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**BEFORE THE STATE WATER  
RESOURCES CONTROL BOARD**

In the Matter of the State Water Resources )      Hearing Date: September 24, 2007  
Control Board (State Water Board) )  
Hearing to consider Monterey Peninsula )      Carmel River in Monterey County  
Water Management District's (MPWMD) )  
Petitions to Change Permits 7130B and )  
20808 (Applications 11674B and 27614) )  
\_\_\_\_\_ )

**EXHIBIT JO-15**  
**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**  
**Phase 1 Aquifer Storage and Recovery Project**



# **Phase 1 Aquifer Storage and Recovery Project**

## **Project Overview Presentation for Carmel River Steelhead Association**

**June 12, 2007**

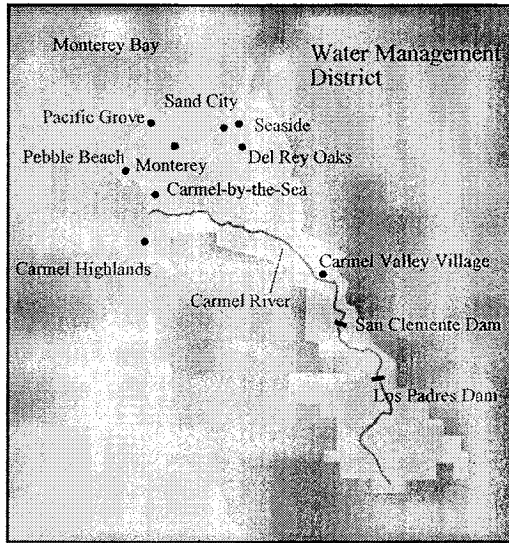
[www.mpwmd.dst.ca.us](http://www.mpwmd.dst.ca.us)



## **Overview**

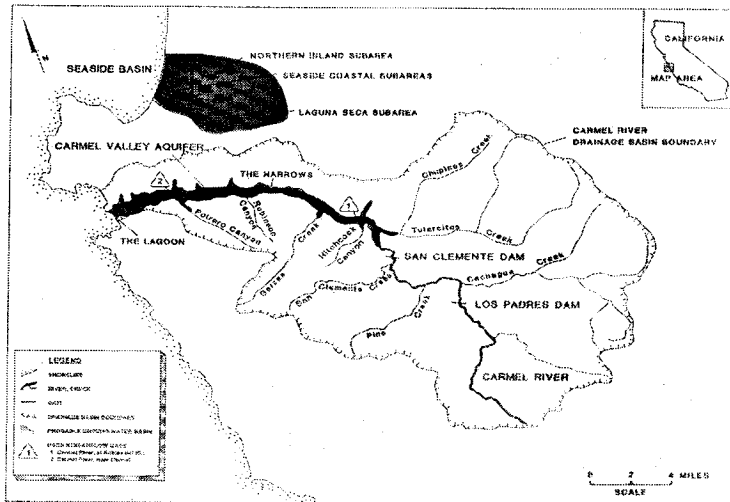
- MPWMD boundary and water resources system
- Seaside Basin hydrogeology
- MPWMD ASR planning
- Phase 1 ASR project
- New ASR well construction
- Next steps

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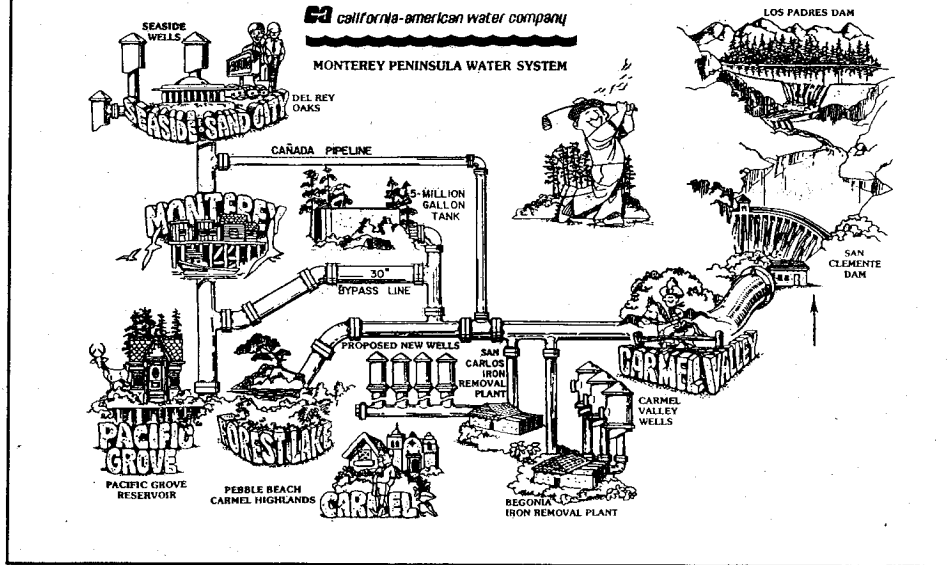
**Monterey Peninsula Water Resources System**



