

# PARSONS

---

**Parsons Government Services**

100 West Walnut Street • Pasadena, California 91124 • (626) 440-4000 • [www.parsons.com](http://www.parsons.com)

March 14, 2013

Mr. Paul Cho, PG, Site Cleanup Unit IV  
California Environmental Protection Agency  
California Regional Water Quality Control Board, Los Angeles Region  
320 W. 4<sup>th</sup> Street, Suite 200  
Los Angeles, California 90013

**Subject: First Quarter 2013 Sentry Groundwater Monitoring Results  
DFSP Norwalk Facility, Norwalk  
NPDES No. CAC834001  
File No. 90-02**

Dear Mr. Cho:

Parsons is transmitting the groundwater monitoring results for the 2013 first quarter sentry event from the Defense Fuel Support Point (DFSP) Norwalk Facility in Norwalk, California on behalf of the Defense Logistics Agency Energy (DLA). A summary of the results is presented here and the details, including field and laboratory reports, will be included in the first 2013 semiannual report that will be prepared by CH2MHill following the second quarter 2013 event and will report data from the entire site, including SFPPs and DLAs. The site location map is shown on Figure 1 and Figure 2 presents the well network.

Groundwater gauging, monitoring, sample collection and laboratory analyses were performed in accordance with the sampling plan. Field activities included measuring water levels and light non-aqueous phase liquid (LNAPL) thicknesses, low-flow micro purge, and sampling of the designated wells. Seventy-two wells have been gauged for groundwater levels and free product. Groundwater elevations and LNAPL thickness are presented in Table 1.

Product sheen was observed in one well (MW-24) during this groundwater gauging event. LNAPL was measured in five wells, GMW-21, PZ-3, TF-15, TF-18, and TF-20, during the first quarter event at thicknesses ranging between 0.05 feet to 2.88 feet (PZ-3). Wells PZ-3, TF-18, and TF-20 have historically contained LNAPL intermittently. However, well GMW-21 has not had measurable product since 2007 and well TF-15 has not since 2004. The groundwater levels have been dropping over the last several years which may be resulting in an increase in measurable LNAPL.

Fourteen wells were purged and sampled on January 14 and 15, 2013. Wells sampled by Blaine Tech Services, Inc. on behalf of DLA were purged and sampled using low-flow methods in general conformance with ASTM D6771-02. All purged groundwater was transferred to the onsite groundwater treatment system.

All groundwater samples were labeled, entered onto a chain-of-custody form, and delivered to Calscience Environmental Laboratories, Inc., a State-certified analytical

## First Quarter 2013 Sentry Groundwater Monitoring Results

laboratory in Garden Grove, California. Groundwater samples were analyzed using U.S. Environmental Protection Agency (EPA) Method 8015 modified for total petroleum hydrocarbons (TPH) as diesel (TPH-d). Groundwater samples were also analyzed for volatile organic compounds (VOCs) using EPA Method 8260B, which includes methyl-tertiary butyl ether (MTBE) and oxygenates. Some selected samples were also analyzed for TPH as gasoline (TPH-g). Table 2 presents a summary of analytical results for TPH, benzene, toluene, ethylbenzene, and xylenes (BTEX), 1,2-dichloroethane (1,2-DCA), MTBE, tert-butyl alcohol (TBA), diisopropyl ether (DIPE), ethyl-tert-butyl ether (ETBE), and tert-amyl-methyl ether (TAME) detected in the sampled wells. Table 3 presents a summary of miscellaneous VOCs detected in groundwater.

TPH or BTEX were not detected in groundwater samples collected from the Exposition aquifer monitoring wells, EXP-1, EXP-2, or EXP-3. However, as shown on Table 2, there was one detection of 1,2-DCA and MTBE in EXP-3 at 0.74 micrograms per liter ( $\mu\text{g/L}$ ) and 0.34  $\mu\text{g/L}$ , respectively. These two compounds were not detected in EXP-3 during the October 2012 event.

TPH-d was detected in five of the sampled wells, with GMW-59 indicating the highest concentration at 1,500  $\mu\text{g/L}$ . This detected TPH-d concentration is similar compared to concentration reported during previous sampling events. TPH-g was analyzed at six wells and detected at three wells, with a maximum concentration of 2,400  $\mu\text{g/L}$  at GMW-59, which is slightly lower than the previous quarter in (3,400  $\mu\text{g/L}$ ).

