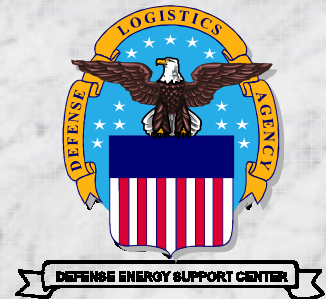


# *Norwalk Tank Farm Update*

*Defense Energy Support Center-  
Americas West  
Norwalk Tank Farm  
Restoration Advisory Board*

*April 30, 2009*



# Presentation Overview

- General Site Activities
- Remediation System Update
- Holifield Park Investigation Results
- First Quarter 2009 Sentry Groundwater Monitoring Results
- Planned Activities



# General Site Activities

- Weekly System Inspections – January 1 through March 31
- System Performance & Compliance Sampling – Jan. 9, 14; Feb. 3, 25; Mar. 5, 18, 26, 31
- Groundwater Treatment System (GWTS) Granular Activated Carbon (GAC) Change Outs – Both (2) vessels completed on February 16 and March 24
- NPDES Discharge Monitoring Report (DMR) – Submitted February 11<sup>th</sup> for Q4 2008
- First Quarter 2009 Sentry Groundwater Monitoring – W3 of February
- Draft Conceptual Site Model (CSM) – Submitted February 13<sup>th</sup>
- Supplemental Investigation Report for Holifield Park and Dolland Elementary School – Submitted March 26<sup>th</sup>

# Remediation System Update

- Groundwater extracted and treated:
  - 813,980 gallons in Q1 2009
  - 44.4 million gallons, since April 1996
- Soil vapor extraction system (SVES) – Remained Out of Operation
- 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

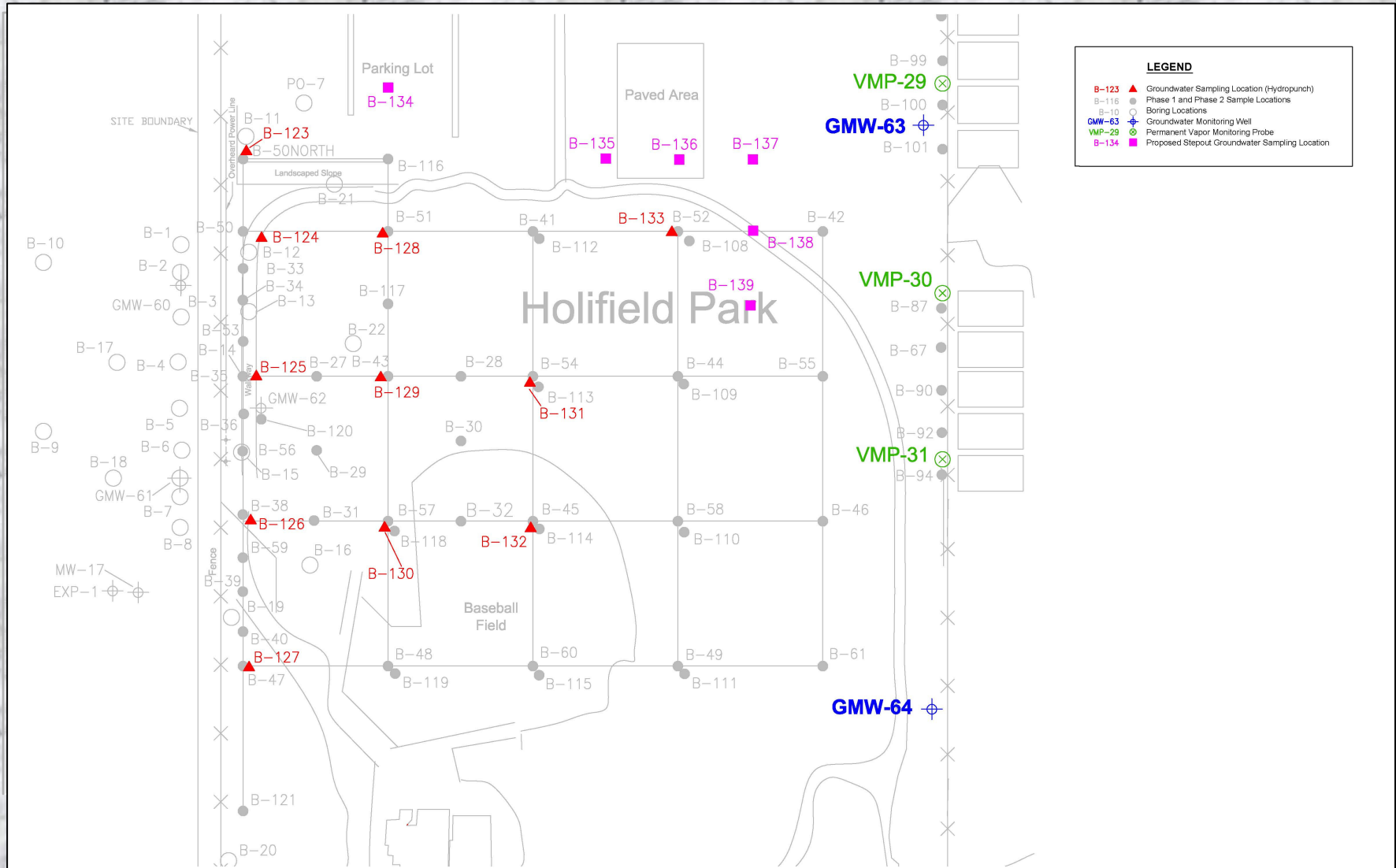
- **System Off Over Following Periods:**
  - Dec 31 – Jan 7: Awaiting shipment of MYCLEX filters & change-out
  - Jan 26: System off briefly to change MYCLEX filters
  - Feb 6 – Feb 12: Quarterly Groundwater Monitoring
  - Feb 13 – Feb 24: Cleaned out surge tank and repaired leak, GAC change-out
  - Mar 3 – Mar 4: Repair leak at meter
  - Mar 24 – Mar 26: GAC change-out
  
