

Norwalk Tank Farm Update

Defense Energy Support Center-

Americas West

Norwalk Tank Farm

Restoration Advisory Board

October 29, 2009



Presentation Overview

- General Site Activities
- Remediation System Update
- Additional Investigation Update
- Third Quarter 2009 Sentry Groundwater Monitoring Event
- Planned Activities

General Site Activities

- Weekly System Inspections
- System Performance & Compliance Sampling – July 7, 23, 31; August 7, 14, 19, 28; September 29
- Groundwater Treatment System (GWTS) Granular Activated Carbon (GAC) Change-Out - July 15
- Third Quarter 2009 Groundwater Monitoring - July 20, 21, and August 3
- Completed Weed Abatement
- Holifield Park Groundwater Remedial System Expansion Summary Report – submitted August 6
- NPDES Discharge Monitoring Report (DMR) - Submitted August 17 for Q2 2009

General Site Activities – Weed Abatement Photos



1. Before



1. After

2. Before



2. After

General Site Activities – Weed Abatement Photos (cont)



3. Before

3. After



4. After

4. Before



Remediation System Update

- Connected electrical power to GW-16 and began operation of expanded GWTS at the eastern area on July 22
- Installed and connected one additional 2000 pound GAC vessel to GWTS in series and one new 1000 pound GAC vessel to collect and treat the vapor from the GWTS surge tank on August 19
- Installed two new 5000 pound GAC vessels for SVES on August 19; manifold and pipe network installed on September 22
- SVES blower disconnected from thermal oxidizer and reconnected to new vapor GAC vessels on August 20
- AQMD permit modification package for upgraded GWTS and SVES - submitted July 24
- For GWTS the following repairs were done: broken water transfer hose between GW-2 and GW-13, broken outlet at GW-13; and leak at water meter (September 14)

Remediation System Update – Photos



Upgraded SVES
Showing:

- 2 – existing 2000 pound GAC vessels;
- 2 – new 5000 pound GAC vessels; and
- new pipe manifold and valves

Remediation System Update – Overall Operations Summary

- Groundwater extracted and treated:
 - 1,495,860 gallons in Q3 2009
 - 47.4 million gallons, since April 1996

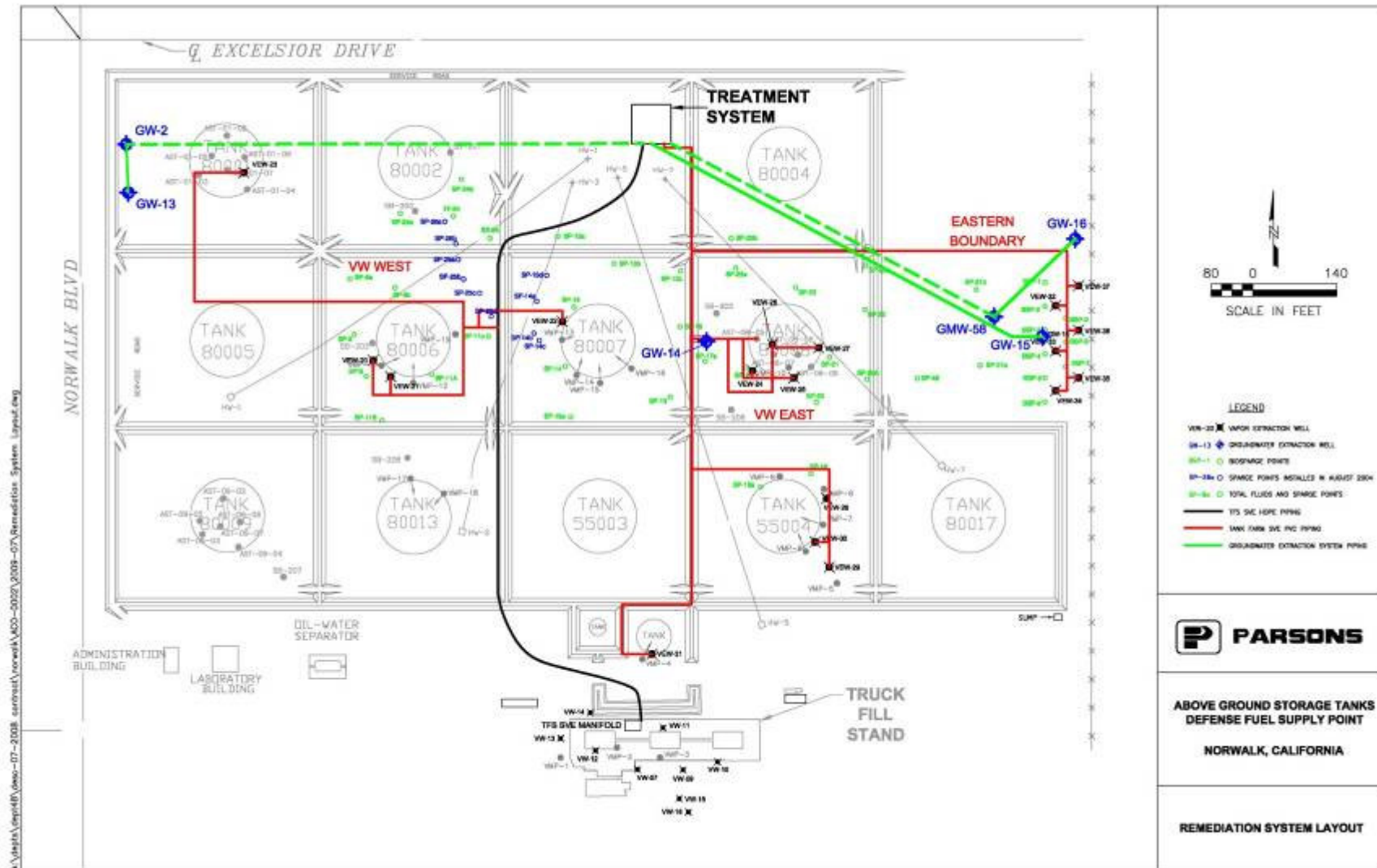
- Soil vapor extraction system (SVES) - Remained Out of Operation; completion of upgraded system week of October 30; startup scheduled for first week of November 2009