Benzene was detected in four wells sampled, with the highest concentration present in GMW-59 (710  $\mu\text{g/L}$ ) which is lower than the previous quarter (1,000  $\mu\text{g/L}$  in October 2012). Toluene was not detected at any wells sampled. The highest concentration of ethylbenzene was detected at well GMW-59 at 1.7  $\mu\text{g/L}$ . The highest concentration of xylene was 0.32  $\mu\text{g/L}$  detected at well GMW-58. In addition to EXP-3, MTBE was detected in four wells with the highest concentration of 8.0  $\mu\text{g/L}$  at GMW-59. TBA was detected in four wells with the highest concentration of 620  $\mu\text{g/L}$  at well GMW-60. In addition to EXP-3, 1,2-DCA was detected at two wells with the highest concentration of 10.0  $\mu\text{g/L}$  at MW-14. ETBE and TAME were not detected this sampling event.

Other VOCs detected during this sampling quarter included DIPE, 1,1-dichloroethane (1,1-DCA), acetone, carbon disulfide, isopropylbenzene, methylene chloride, naphthalene, n-butylbenzene, n-propylbenzene, sec-butylbenzene, and tert-butylbenzene. Summary of miscellaneous VOCs detected is presented in Table 3.

The information presented in this letter-report will also be included in the first semiannual 2013 groundwater monitoring report for the site. If you have any questions, please call me at 602-734-1083 or Mary Lucas at 626-440-6032.

Sincerely,



Redwan N. Hassan, PG  
Senior Project Manager

First Quarter 2013 Sentry Groundwater Monitoring Results

**PARSONS**

**Attachments:**

- Table 1 – Groundwater Elevations
- Table 2 – Summary of Groundwater Analytical Data
- Table 3 – Summary of Miscellaneous VOCs Detected in Groundwater
- Figure 1 – Site Location Map
- Figure 2 – Site Map with Groundwater Well Locations

**Distribution List:**

- Mr. Jack O'Donovan, DLA Energy
- Lt. Col. Tam Gaffney, Commander, DLA Energy-Americas West
- Mr. Stuart Strum, DLA Energy
- Mr. Jon Wreschinsky, March ARB
- Ms. Adriana Figueroa, City of Norwalk
- Mr. Norman Dupont, City of Norwalk Attorney
- Ms. Minxia Dong, Norwalk Regional Library
- Mr. Charles Emig, City of Cerritos
- Ms. Evelyn Herrera, Office of Congresswoman Grace Napolitano
- Mr. Luis Gonzalez, Office of State Senator Ron Calderon
- Ms. Phuong Ly, Water Replenishment District
- Mr. Everett Ferguson, Water Replenishment District
- Mr. Gary Lynch, Park Water Company
- Mr. Steve Defibaugh, KMEP
- Mr. Mark Wuttig, CH2M Hill
- Mr. Dan Jablonski, CH2M Hill
- Ms. Mary Lucas, Parsons

**RAB Members**

- Ms. Mary Jane McIntosh
- Dr. Eugene Garcia
- Mr. Bob Hoskins
- Ms. Tracy Winkler

