

Norwalk Tank Farm Update

*Presented to the Norwalk Tank Farm
Restoration Advisory Board*

January 22, 2004

Presentation Overview

Topics to be Covered

- RBCA Update
- Remediation Operations Update
- Phytoremediation Update

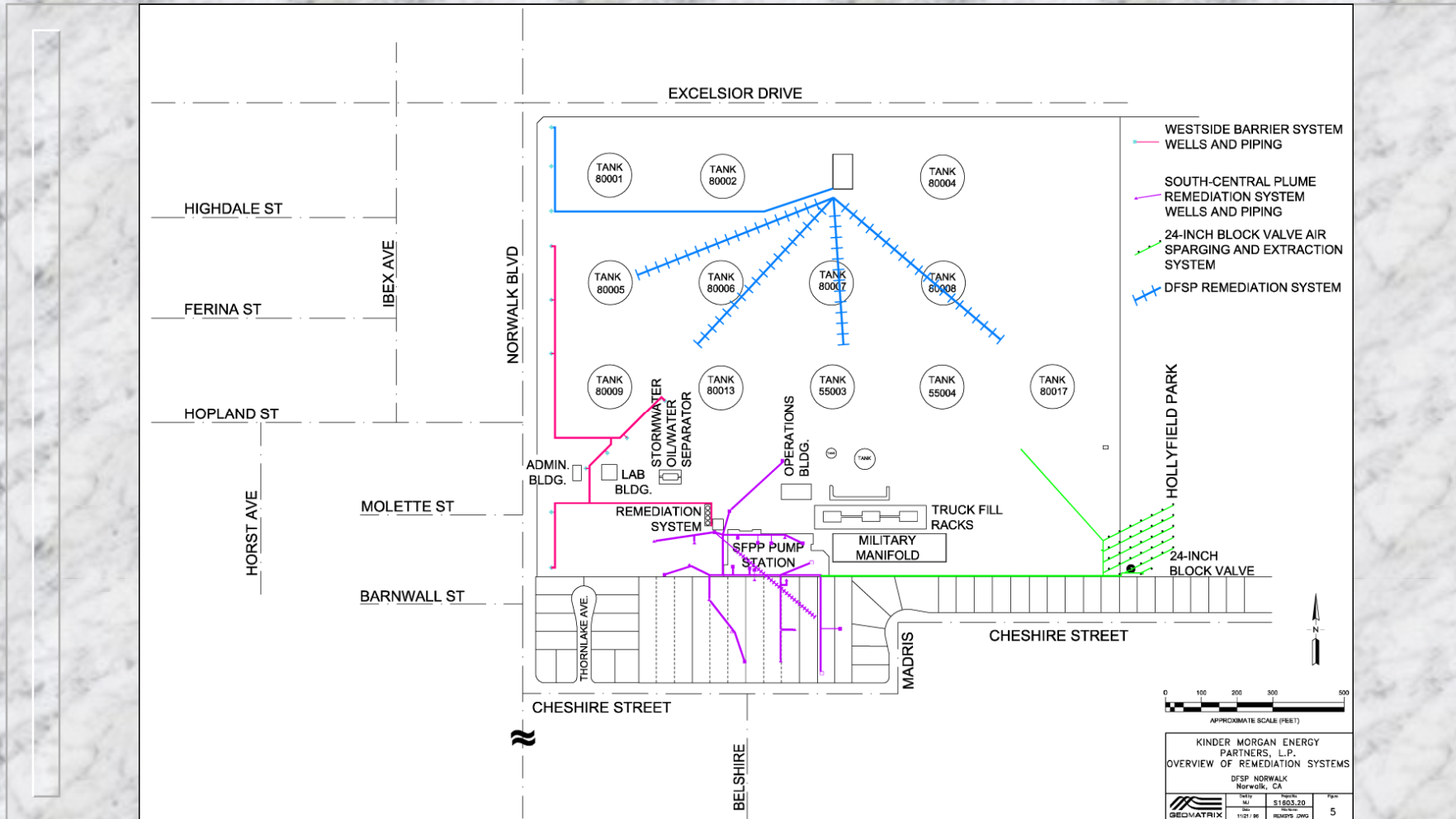
RBCA Update

- The RWQCB accepted the responses on July 3, 2003 and authorized submittal of the final documents.
- The “Risk-Based Corrective Action, Western 1,2-DCA and MTBE Plumes” (RBCA) and “Revised Sensitivity Analysis of Fate and Transport Modeling” (Sensitivity Analysis) were finalized and submitted to the RWQCB on August 5, 2003.