- System Performance - Since April 1996 through December 2008
 - Total Hydrocarbons Mass Removed: 428,722 gallons
 - Approx. 215,870 gallons recycled and destroyed
 - Estimated 212,851 gallons of hydrocarbons destroyed due to enhanced biodegradation

Remediation System Update - GWTS Operations Summary

- An accelerated sampling schedule (weekly collection) was followed for permit compliance upon system restart following GAC change-out as a result of elevated tert-butyl alcohol (TBA, 14 µg/L) in the discharge sample collected June 30th. TBA was not detected in any of the collected samples.
- System **On** from June 30 through September 30 except for the following periods when it was **Off**:
 - Jul 14 – Jul 22: Quarterly Groundwater Monitoring, GAC change-out
 - Jul 27 – Aug 3: System off pending repair of water leak at meter
 - Aug 19 – Aug 20: System reconfiguration. Addition of 3rd GAC vessel
 - Sept 29 – Sept 30: System off pending leak repair and GAC change-out

Remediation System Update - System Layout

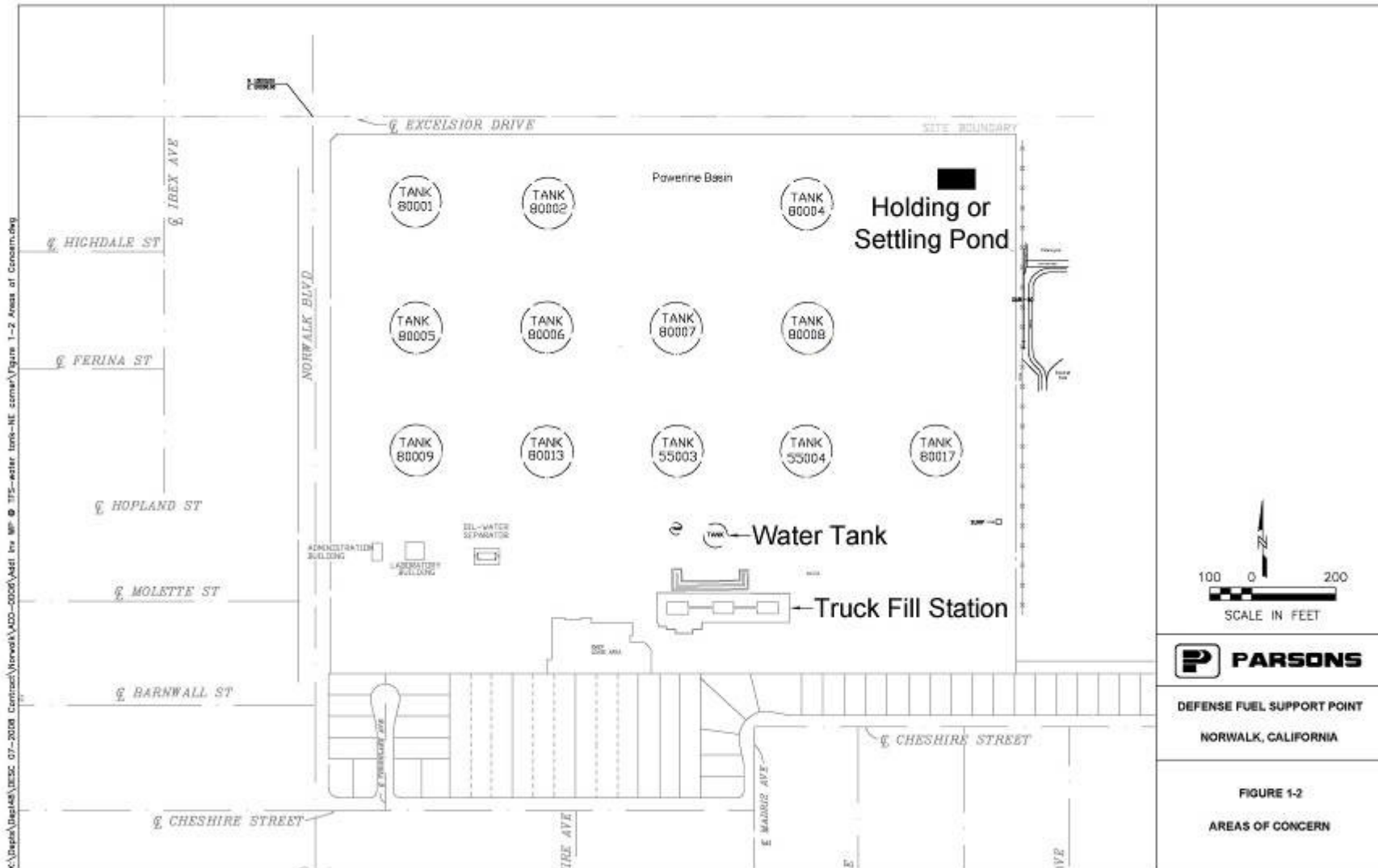


K:\Projects\Norwalk\Norwalk-07-2008-arrest\Norwalk\NO-0029\2008-07\Remediation System Layout.dwg

Additional Investigation Update - TFS, Water Tank, NE Settling Pond

- Supplemental Investigation Work Plan for Truck Fill Station (TFS), Water Tank, and Northeast Settling Pond Areas - submitted July 16th
- Field Work from September 3 to 21:
 - TFS: 12 borings and 41 analytical soil samples
 - Water tank: 3 borings and 10 analytical soil samples
 - NE settling pond: 4 borings, 1 groundwater monitoring well, and 10 analytical soil samples

TFS, Water Tank, NE Settling Pond Location Figure



TFS, Water Tank, NE Settling Pond Soil Results Summary

- Soil at all the TFS (including the pump house south of the TFS) and water tank areas are still highly impacted
- Soil at the NE corner shows minor impacts
- Impacted soil plumes still need to be defined at all areas
- Summary report will be prepared that will include assessment of both soil and groundwater impacts and recommendations for future action at these sites

Additional Investigation Update - Holifield Park

- Groundwater from GMW-65 and GW-16 was sampled during the July monitoring event and there were no detected concentrations
- Groundwater extraction from GW-16 began on July 22nd following the 3Q monitoring event [extraction from GW-15 began on April 22nd]
- Holifield Park Groundwater Remedial System Expansion Summary Report – submitted August 6
- After 3 and 6 months of continuous operation, groundwater chemistry will be evaluated from existing nearby wells and groundwater quality will be compared to historical to determine effectiveness of groundwater extraction and to determine if additional onsite extraction wells are required in order to contain the plume within site boundaries