- **System On Over Following Periods:**
  - Jan 8 – Jan 26: System restart, continuous operation
  - Jan 27 – Feb 6: System restart, continuous operation
  - Feb 24 – Mar 3: System restart, continuous operation
  - Mar 4 – Mar 24: System restart, continuous operation
  - Mar 26 – Mar 31: System restart, continuous operation

# Holifield Park Investigation

- January 7 and 12, 2009 – supplemental investigation tasks:
  - Installed 6 soil vapor probes and 2 groundwater monitoring wells
  - Collected 7 soil gas samples
  - Collected 5 soil samples
  - Collected 50 Hydropunch™ groundwater samples
- Samples analyzed for: TPH as gasoline, TPH as JP5, and volatile organic compounds



# Holifield Park Sampling Locations

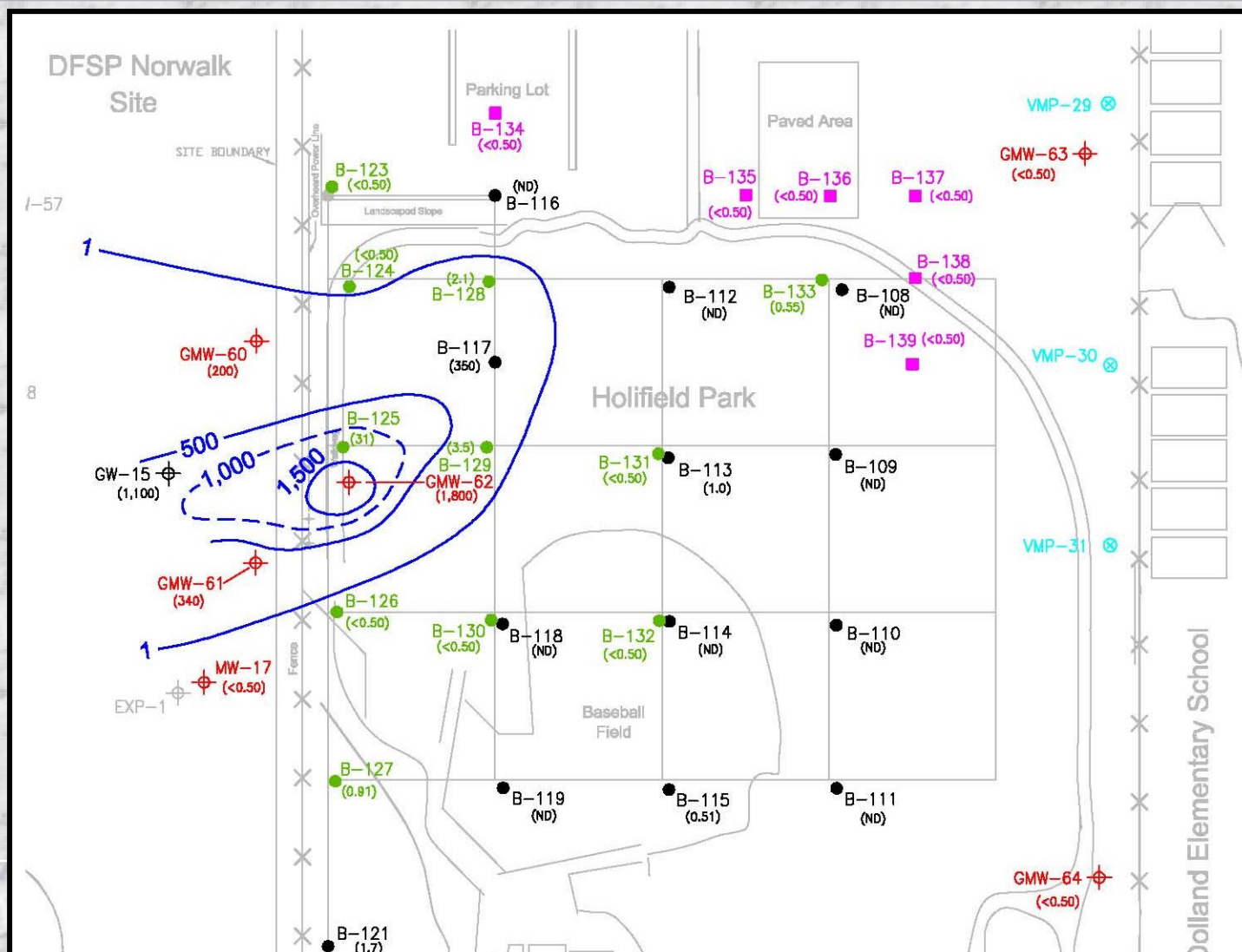


# Holifield Park Investigation Results

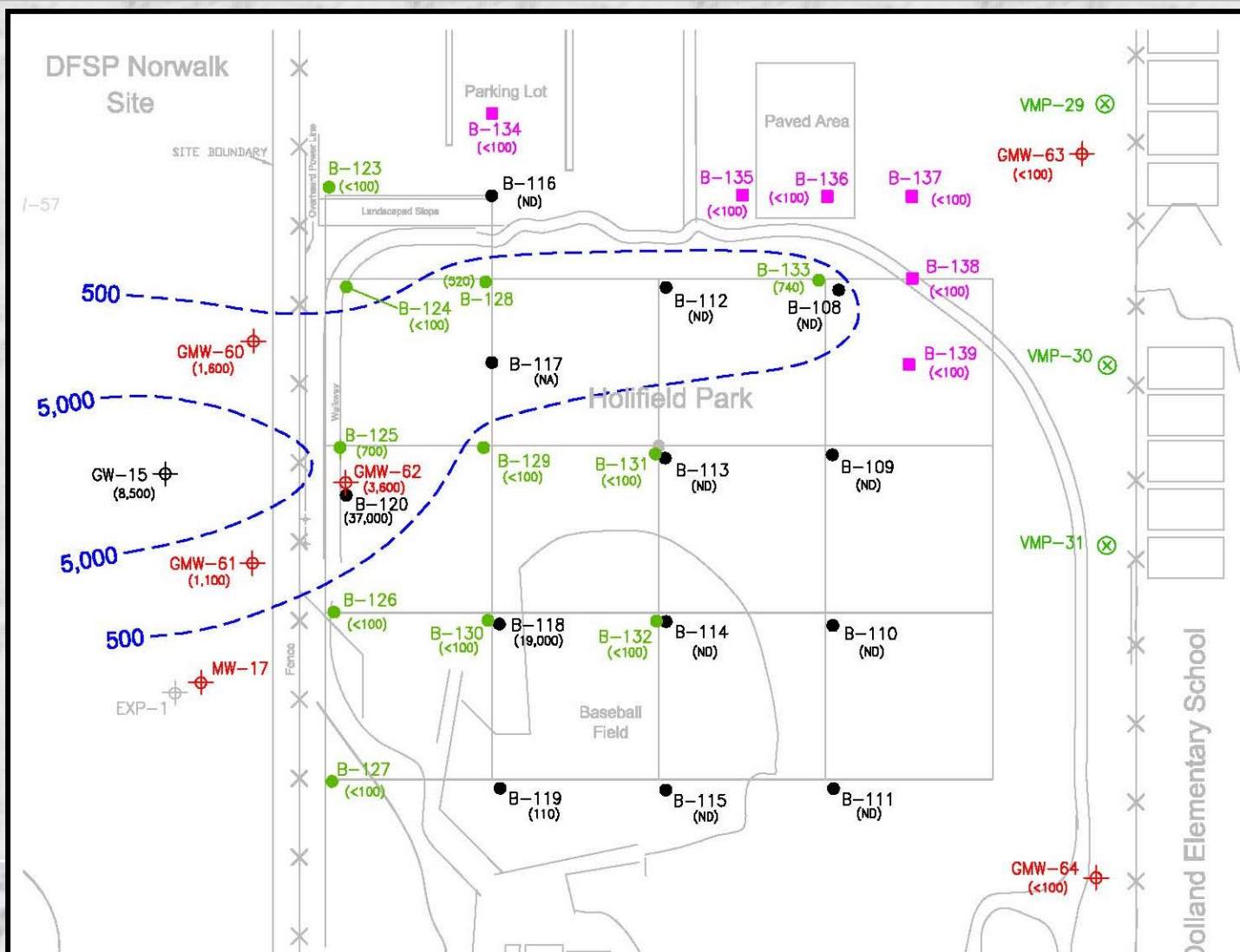
- Soil gas and soil have not been impacted with site-related VOCs above action levels
- Dissolved groundwater plume has been fully defined; therefore there is no need for additional investigation
- Lateral extent of groundwater impacts above action levels is limited to approximately 300 feet east of DESC property beneath the park
- Groundwater impacted above action levels does not extend beneath Dolland Elementary School property