RBCA Update

- In a letter dated October 31, 2003, the RWQCB requested an additional human health risk assessment (HRA) be conducted for the southern portion of the facility.
- Approach is to 1) develop draft HRA work plan for RAB and RWQCB review and approval and 2) conduct HRA and prepare draft document for RAB and RWQCB review and approval.
- Key issues include:
 - Data Evaluation
 - Exposure Assessment
 - Toxicity Assessment
 - Risk Characterization

Map of Current Remediation Systems



Soil Vapor Extraction System

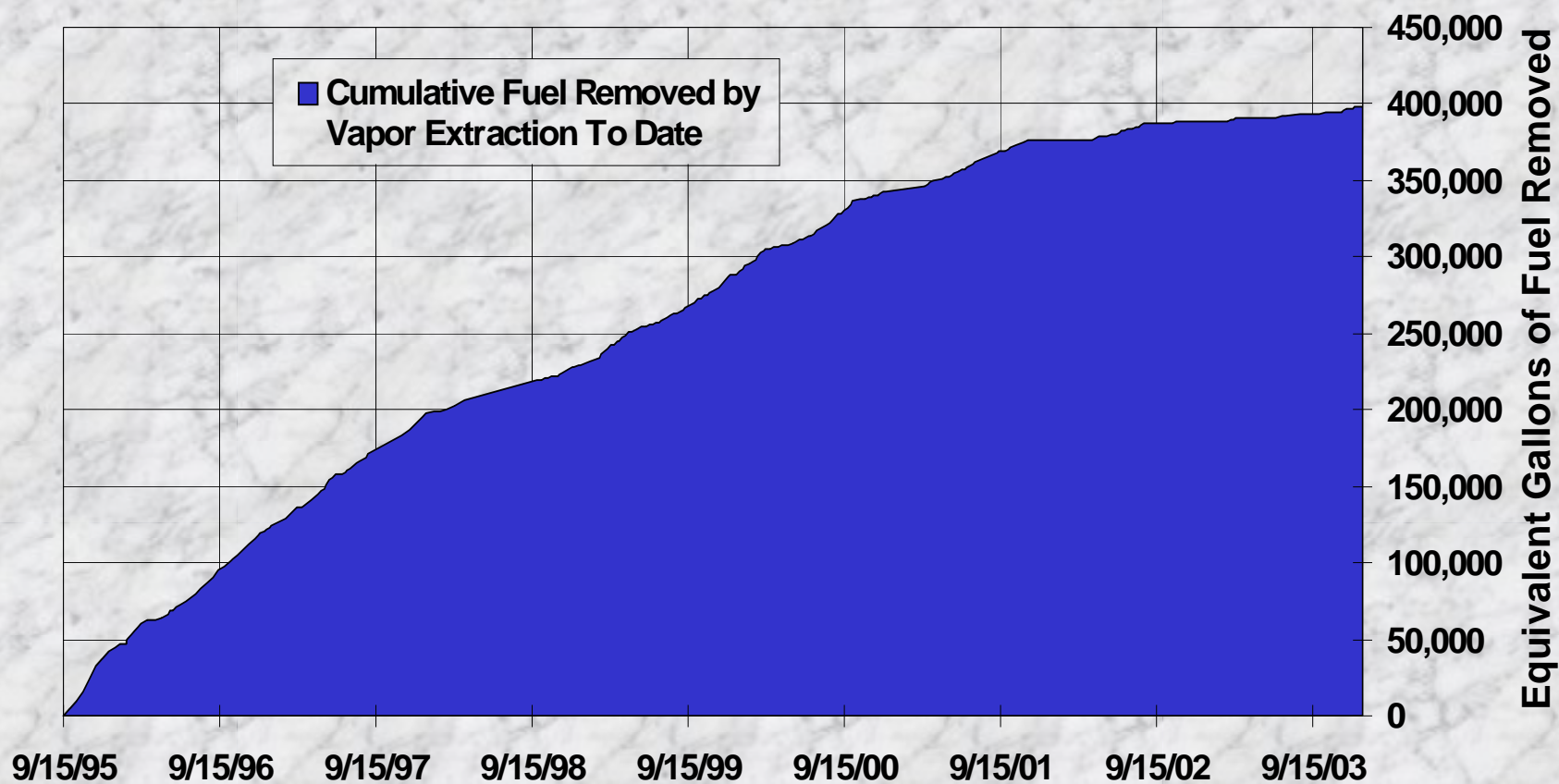
- 17 onsite and 6 off-site vapor extraction wells in the South-Central Plume area.
- 2 vapor extraction wells in the Southeastern 24-Inch Block Valve area.

