GW - 1

REPORTS

YEAR(S):

2004

Giant Refining Company Northern Boundary Barrier



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Overview

- River Terrace Remediation Project
 - Developed 3-D conceptual model of the facility representing the depressions and characteristics of the Nacimiento Formation.
 - > Installed barrier wall along west side of the river terrace.
- Relining of the Hammond Ditch By Bureau of Reclamation
 - Preliminary soils investigation along Hammond Ditch identified petroleum hydrocarbon contaminant.
 - Relining the ditch included installation of a hydraulic relief collection system.



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Overview

- Reduce Source Water to Shallow Soils
 - Repaired facility sewer system.
 - > Decommissioned freshwater ponds.
- Expand Recovery System
 - Installed a total of 13 recovery wells 4 added in 2003.
 - Converted MW 45 to a recovery well.
 - Western outfall emergency action
- Supplemental Soil Investigation Along Northern Boundary
 - Drilled 19 soil borings between November 2003 and July 2004.
 - Up-dated geologic conceptual model.

GIANT Defined the surface of the Nacimiento Formation.

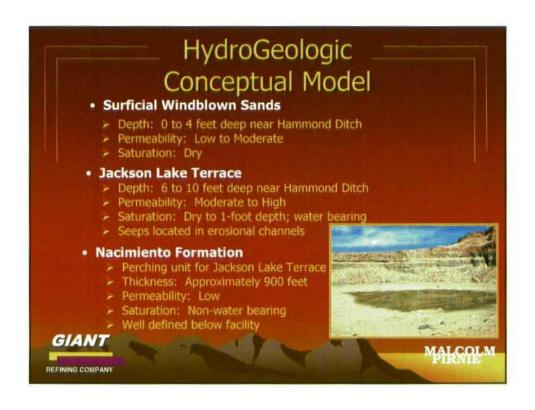


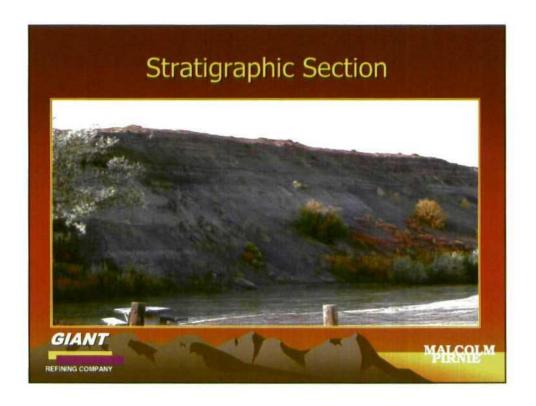
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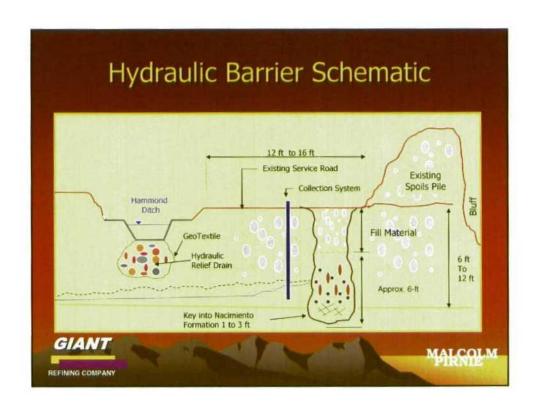


Monitoring Results Along Northern Boundary Separate Phase Hydrocarbon (SPH) not detected in 9 of 15 wells. Product thickness measured in 6 of 15 wells range between .05 to 1.05 ft. Product thickness appears over-estimated. Pump tests and slug tests dry-up wells, confirming minimal fluid levels on top of the Nacimiento Formation. Isolated seeps discharge very little water GIANT REFINING COMPANY









Activity	Completion Date
Initial Site Assessment	September 8, 2004
Draft Action Plan for Containment & Recovery System	November 1, 2004
Giant Review Action Plan	November 10, 2004
Submit Action Plan to Regulators	November 17, 2004
Construction of Containment & Recover System	TBD

