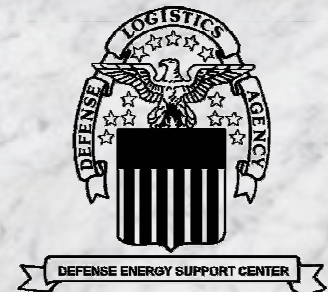


# *Norwalk Tank Farm Update*

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

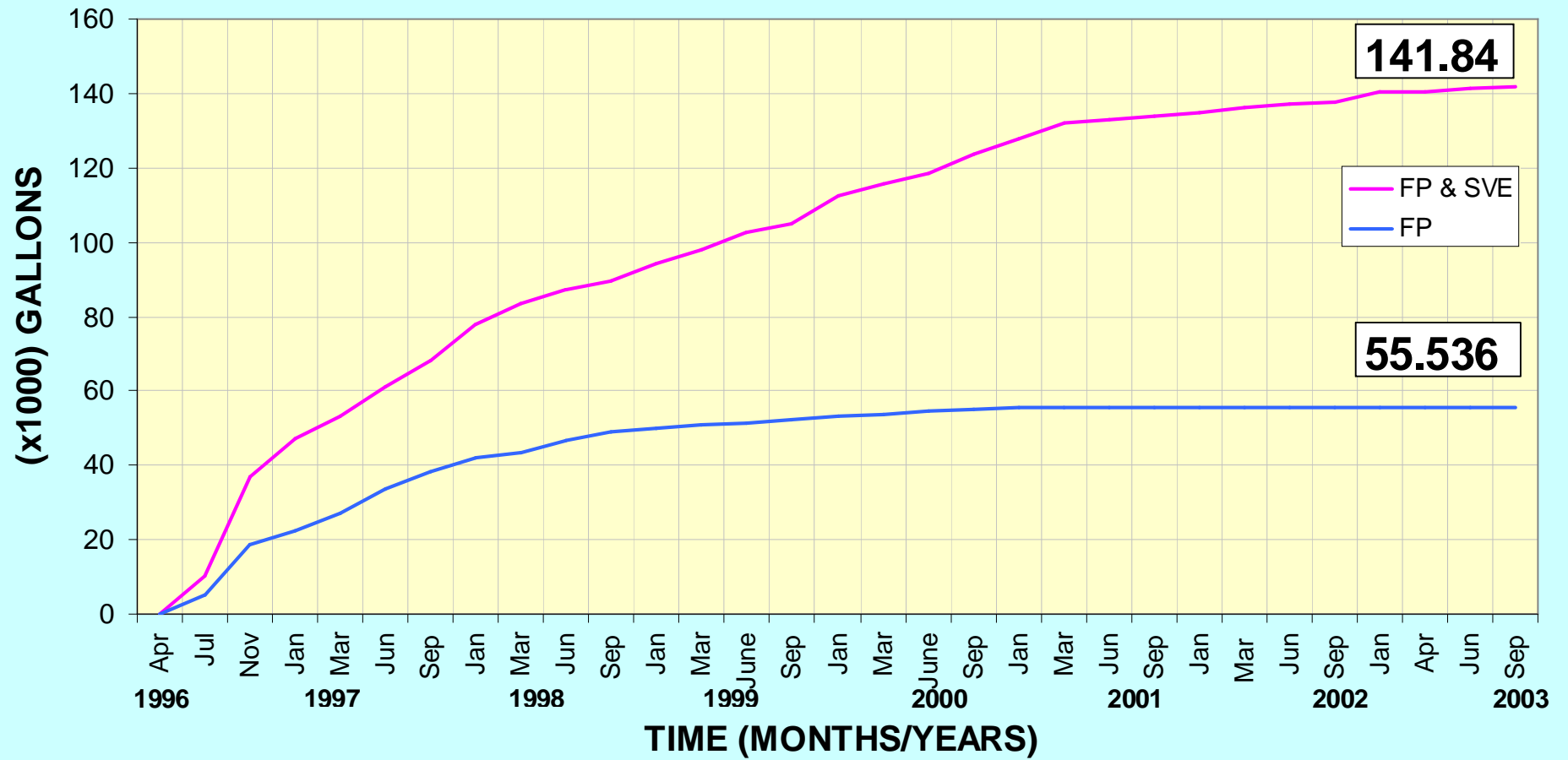
*October 23, 2003*



# Central Plume Remediation

- System performance since April 1996
  - Total Hydrocarbons Mass Removed:  
255,469 gallons
    - Approx. 141,840 gallons recycled and destroyed
      - 55,536 gallons of free product recovered
      - 84,908 gallons of volatile hydrocarbons recovered through soil vapor extraction
      - 1,396 gallons of dissolved phase hydrocarbons recovered
    - Estimated 113,629 gallons of hydrocarbons destroyed due to enhanced biodegradation
  - 41.5 M gallons of water treated