Soil Vapor Extraction System Operations Summary

- Approximately 4,335 gallons equivalent of fuel removed from soil and destroyed by thermal oxidation since the October 2003 RAB meeting.
- Approximately 398,245 gallons equivalent of fuel removed from soil and destroyed by thermal oxidation since September 1995.

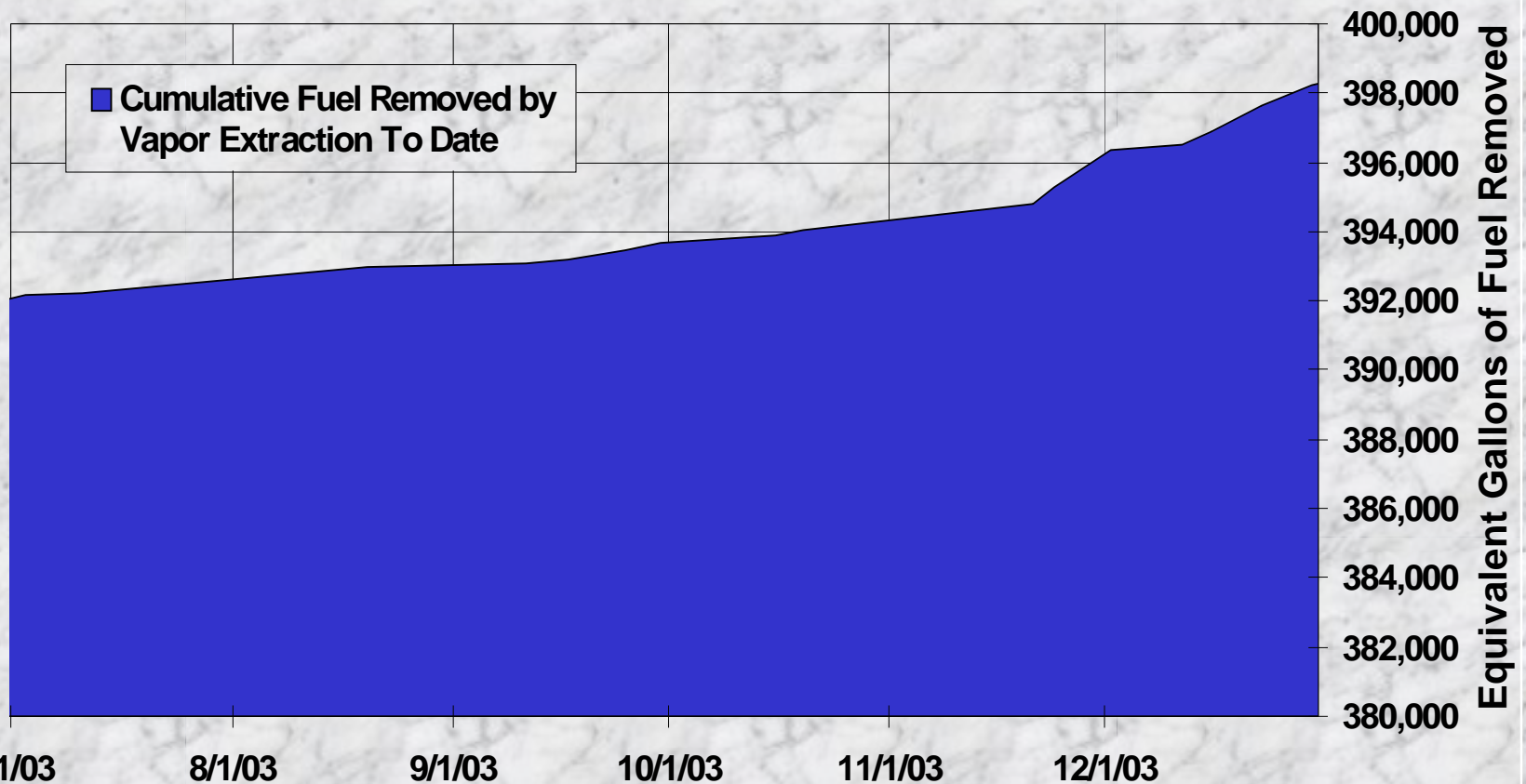
Soil Vapor Extraction System Operations Summary

