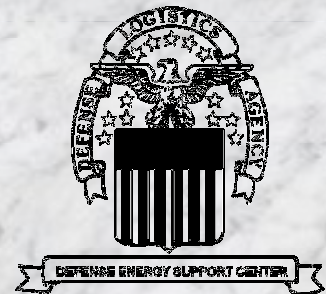


# *Norwalk Tank Farm Update*

*Defense Energy Support Center-  
Los Angeles  
Presented to the Norwalk Tank Farm  
Restoration Advisory Board*

*January 25, 2001*



# 12 Sentry Wells

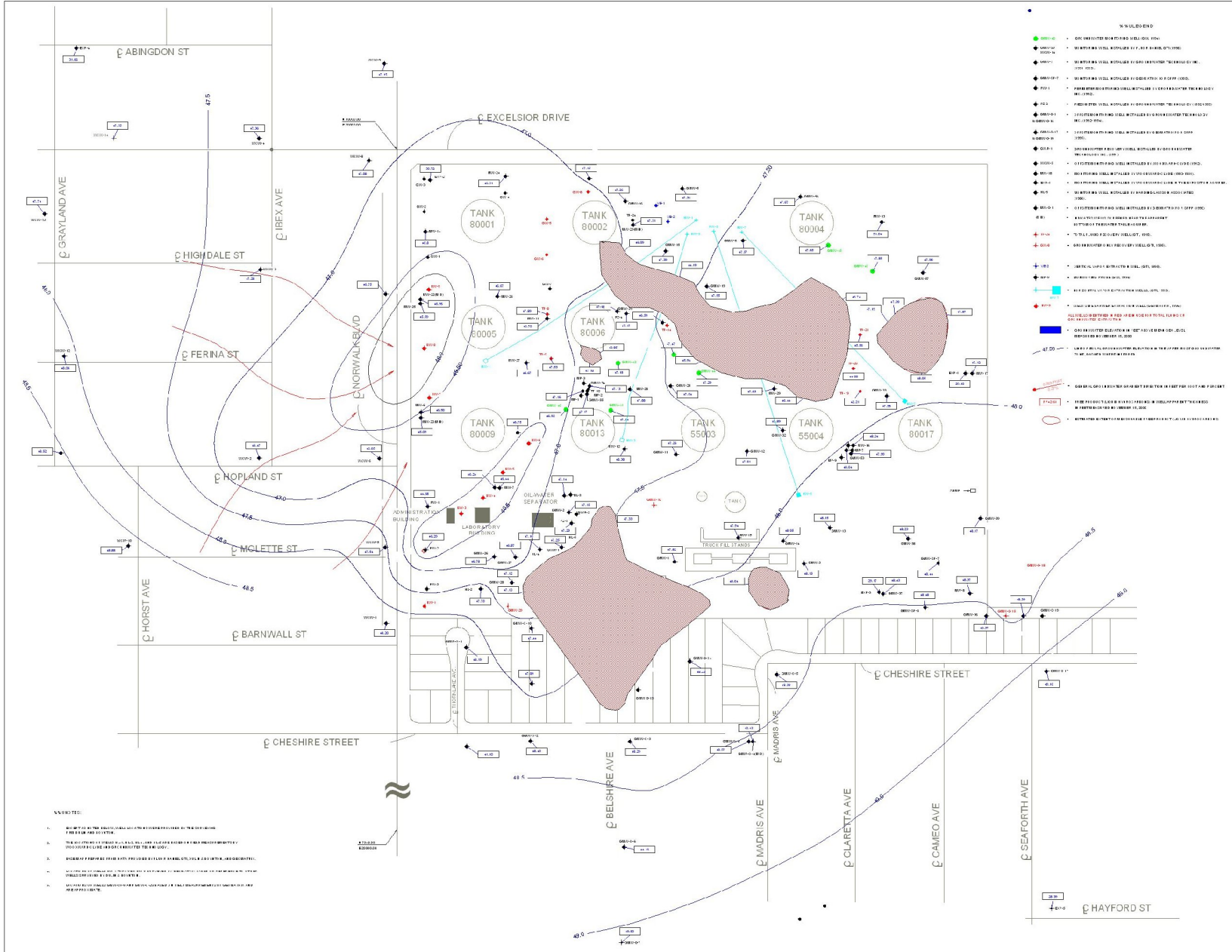
- 6 wells showed a decrease in TPH from Aug to Nov, otherwise sample chemical concentrations similar to previous events

# 5 Exposition Aquifer Wells

- ND for TPH, BTEX, 1,2-DCA and MTBE
  - EXP-1 trace concentration of benzene
  - EXP-3 trace concentration of toluene

# Water and Free Product

- Levels measured in 156 on- and off-site monitoring wells
- 23 wells contained free product ranging from 0.01 to 4.18 feet in thickness (max. in GMW-23)