## Tables

Table 1

**Groundwater Elevations  
First Quarter 2013 Sentry Event**

Defense Fuel Support Point, Norwalk  
Norwalk, California

Well	Sample Date	Casing Diameter (inches)	Casing Elevation (ft msl) <sup>1</sup>	Depth to Product (feet) <sup>2</sup>	Depth to Water (feet) <sup>2</sup>	Apparent Product Thickness (feet) <sup>2</sup>	Groundwater Elevation (ft msl) <sup>1</sup>	Comments
EXP-1	1/10/2013	4	78.44	--	52.78	--	25.66	
EXP-2	1/10/2013	4	79.43	--	53.22	--	26.21	
EXP-3	1/11/2013	4	77.58	--	51.94	--	25.64	
GMW-5	1/10/2013	4	77.61	--	32.38	--	45.23	
GMW-6	1/10/2013	4	77.31	--	31.96	--	45.35	
GMW-12	1/10/2013	4	75.21	--	29.97	--	45.24	
GMW-15	1/10/2013	4	76.21	--	30.88	--	45.33	
GMW-16	1/11/2013	4	77.00	--	31.68	--	45.32	
GMW-17	1/11/2013	4	74.66	--	29.50	--	45.16	
GMW-19	1/10/2013	4	76.83	--	31.56	--	45.27	
GMW-21	1/10/2013	4	76.23	30.43	31.90	1.47	45.56	Removed cage and inspected; no odor
GMW-31	1/11/2013	4	76.50	--	31.35	--	45.15	
GMW-32	1/10/2013	4	74.62	--	29.31	--	45.31	
GMW-33	1/10/2013	4	74.88	--	--	--	--	Well Damaged
GMW-41	1/11/2013	4	74.46	--	29.47	--	44.99	
GMW-43	1/10/2013	4	74.44	--	29.27	--	45.17	
GMW-44	1/10/2013	4	74.45	--	29.54	--	44.91	
GMW-45	1/10/2013	4	75.67	--	30.35	--	45.32	
GMW-47	1/10/2013	4	75.98	--	30.57	--	45.41	
GMW-48	1/10/2013	4	75.03	--	28.77	--	46.26	
GMW-56	1/10/2013	4	76.52	--	31.05	--	45.47	
GMW-57	1/10/2013	4	76.66	--	31.18	--	45.48	
GMW-58	1/11/2013	4	75.48	--	29.26	--	46.22	
GMW-59	1/10/2013	4	75.28	--	28.60	--	46.68	
GMW-60	1/11/2013	4	76.24	--	30.65	--	45.59	
GMW-61	1/11/2013	4	75.60	--	30.05	--	45.55	
GMW-62	1/11/2013	4	76.34	--	30.62	--	45.72	
GMW-63	1/11/2013	4	77.32	--	31.23	--	46.09	
GMW-64	1/11/2013	4	75.84	--	29.69	--	46.15	
GMW-65	1/11/2013	4	76.78	--	31.08	--	45.70	
GMW-66	1/10/2013	4	77.00	--	31.36	--	45.64	
GW-1	1/10/2013	4	75.97	--	30.61	--	45.36	
GW-2	1/10/2013	4	75.78	--	30.42	--	45.36	
GW-3	1/10/2013	4	75.79	--	30.49	--	45.30	
GW-4	1/10/2013	4	73.86	--	--	--	--	Pumping well unable to measure - no access
GW-5	1/10/2013	4	76.99	--	31.68	--	45.31	
GW-6	1/10/2013	4	76.38	--	31.13	--	45.25	
GW-7	1/11/2013	4	75.02	--	30.25	--	44.77	
GW-8	1/10/2013	4	76.15	--	30.85	--	45.30	
GW-13	1/10/2013	6	76.85	--	31.63	--	45.22	
GW-14	1/10/2013	6	76.54	--	33.29	--	43.25	
GW-15	1/11/2013	6	74.94	--	30.39	--	44.55	
GW-16	1/11/2013	6	76.33	--	31.30	--	45.03	
MW-10	1/10/2013	4	79.12	--	33.78	--	45.34	
MW-13	1/10/2013	4	78.25	--	32.78	--	45.47	

Table 1

**Groundwater Elevations  
First Quarter 2013 Sentry Event**

Defense Fuel Support Point, Norwalk  
Norwalk, California

Well	Sample Date	Casing Diameter (inches)	Casing Elevation (ft msl) <sup>1</sup>	Depth to Product (feet) <sup>2</sup>	Depth to Water (feet) <sup>2</sup>	Apparent Product Thickness (feet) <sup>2</sup>	Groundwater Elevation (ft msl) <sup>1</sup>	Comments
MW-14	1/11/2013	4	78.60	--	33.24	--	45.36	
MW-16	1/10/2013	4	76.87	--	31.47	--	45.40	
MW-17	1/10/2013	4	77.86	--	32.34	--	45.52	
MW-22 (MID)	1/11/2013	4	79.57	--	35.48	--	44.09	
MW-23 (MID)	1/10/2013	4	79.59	--	34.27	--	45.32	
MW-24	1/10/2013	4	78.51	--	33.24	--	45.27	Sheen
MW-25	1/11/2013	4	79.15	--	33.86	--	45.29	
MW-26	1/11/2013	4	77.40	--	32.17	--	45.23	
MW-27	1/11/2013	4	78.46	--	33.24	--	45.22	
MW-29	1/10/2013	4	79.13	--	33.79	--	45.34	
PZ-3	1/11/2013	2	76.17	30.20	33.08	2.88	45.51	
TF-8	1/11/2013	4	74.86	--	29.56	--	45.30	
TF-9	1/11/2013	4	74.47	--	29.14	--	45.33	
TF-10	1/11/2013	4	73.61	--	28.42	--	45.19	
TF-11	1/11/2013	4	74.40	--	29.45	--	44.95	
TF-13	1/10/2013	4	75.47	--	30.15	--	45.32	
TF-14	1/10/2013	4	74.35	--	29.25	--	45.10	
TF-15	1/11/2013	4	74.78	29.50	29.63	0.13	45.26	
TF-16	1/11/2013	4	75.89	--	30.63	--	45.26	
TF-17	1/11/2013	4	74.88	--	29.55	--	45.33	
TF-18	1/10/2013	4	73.94	27.85	30.25	2.40	45.71	
TF-19	1/10/2013	4	75.07	--	29.38	--	45.69	
TF-20	1/11/2013	4	75.08	30.38	30.43	0.05	44.69	
TF-21	1/11/2013	4	74.96	--	29.63	--	45.33	
TF-22	1/11/2013	4	74.76	--	29.35	--	45.41	
TF-23	1/11/2013	4	75.31	--	29.67	--	45.64	
TF-24	1/10/2013	4	76.43	--	31.13	--	45.30	
TF-25	1/11/2013	4	74.85	--	29.65	--	45.20	
TF-26	1/10/2013	4	75.85	--	30.21	--	45.64	