# Holifield Park Investigation Results - Benzene Concentrations in Groundwater

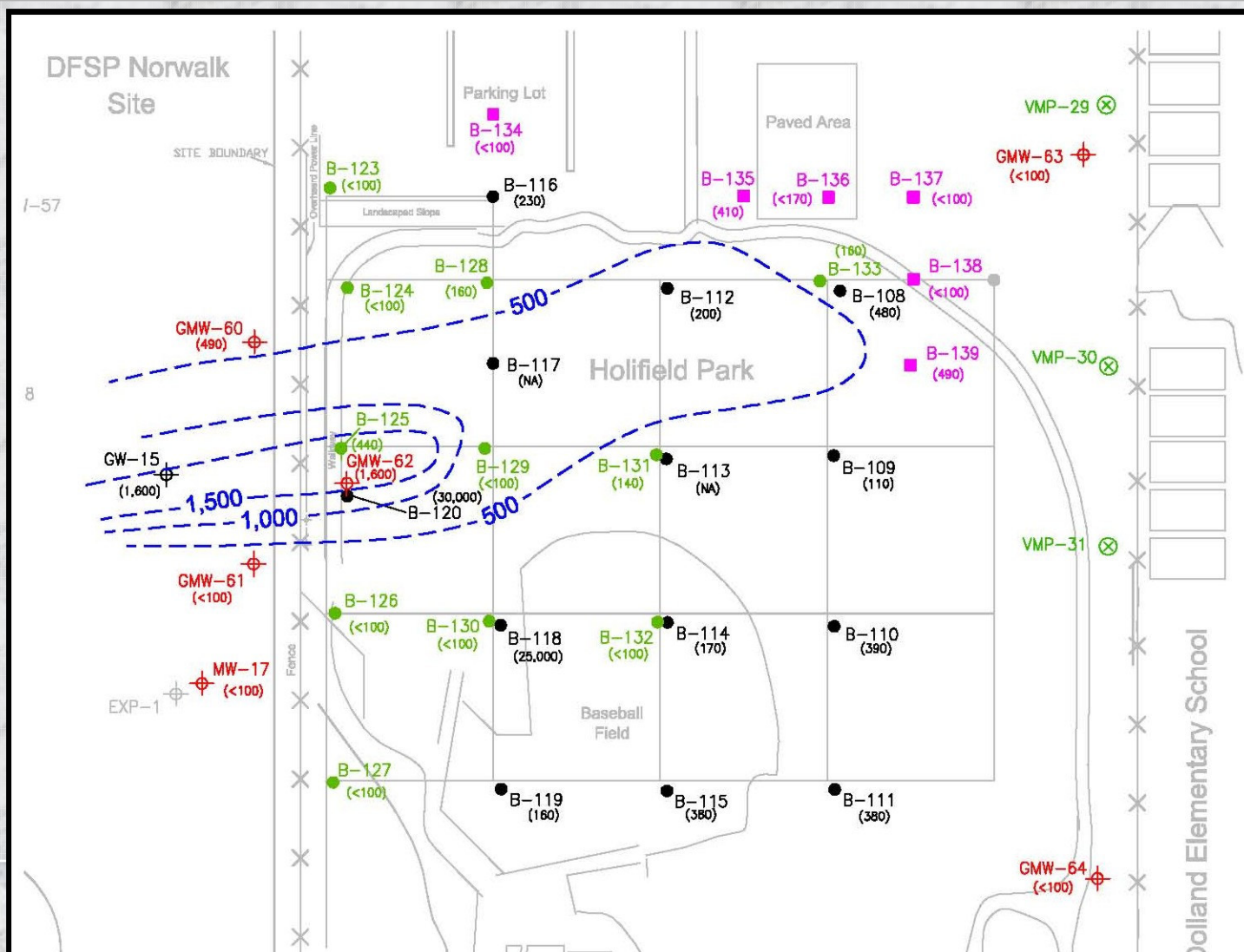


# Holifield Park Investigation Results - TPH as Gasoline Concentrations in Groundwater





# Holifield Park Investigation Results - TPH as JP-5 Concentrations in Groundwater



# Holifield Park Groundwater Containment

- Groundwater impacted above action levels in the area near GMW-62 will be contained and pulled back to the DFSP Norwalk site property via an expansion of the existing DFSP Norwalk GWTS
- An additional 6-inch diameter extraction well will be installed within site boundaries
- An additional 4-inch diameter groundwater monitoring well will be installed in the park within the capture zone to gauge system performance



# First Quarter 2009 Sentry Groundwater Monitoring

- 80 wells were gauged
- 11 wells were sampled
- Free product was detected in 3 wells (GW-15, TF-17, and TF-20) with thickness measured as 0.04, 1.61, and 0.61 feet
- Groundwater elevations generally decreased in the uppermost aquifer beneath the site

# First Quarter 2009 Sentry Groundwater Monitoring Results

Well	TPH as JP5	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Total Xylenes	1,2-DCA	MTBE
GMW-47	460	170	< 0.50 <sup>6</sup>	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50