SIGNATURE		DATE
REVIEW WORK:		
PROJECT ENR:		
PROJECT MOR:		
CLIENT:		
<p>APPROXIMATE SCALE IN FEET</p>		
<p><b>GROUNDWATER TECHNOLOGY INC.</b></p> <p>295 MICHELSON DRIVE IRVINE, CALIFORNIA 92610 (714) 975-5726</p>		
<p>GROUNDWATER EQUIPOTENTIAL MAP AND FTS-2 PRODUCT PLUMES OF THE UPPER GROUNDWATER ZONE NOVEMBER AND DECEMBER 2010</p>		
CLIENT:	DFSP NORWALK	
LOCATION:	15105 NORWALK BOULEVARD, NORWALK, CALIFORNIA	
DESIGNED BY:	SS	CHECKED BY: NI
DETAILED BY:	HDS	
DRAWING DATE:	1/4/11	SCALE: 1"=374830'-E13
PROJECT NO.:	07466010/03	CONTRACT: SPO-660-99-C-5842
FIGURE:	REVISION:	
<b>3</b>		

- NOTES:**
1. THIS MAP IS THE PROPERTY OF GROUNDWATER TECHNOLOGY INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF GROUNDWATER TECHNOLOGY INC.
  2. THE USER OF THIS MAP SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES.
  3. THE USER OF THIS MAP SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES.
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  5. THE USER OF THIS MAP SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES.

# 5 Free-Product Plumes Remain

- Liquid hydrocarbon thicknesses in northern area product wells decreased an average of 1.08 feet
- Liquid hydrocarbon thicknesses in southern area product wells decreased an average of 1.91 feet
- Southern and northern boundaries of southern free product plume have increased since May 1999
- Free product detected around GMW-4 and MW-9
- No free product in southeast (24"-valve) area



# Groundwater Gradient (Uppermost Aquifer)

- 0.001 ft/ft in northwest direction in eastern portion of the site
- 0.003 ft/ft in northeast direction in west and southwest of the site
- Groundwater elevation dropped 0.71 feet since May 2000



# 104 Wells Sampled (Nov 2000)

- TPH-g detected in 27 wells: dissolved phase similar to May 2000, but extends further west, but not as far southeast
- Benzene detected in 35 wells
  - Northern dissolved phase plume similar in size to May 2000 plume
  - South-central benzene plume similar in size to May 2000 plume



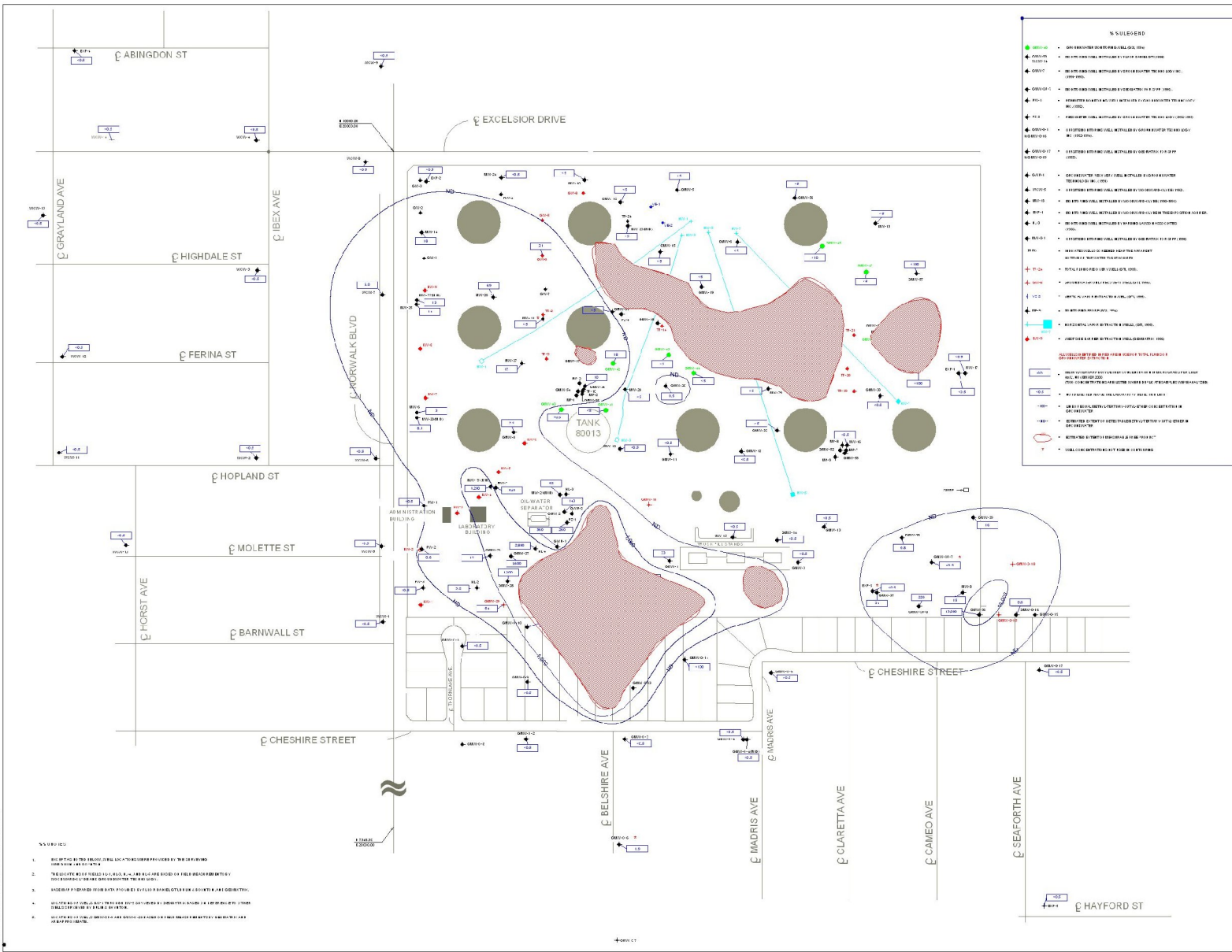
# 104 Wells Sampled (Cont.)