Notes:

<sup>1</sup>Feet above mean sea level (MSL), based on Los Angeles County Datum, 1980.

<sup>2</sup>Below top of casing.

**Table 2**  
**Summary of Groundwater Analytical Data**  
**First Quarter 2013 Sentry Event**  
 Defense Fuel Support Point, Norwalk  
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Well ID	Sample Date	TPH <sup>1</sup> as Diesel	TPHg <sup>2</sup>	Benzene	Toluene	Ethyl-benzene	o-Xylene	p/m-Xylene	1,2-DCA <sup>3</sup>	MTBE <sup>4</sup>	TBA <sup>5</sup>	DIPE <sup>6</sup>	ETBE <sup>7</sup>	TAME <sup>8</sup>
EXP-1	01/14/13	< 100 <sup>9</sup>	< 100	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 2.0	< 2.0	< 2.0
EXP-2	01/14/13	< 100	< 100	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 2.0	< 2.0	< 2.0
EXP-3	01/14/13	< 100	< 100	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<b>0.74</b>	<b>0.34 J</b>	< 10	< 2.0	< 2.0	< 2.0
GMW-47	01/15/13	<b>580 b</b>	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<b>3.7</b>	<b>320</b>	< 2.0	< 2.0	< 2.0
GMW-57	01/14/13	< 100	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 2.0	< 2.0	< 2.0
GMW-58	01/15/13	<b>420 b</b>	--	<b>8.7</b>	< 0.50	< 0.50	< 0.50	<b>0.32 J</b>	< 0.50	< 0.50	<b>17</b>	< 2.0	< 2.0	< 2.0
GMW-58 DUP	01/15/13	< 2000	--	<b>8.5</b>	< 0.50	< 0.50	< 0.50	<b>0.3 J</b>	< 0.50	< 0.50	<b>18</b>	< 2.0	< 2.0	< 2.0
GMW-59	01/15/13	<b>1500 b</b>	<b>2400</b>	<b>670</b>	< 2.5	<b>1.6 J</b>	< 2.5	< 2.5	< 2.5	<b>7.4</b>	< 50	< 10	< 10	< 10
GMW-59 DUP	01/15/13	<b>1400 b</b>	--	<b>710</b>	< 2.5	<b>1.7 J</b>	< 2.5	< 2.5	< 2.5	<b>8</b>	< 50	< 10	< 10	< 10
GMW-60	01/15/13	<b>460 b</b>	<b>610</b>	<b>4.3</b>	< 0.50	<b>0.37 J</b>	< 0.50	< 0.50	< 0.50	< 0.50	<b>620</b>	< 2.0	< 2.0	< 2.0
GMW-61	01/15/13	<b>140 b</b>	<b>130</b>	<b>2.7</b>	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<b>69</b>	< 2.0	< 2.0	< 2.0
GMW-63	01/14/13	< 100	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 2.0	< 2.0	< 2.0
GMW-64	01/14/13	< 100	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 2.0	< 2.0	< 2.0
GMW-65	01/14/13	< 100	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 2.0	< 2.0	< 2.0
MW-14	01/14/13	< 100	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<b>10</b>	<b>0.93</b>	< 10	<b>1.7 J</b>	< 2.0	< 2.0
MW-22 MID	01/14/13	< 100	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	<b>4.4</b>	<b>5.3</b>	< 10	<b>0.42 J</b>	< 2.0	< 2.0
TB-01	01/14/13	--	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 2.0	< 2.0	< 2.0
TB-02	01/15/13	--	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 2.0	< 2.0	< 2.0

Notes:

<sup>1</sup>TPH = total petroleum hydrocarbons.

