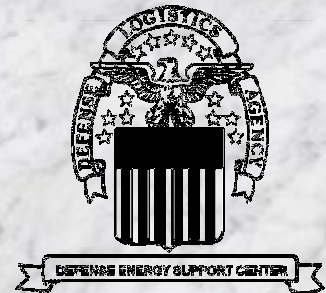


Norwalk Tank Farm Update

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

July 29, 2004



Presentation Overview

Topics to be Covered

- Central Plume Remediation System Update
- Truck Fill Stand VES Startup and Operation
- Aboveground Storage Tanks Activities
- 500-gallon UST Excavation and Removal
- Thermal Oxidizer Demolition
- Soil Investigation Near GMW-60

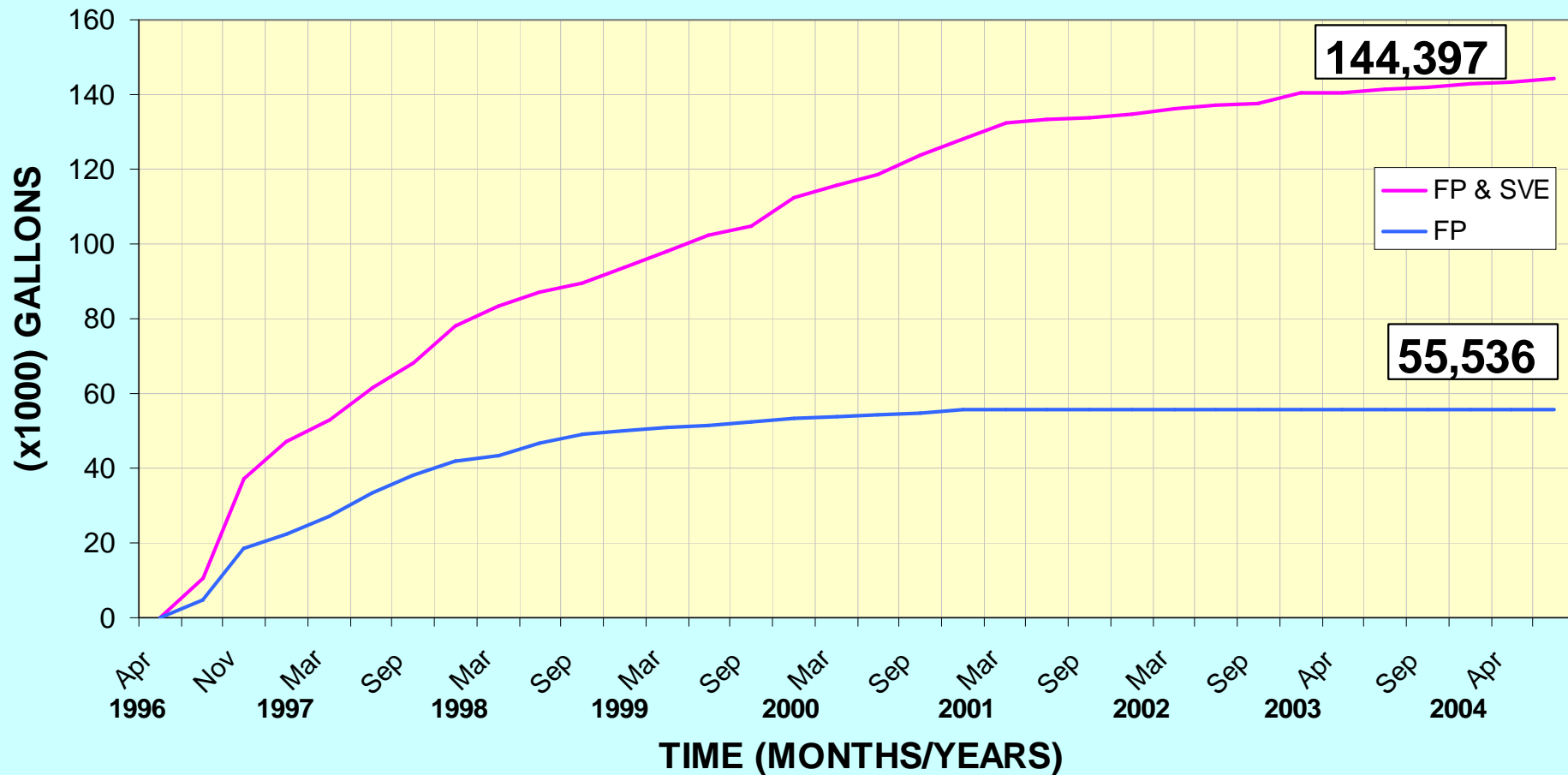
Central Plume Remediation

- System Performance Second Quarter 2004
 - Total Hydrocarbons Mass Removed:
3,961 gallons
 - Approx. 922 gallons recycled and destroyed
 - 0 gallons of free product recovered
 - 922 gallons of volatile hydrocarbons recovered through soil vapor extraction
