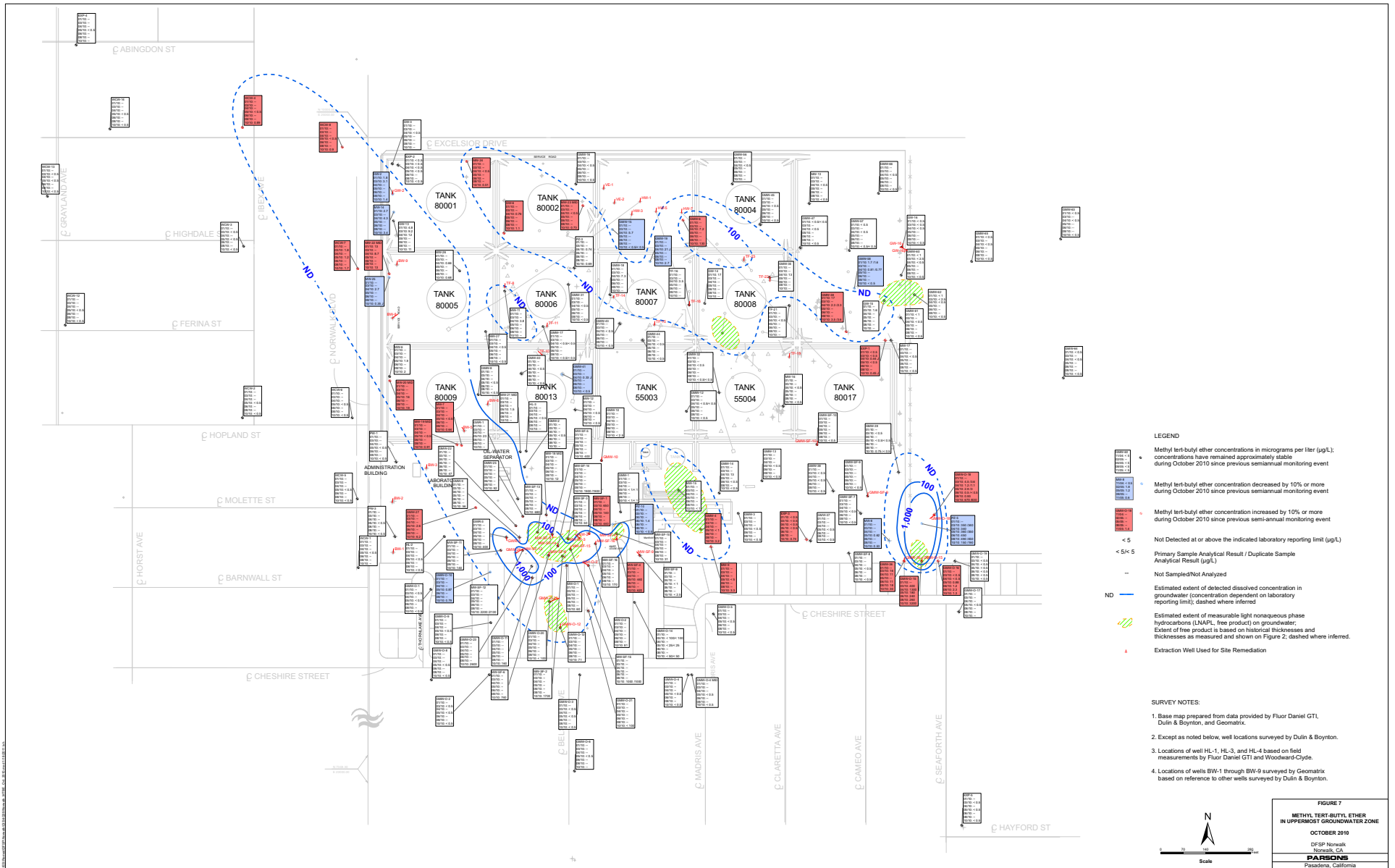


FIGURE 6
1,2-DICHLOROETHANE IN UPPERMOST GROUNDWATER ZONE OCTOBER 2010
 DFSP Network
 Norwalk, CA
PARSONS
 Pasadena, California