Third Quarter 2009 Sentry Groundwater Monitoring Event

- 62 wells were gauged by Parsons – July 16/17
- 13 wells were sampled – July 20/21
- Free product was detected in 2 wells (GW-15 and TF-17) with thickness measured as 0.08 and 0.74 feet, respectively
- Groundwater elevations generally decreased in the uppermost aquifer beneath the site on average 0.5 feet

Third Quarter 2009 Sentry Groundwater Monitoring Results

- TPH as JP5 was detected in seven, with GMW-59 indicating the highest concentration at 11,000 micrograms per liter ($\mu\text{g/L}$)
- TPHg was detected in six wells, with GMW-59 indicating the highest concentration at 6,700 $\mu\text{g/L}$
- Benzene was detected in five wells, with the highest concentration present in GMW-62 (1,200 $\mu\text{g/L}$)
- GMW-62 also contained the highest concentrations of ethylbenzene and xylenes
- MTBE was detected in four wells (GMW-58, GMW-59, M-14, and MW-22 MID) at concentrations ranging from 3.4 $\mu\text{g/L}$ to 19 $\mu\text{g/L}$
- TBA was detected in two wells (GMW-47 and MW-22 MID) at concentrations of 15 $\mu\text{g/L}$ and 34 $\mu\text{g/L}$

Third Quarter 2009 Sentry Groundwater Analytical Data

Well	TPH _{jp} ¹	TPH _g ²	Benzene	Toluene	Ethyl- benzene	Xylenes ³	1,2-DCA ⁴	MTBE ⁵	TBA ⁶
EXP-3	< 100 ⁷	< 100	< 0.50	< 0.50	< 0.50	< 1	< 0.50	< 0.50	< 10
GMW-47	1400	200	< 0.50	< 0.50	< 0.50	< 1	< 0.50	< 0.50	15
GMW-57	< 100	< 100	< 0.50	< 0.50	< 0.50	< 1	< 0.50	< 0.50	< 10
GMW-58	300	100	1.2	< 0.50	< 0.50	< 1	< 0.50	6.4	< 10
GMW-58 DUP ⁷	290	--	1.2	< 0.50	< 0.50	< 1	< 0.50	6.1	< 10
GMW-59	11000	6700	520	< 2.5	< 2.5	< 5	< 2.5	3.5	< 50
GMW-59 DUP	9100	--	520	< 2.5	< 2.5	< 5	< 2.5	3.4	< 50
GMW-60	1700	3200	940	< 5.0	11	< 10	< 5.0	< 5.0	< 100
GMW-61	560	760	350	< 2.5	< 2.5	< 5	< 2.5	< 2.5	< 50
GMW-62	1100	1800	1200	< 2.5	67	36	< 2.5	< 2.5	< 50
GMW-63	< 100	< 100	< 0.50	< 0.50	< 0.50	< 1	< 0.50	< 0.50	< 10
GMW-64	< 100	< 100	< 0.50	< 0.50	< 0.50	< 1	< 0.50	< 0.50	< 10
GMW-65	< 100	< 100	< 0.50	< 0.50	< 0.50	< 1	< 0.50	< 0.50	< 10
GW-16	< 100	< 100	< 0.50	< 0.50	< 0.50	< 1	< 0.50	< 0.50	< 10
MW-14	< 100	--	< 0.50	< 0.50	< 0.50	< 1	13	1.5	< 10
MW-22 MID	150	--	< 0.50	< 0.50	< 0.50	< 1	11	19	34

Samples collected on July 20 & 21 & August 3, 2009. Results in micrograms per liter.

Planned Activities for Next Quarter

- Continue weekly system inspections, required sampling, evaluation, and optimization
- Conduct 2nd semiannual groundwater monitoring event
- Prepare and submit NPDES DMR for Q3 2009
- Prepare and Submit Supplemental Investigation Report for Truck Fill Station, Water Tank, and Northeast Settling Pond Areas
- Conduct weed abatement and debris cleanup around the area near the gate (completed on October 15)
- Conduct plumbing repair in guards building (completed on October 19)
- Conduct electrical repair/replacement of lighting around the gate and the A/C unit in the guards shack

Planned Activities for Next Quarter (cont)

- Install PLC panel for SVES (completed on October 12)
- Complete onsite programming of PLC for SVES (scheduled to be completed by the end of October)
- Conduct startup and optimization of upgraded SVES (schedule for the first week of November 2009)



PLC Panel for SVES

The End!