 - 0.08 gallon of dissolved phase hydrocarbons recovered
 - Estimated 3,039 gallons of hydrocarbons destroyed due to enhanced biodegradation
 - 13,212 gallons of water treated

Central Plume Remediation

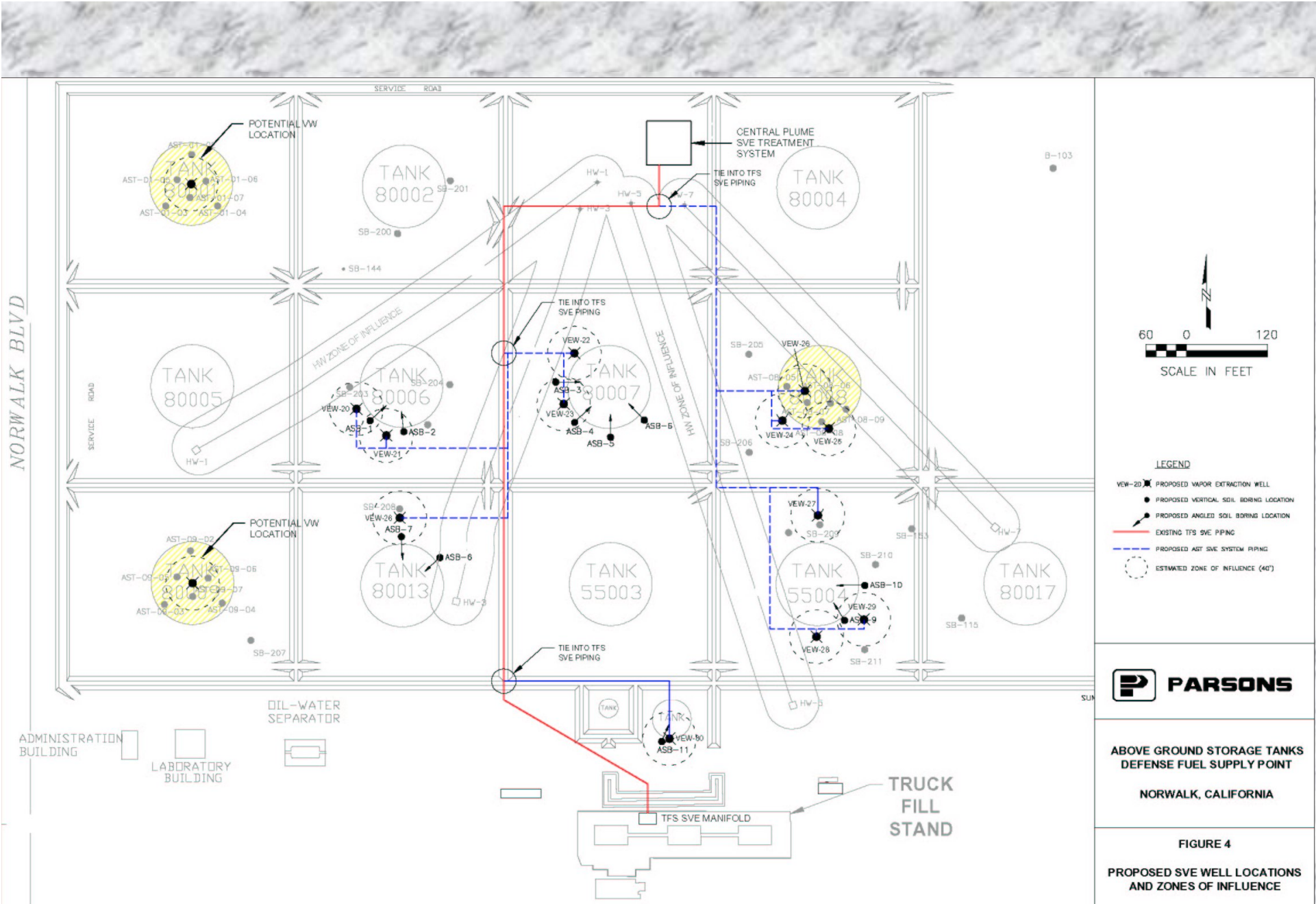
- System Performance since April 1996
 - Total Hydrocarbons Mass Removed:
265,328 gallons
 - Approx. 144,397 gallons recycled and destroyed
 - 55,536 gallons of free product recovered
 - 87,464 gallons of volatile hydrocarbons recovered through soil vapor extraction
 - 1,397.1 gallons of dissolved phase hydrocarbons recovered
 - Estimated 120,931 gallons of hydrocarbons destroyed due to enhanced biodegradation
 - 42.2 M gallons of water treated