Cumulative Fuel Removed by Vapor Extraction To Date



Soil Vapor Extraction System Operations Summary

Cumulative Fuel Removed by Vapor Extraction - Past Six Months



Groundwater/Product Extraction System

- 8 groundwater extraction wells in the West Side Barrier area
- 6 groundwater/product extraction wells in the South-Central Plume area
- 3 groundwater/product extraction wells and 2 groundwater extraction wells in the Southeastern 24-Inch Block Valve area

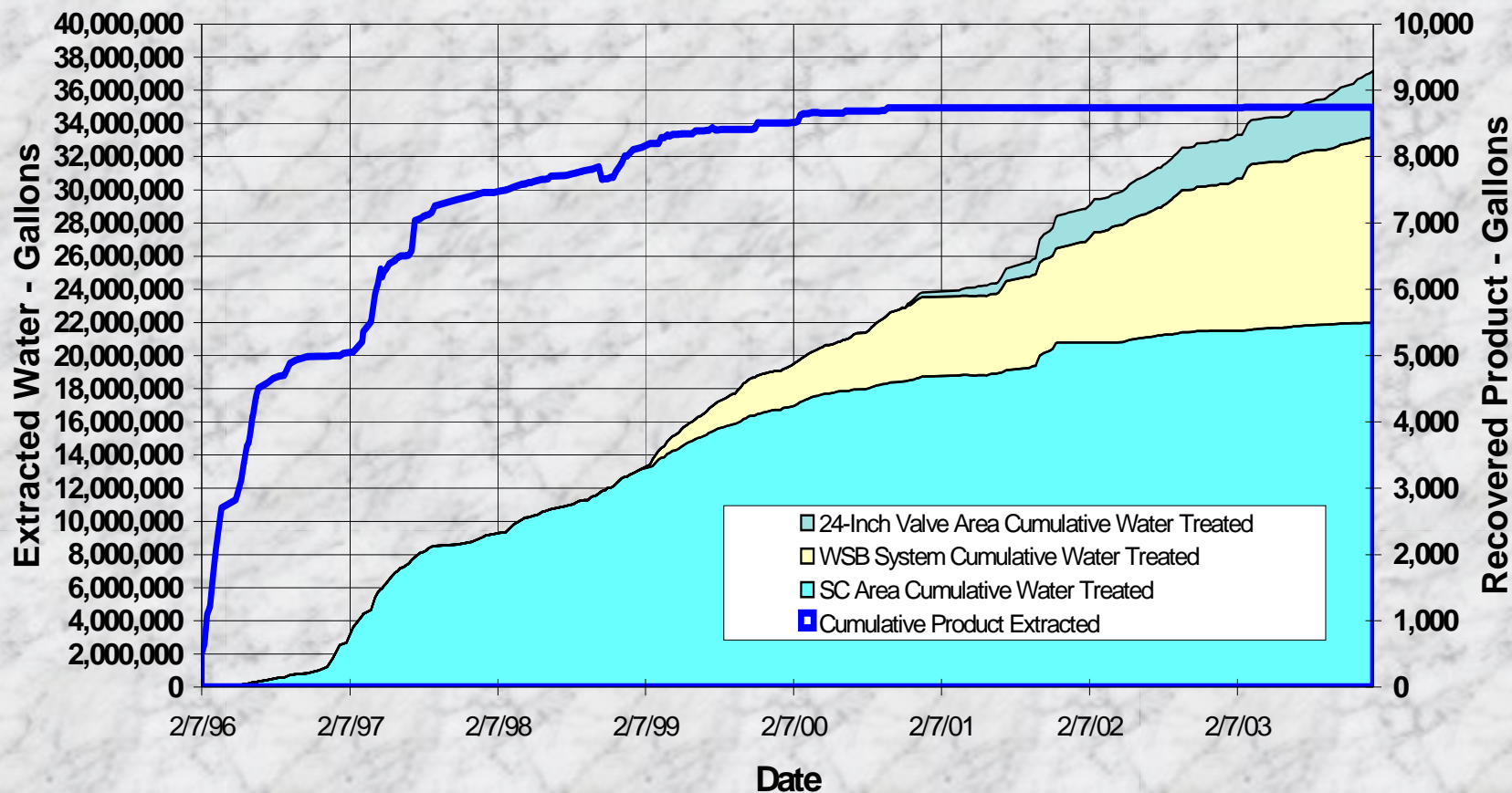
Groundwater/Product Extraction System Operations Summary