<sup>2</sup>TPHg = total petroleum hydrocarbons against a gasoline standard.

<sup>3</sup>1,2-DCA = 1,2-Dichloroethane.

<sup>4</sup>MTBE = methyl tert-butyl ether.

<sup>5</sup>TBA = tert-butyl alcohol.

<sup>6</sup>DIPE= diisopropyl ether.

<sup>7</sup>ETBE = ethyl-t-butyl ether.

<sup>8</sup>TAME = tert-amyl-methyl ether.

<sup>9</sup>< 100 = compound not detected at or above the indicated reporting limit.

DUP = duplicate.

Bold numbers indicate a detected concentration.

J = Analyte was detected at a concentration below the laboratory reporting limit and above the laboratory detection limit. Reported value is estimated.

<sup>b</sup> = The chromatographic pattern was inconsistent with the profile of the reference fuel standard.

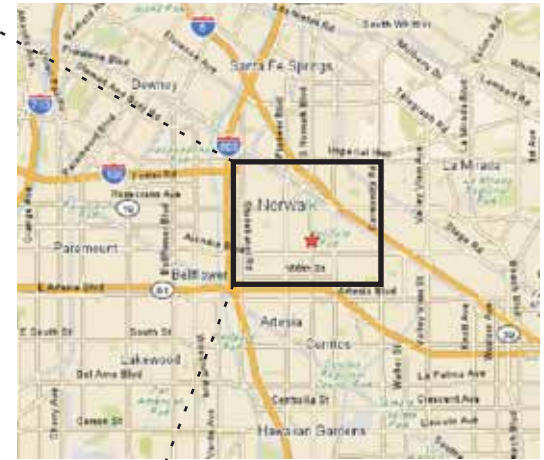
**Table 3**  
**Summary of Miscellaneous VOCs Detected in Groundwater**  
**First Quarter 2013 Sentry Event**  
 Defense Fuel Support Point, Norwalk  
 Norwalk, California

Results reported in micrograms per liter (µg/L)

Well ID	Sample Date	1,1-Dichloroethane	Acetone	Carbon Disulfide	Isopropyl benzene	Methylene Chloride	Naphthalene	n-Butyl benzene	n-Propyl benzene	sec-Butyl benzene	tert-Butyl benzene
GMW-47	01/15/13	<b>0.52 J</b>	< 20	< 10	<b>1.3</b>	<b>0.78 J</b>	< 10	< 1.0	<b>0.19 J</b>	< 1.0	<b>0.42 J</b>
GMW-57	01/14/13	< 1.0	< 20	< 10	< 1.0	< 5.0	< 10	<b>0.24 J</b>	< 1.0	< 1.0	< 1.0
GMW-58	01/15/13	< 1.0	< 20	< 10	<b>3.6</b>	<b>1.5 J</b>	< 10	<b>0.29 J</b>	<b>1.4</b>	<b>0.55 J</b>	<b>0.44 J</b>
GMW-58 DUP	01/15/13	<b>0.39 J</b>	< 20	< 10	<b>3.7</b>	<b>0.97 J</b>	< 10	< 1.0	<b>1.3</b>	<b>0.53 J</b>	<b>0.44 J</b>
GMW-59	01/15/13	< 5.0	< 100	< 50	<b>25</b>	< 25	<b>28 J</b>	<b>1.5 J</b>	<b>21</b>	<b>2.6 J</b>	< 5.0
GMW-59 DUP	01/15/13	< 5.0	< 100	< 50	<b>26</b>	< 25	<b>30 J</b>	<b>1.4 J</b>	<b>22</b>	<b>2.7 J</b>	< 5.0
GMW-60	01/15/13	< 1.0	<b>11 J</b>	< 10	<b>8.6</b>	<b>1.1 J</b>	<b>4.6 J</b>	<b>0.44 J</b>	<b>5.8</b>	<b>1.2</b>	<b>0.37 J</b>
GMW-61	01/15/13	< 1.0	< 20	<b>0.71 J</b>	<b>8.2</b>	<b>0.95 J</b>	< 10	< 1.0	<b>0.88 J</b>	<b>1.6</b>	< 1.0
TB-02	01/15/13	< 1.0	< 20	< 10	< 1.0	<b>0.66 J</b>	< 10	< 1.0	< 1.0	< 1.0	< 1.0