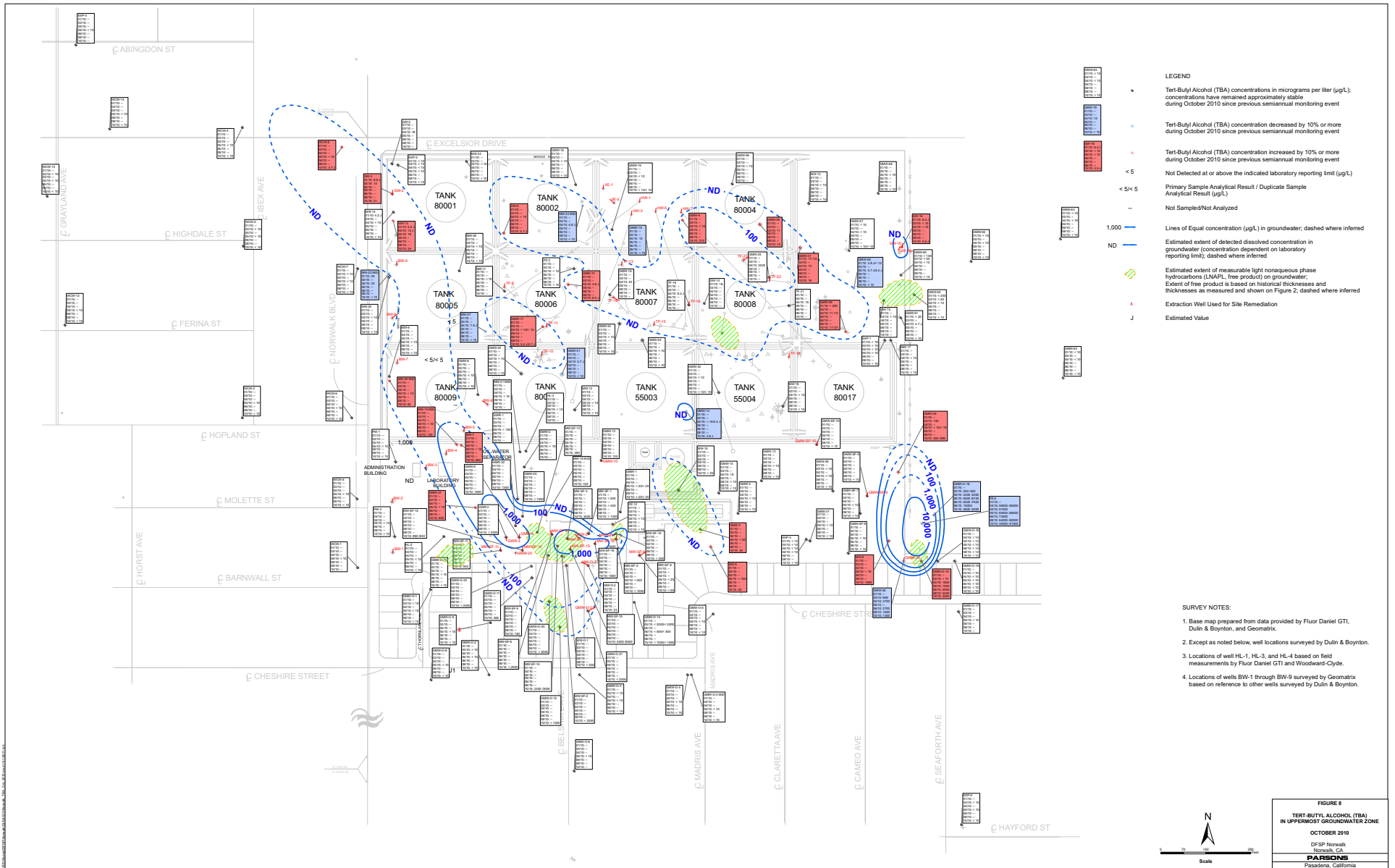


FIGURE 8
TERT-BUTYL ALCOHOL (TBA)
IN UPPERMOST GROUNDWATER ZONE
OCTOBER 2010
 DFSP Norwalk
 Norwalk, CA
PARSONS
 Pasadena, California