# HYDROCARBONS & FREE PRODUCT-CENTRAL PLUME



# Noise Attenuation

- Concern raised in July RAB meeting
- Actions Taken
  - Parsons measured noise levels on 8/5/03
    - Near Field
    - Far Field
  - Replaced main compressor
  - Installed silencers; sound-insulating box
  - Conducted follow-up noise measurements

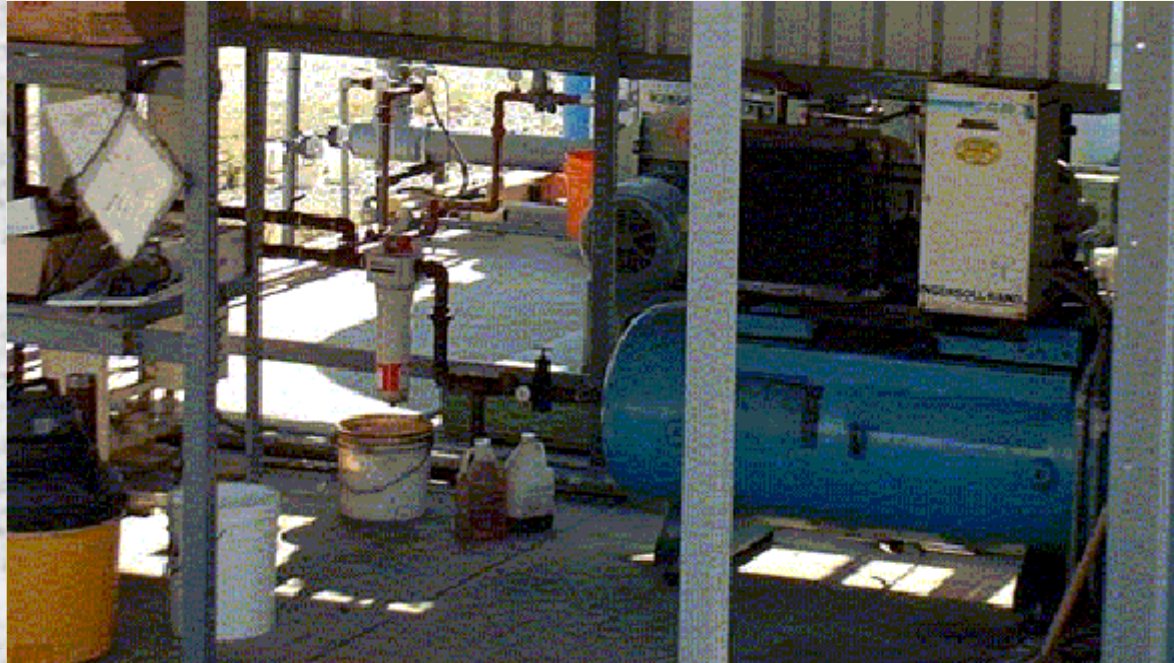
# Near Field Noise Results

System Equipment	Noise dB 8/5/03	Action Taken during October 2003	Noise dB 10/23/03
Main Compressor	98	Installed new compressor	76
Main Blower	95	Installed silencer; sound-insulated box	80
Air blower	92	Installed silencer	76

# Far Field Noise Results

Location	Noise dB 8/5/03	Noise dB 10/23/03
100' from system at north property line	68	59
14838 Madris (corner of Madris & Excelsior)	54	49
Background (with system off)	—	46