## Figures



**Figure 1**  
**SITE LOCATION MAP**

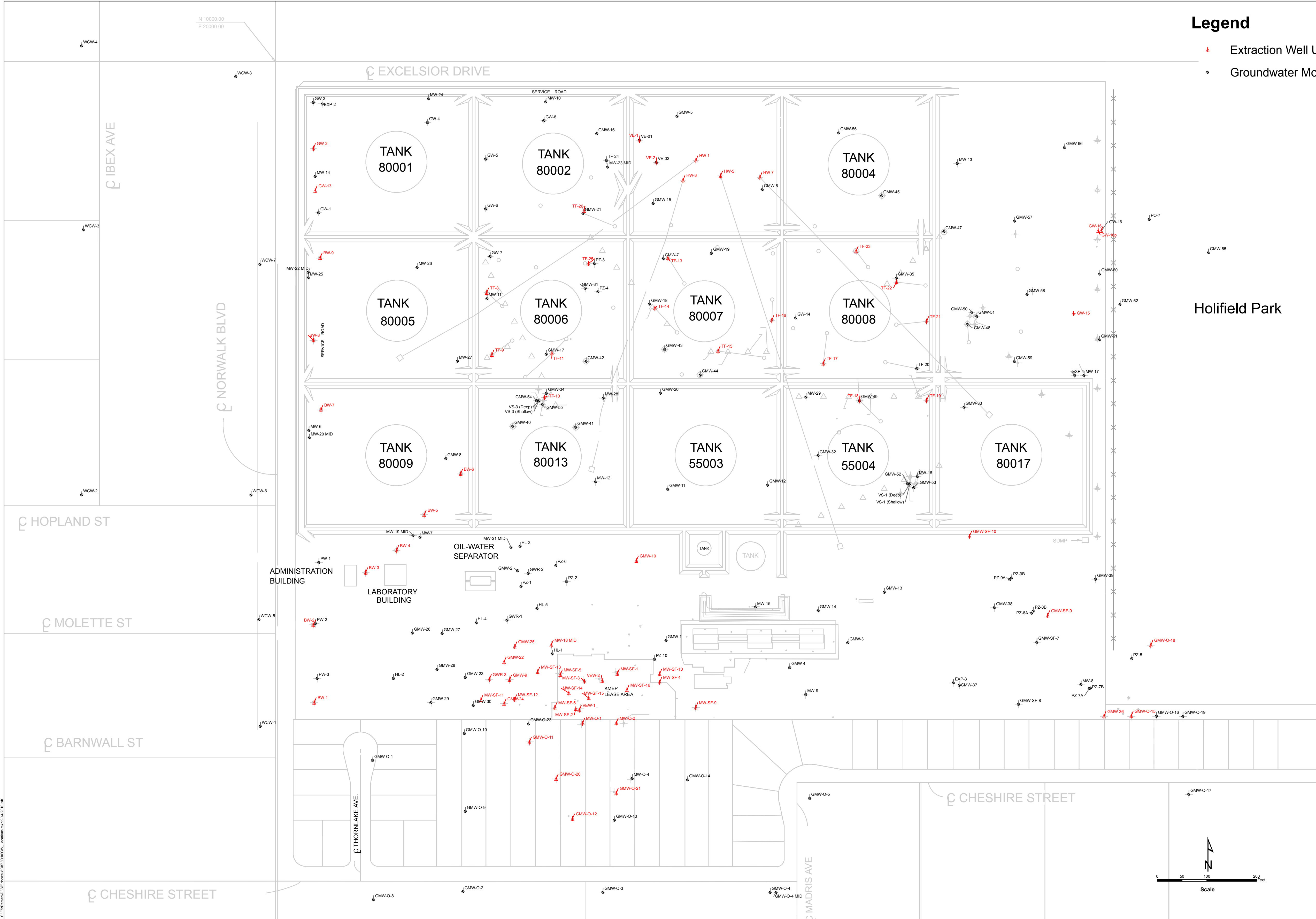
**DFSP NORWALK**  
**15306 Norwalk Blvd.**  
**Norwalk, California**

**PARSONS**

Pasadena, California

**Legend**

- ▲ Extraction Well Used for Site Remediation
- Groundwater Monitoring Well



Holifield Park

**FIGURE 2**  
**Site Map with**  
**Groundwater Well Locations**  
 DFSP Norwalk  
 Norwalk, CA  
**PARSONS**  
 Pasadena, California

S:\Information Systems\GIS\Projects\2010\2010\_01\_20\2010\_01\_20\_01.dwg Location and 11/12/2010 10:00 AM