- Southeastern benzene plume similar in size to the May 2000 plume
- Trace amounts detected in 5 off-site wells (northwest)
- 1,2-DCA was detected in 21 monitoring wells
  - Plume in same general area as previous events but has decreased in average concentration (2.36 ppm)



# 104 Wells Sampled (Cont.)

- MTBE was detected in 36 wells
  - Western plume decreased in the northwest and increased on the northeast side
  - Southeast plume extends further to the north
  - Detected in GMW-O-6 (South of the South-central plume)



**% SULEWARD**

- GW-01 - GROUNDWATER MONITORING WELL (G.M.W.)
- GW-02 - G.M.W.
- GW-03 - G.M.W.
- GW-04 - G.M.W.
- GW-05 - G.M.W.
- GW-06 - G.M.W.
- GW-07 - G.M.W.
- GW-08 - G.M.W.
- GW-09 - G.M.W.
- GW-10 - G.M.W.
- GW-11 - G.M.W.
- GW-12 - G.M.W.
- GW-13 - G.M.W.
- GW-14 - G.M.W.
- GW-15 - G.M.W.
- GW-16 - G.M.W.
- GW-17 - G.M.W.
- GW-18 - G.M.W.
- GW-19 - G.M.W.
- GW-20 - G.M.W.
- GW-21 - G.M.W.
- GW-22 - G.M.W.
- GW-23 - G.M.W.
- GW-24 - G.M.W.
- GW-25 - G.M.W.

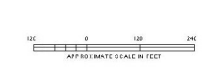
ADMINISTRATION BUILDING  
 LABORATORY BUILDING  
 TANK 80013  
 EXCELSIOR DRIVE  
 CHESHIRE STREET  
 HAYFORD ST

**LEGEND**

- GW-01 - G.M.W.
- GW-02 - G.M.W.
- GW-03 - G.M.W.
- GW-04 - G.M.W.
- GW-05 - G.M.W.
- GW-06 - G.M.W.
- GW-07 - G.M.W.
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- GW-15 - G.M.W.
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- GW-19 - G.M.W.
- GW-20 - G.M.W.
- GW-21 - G.M.W.
- GW-22 - G.M.W.
- GW-23 - G.M.W.
- GW-24 - G.M.W.
- GW-25 - G.M.W.

ADMINISTRATION BUILDING  
 LABORATORY BUILDING  
 TANK 80013  
 EXCELSIOR DRIVE  
 CHESHIRE STREET  
 HAYFORD ST

SIGNATURE	DATE
REVIEWER NAME:	
PROJECT ENGR:	
CLIENT:	



**GUILLIWAEN TECHNOLOGY, INC.**

3141 WOODLAND AVENUE  
DUBLIN, CA 94568  
PH: 925.434.9900 FAX: 925.434.9901

METHYL-TERTIARY-BUTYL-ETHER  
ISOCYANATE MONITORING MAP FOR THE  
UPPERMOST GROUNDWATER ZONE  
NOVEMBER 2000

CLIENT: CFEP NCRVALK

LOCATION: 1530E NORWALK BOULEVARD,  
NORWALK, CALIFORNIA

DESIGNED BY: SS      DRAWN BY: HYE      CHECKED BY: DS

DRAWING DATE: 1/06/01      ACD FILE: 074300-E15

PROJECT NO: 0743001003      CURTAIN: SPO-000-96-C-5642

FIGURE: REVISION

DATE: 11/06/01 11:00:11 11/06/01 11:00:11 11/06/01 11:00:11

# Central Plume Remediation

- System performance since April 1996
  - Approx. 129,255 gallons recovered and recycled
    - 55,457 gallons of free product recovered
    - 72,504 gallons of volatile hydrocarbons recovered through soil vapor extraction
  - 28.3M gallons of water treated
  - 1,294 gallons of dissolved phase hydrocarbons recovered

## HYDROCARBONS & FREE PRODUCT-CENTRAL PLUME