HYDROCARBONS & FREE PRODUCT-CENTRAL PLUME

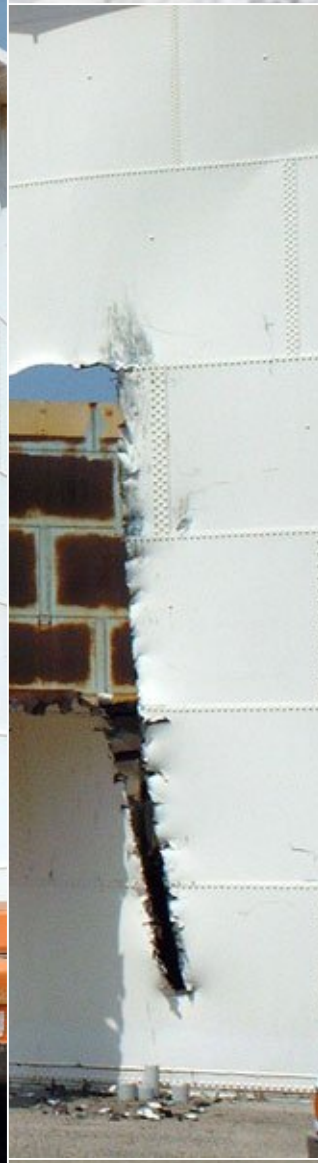


AST Demolition Activities

- Three Aboveground Storage Tanks were cut open for access
- 22 soil borings and 17 soil vapor monitoring points were drilled and installed in and around the tank area
- 12 soil vapor extraction wells are planned to be installed on the week of of August 2, 2004
- 10 sparge points are also planned to be installed the week of August 2, 2004, to enhance the GW remediation effort in the tank farm area



AST Demolition Photographs



Truck Fill Stand VES Startup

- Startup testing conducted April 19 – 29
- Baseline vadose zone results:
 - VWs: $O_2 = 1.4\%$ to 15.6% ;
TVH = max. 11,000 ppm
 - VMPs: $O_2 = 0.0\%$ to 16.4% ;
TVH = max. 12,000 ppm

Truck Fill Stand VES Startup (Continued)

- O₂ after 2 hours of operation:
 - VMPs: greater than 19.3% indicating positive influence from the VES
 - VWs: lower than baseline indicating that the surrounding soil area is contaminated and depleted of O₂
- O₂ after 4 hours of operation:
 - VMPs = 20.9%
 - VWs = 5.5% to 16.4%
 - Indicating that the system is oxygenating the vadose zone

Truck Fill Stand VES Operation

- Continuous operation since April 26
- After 2 month of operation:
 - O2: VMPs = 20.9%;
VWs = greater than 11.6%
 - TVH: VWs = 560 to 9,500 ppm
 - Extraction flow from the individual VWs = 300 to 1,000 ft/min

Truck Fill Stand VES Performance Results

- Continued high contamination in the vadose zone is being extracted
- Oxygen is still being pulled and utilized through the vadose zone and enhancing biodegradation

500-Gallon UST Excavation and Removal

- Excavated and removed on June 2
- Backfilled on June 3
- Per permit requirements, one soil sample was collected below the tank invert
- Soil results for TPH, BTEX, and MTBE were non-detect
- Closure report submitted to the County on June 28

500-Gallon UST Excavation and Removal Photographs



Thermal Oxidizer Demolition

- Demolition conducted on May 13
- Scrap metal hauled on May 14 to a Recycling Facility

Thermal Oxidizer Demolition Photographs



Soil Investigation Near GMW-60

- Additional soil investigation was carried out near well GMW-60 to ID the source of TPH in soil and GW
- Area between wells GMW-57, GMW-58, GMW-60 and GMW-61 were investigated
- Shallow and deep soil samples were collected
- Field PID indicated no hydrocarbon detection
- Analytical results are still pending