GMW-57	140	< 100	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50
GMW-58	2200	1000	36	< 0.50	0.85	< 1.0	< 0.50	0.55
GMW-59	2600	2500	650	< 2.5	< 2.5	< 5.0	< 2.5	3.2
GMW-60	490	1600	200	< 1.0	2.5	< 2.0	< 1.0	< 1.0
GMW-61	< 100	1100	340	< 2.5	13	57	< 2.5	< 2.5
GMW-62	1600	3600	1800	5.1	150	164	< 5.0	< 5.0
GMW-63	< 100	< 100	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50
GMW-64	< 100	< 100	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50
MW-14	< 100	< 100	< 0.50	< 0.50	< 0.50	< 1.0	1.1	1.6
MW-14 (Dup)	< 100	< 100	< 0.50	< 0.50	< 0.50	< 1.0	1	1.5
MW-22 MID	< 100	< 100	< 0.50	< 0.50	< 0.50	< 1.0	15	18

Samples collected on February 12, 2009. Results in milligrams per liter.



# Planned Activities for Next Quarter

- Continue weekly system inspections, required sampling, evaluation, and optimization
- Conduct 2<sup>nd</sup> quarter groundwater monitoring semiannual event (W3 April)
- Conduct weed abatement
- GWTS expansion in the eastern area to cover groundwater under Holifield Park
- GWTS upgrade (to include purchase and installation of additional treatment vessel)
- SVES upgrade and restart
- Supplemental on-site investigation:
  - Northeast corner
  - Water tank area
  - Truck fill area – historical data review, confirmation sampling, area assessment and remedial strategy

# Discussion