- Total groundwater extracted since October 2003 RAB meeting:
 - South-Central Plume area, 66,800 gallons*
 - Southeastern 24-Inch Valve area, 459,900 gallons
 - West Side Barrier area, 408,200 gallons
 - No free product was recovered
- Total groundwater extracted since September 1995:
 - South-Central Plume area, 22 million gallons*
 - Southeastern 24-Inch Valve area, 3.9 million gallons
 - West Side Barrier area, 11.7 million gallons
 - Total groundwater extracted, 37 million gallons
 - 8,745 gallons free product removed

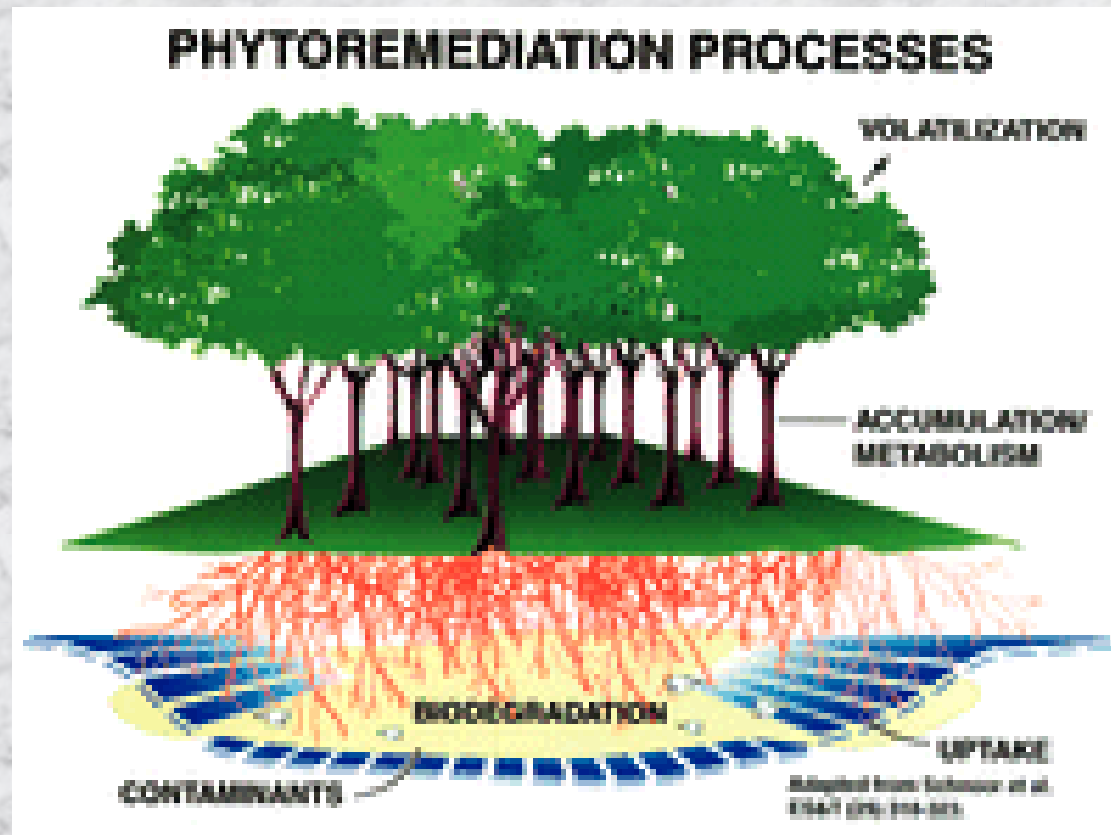
* Flow meters for South-Central Plume treatment system are malfunctioning and are being repaired or replaced. Thus, actual volumes extracted are greater than volumes recorded and listed here.