# Old Noisy Main Compressor

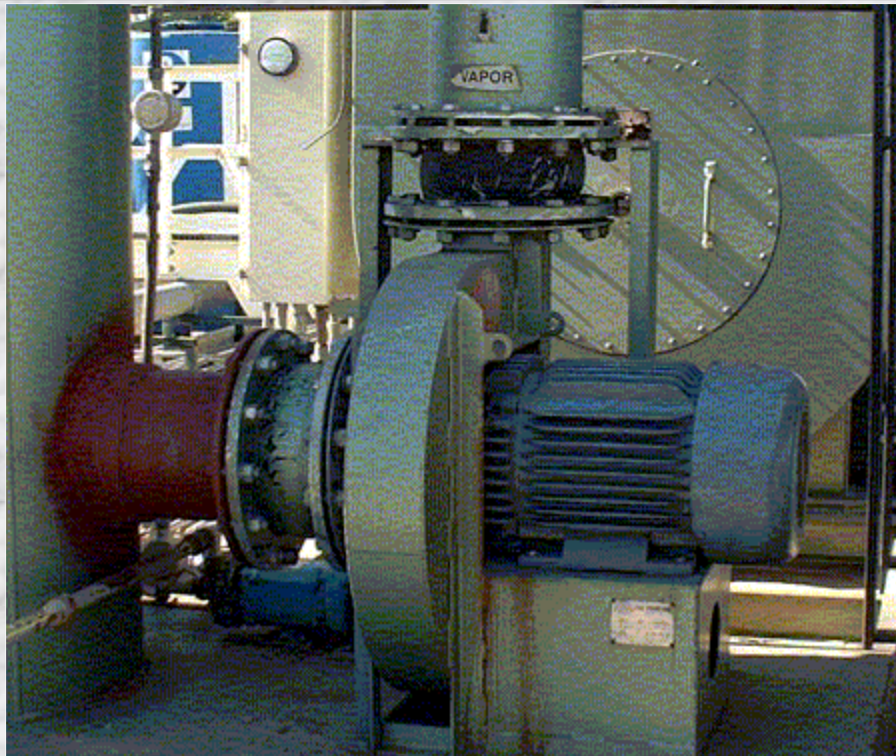


# New Quieter Main Compressor





# Main Blower



# Main Blower with New Silencer and Sound-Insulated Box



# Air Blower with New Silencer



# Southeast Water Coalition Meeting

- Held on 8/20/03 at Norwalk City Hall
- Invited to update group on status of DFSP Norwalk remediation
- Discussed
  - site background
  - remediation systems
  - progress cleaning up groundwater contamination

# RWQCB-DESC-Parsons Meeting

- Held on 10/2/03 at DFSP Norwalk
- Discussed remedial progress & priorities
  - Evaluation results
  - Tank farm remediation cost estimate
  - Truck fill station
  - Oily waste area
  - Tank farm eastern boundary
- Agreed on areas of concern to be cleaned up to bring site to closure

# Tank Farm Remediation Cost Estimate

- Evaluating 3 options
  - Remove tanks
  - Cut access holes & remove floating roof
  - Remediate soil with tanks in place
- Detailed cost estimate underway
  - ~\$300,000 to remove 8 tanks
  - Evaluating cost to cut access holes
  - Remediation will proceed faster with tanks in place
    - First install angled borings, then SVE wells
    - SVE generally has influence > 60', the radius of the tanks
    - Tank bottoms provide surface seal to improve SVE effectiveness
- Draft costs to DESC for review by November 20

# System Evaluation

- Data gathered during September 2003
  - Measured pre- and post-system shutdown
  - Measured product thickness, vapor, and groundwater parameters in selected monitoring wells

Post-Shutdown Observation	Indication
Hydrocarbons increasing	Current horizontal SVE well recovery effective
O <sub>2</sub> decreasing, CO <sub>2</sub> increasing	Active bioremediation
Elevated temp.; lower pH	Active GW bioremediation
Dissolved oxygen depleted	More biosparge wells needed

# System Evaluation Recommendations

- Optimize product recovery
  - Adjust skimming depths in existing TF wells
  - Turn on/off certain TF wells
  - Pump product from additional wells (e.g., PZ-3)
- Optimize biosparging system to address areas still depleted in oxygen
  - Reprogram existing biosparge wells
  - Add additional biosparge wells
- Conduct SVE underneath tanks



# Central Plume Recommendations

- Optimize product recovery
- Optimize biosparging system
- Conduct SVE underneath tanks
- Optimize pumping rate/locations within dissolved central plume
- Install monitoring wells along eastern boundary
- Proceed with truck rack remediation