Groundwater/Product Extraction System Operations Summary

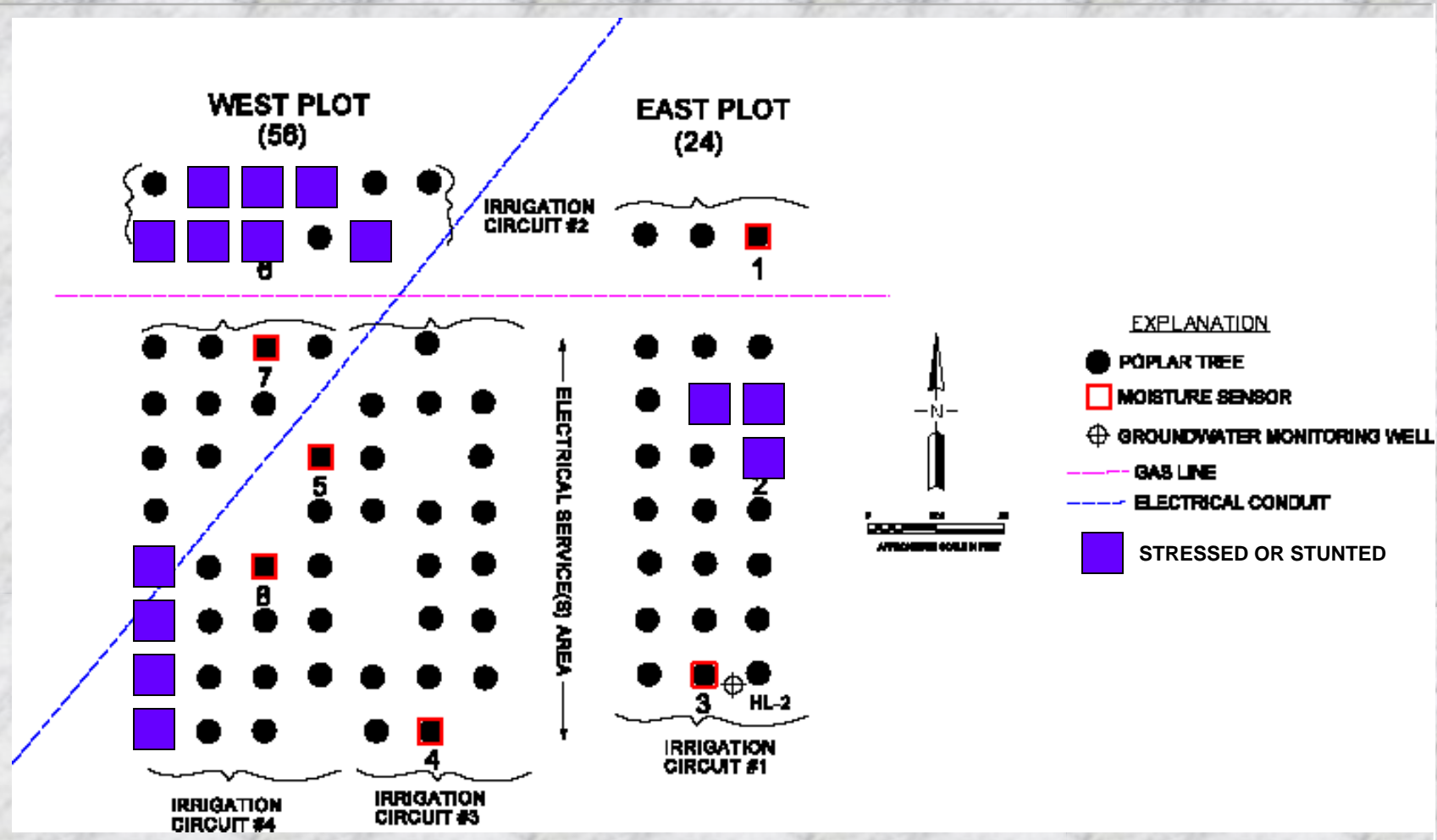
Producted Extracted and Water Treated Summary



The Phytoremediation Process



Phytoremediation Areas



Poplars



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Poplars



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