## Carmel River / Seaside Basin



### Hydraulic Connection



## Seaside Basin Setting

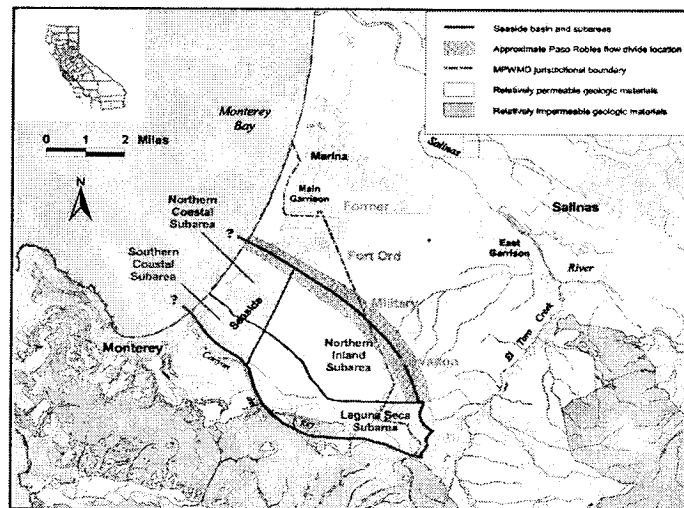


Figure 1. Location of the Seaside Groundwater Basin

# Seaside Basin Aquifers

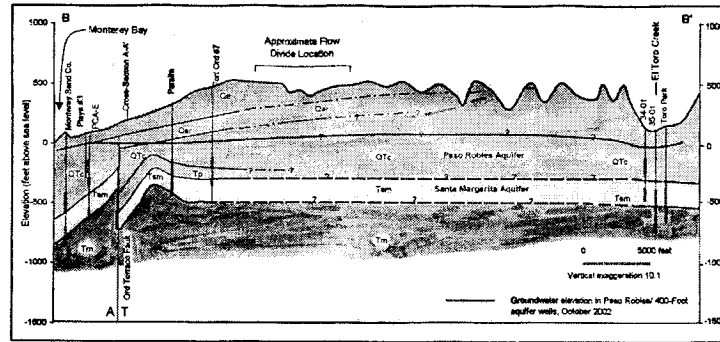
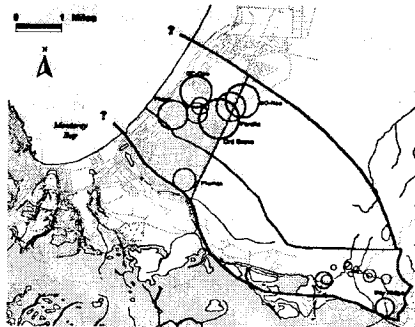


Figure 5. Hydrogeologic Cross-Section B-B'

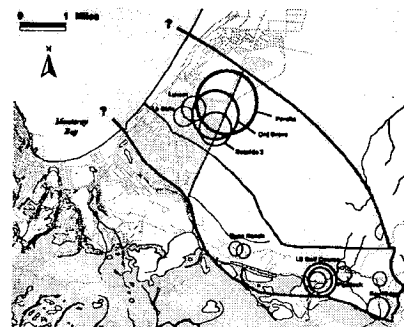
4/12/05

Xsec\_B-B'.xls

# Location of Groundwater Pumping

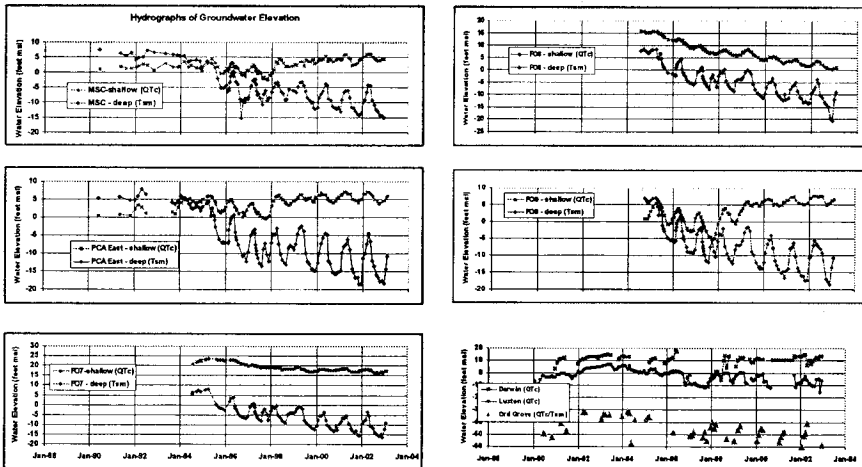


Paso Robles Aquifer

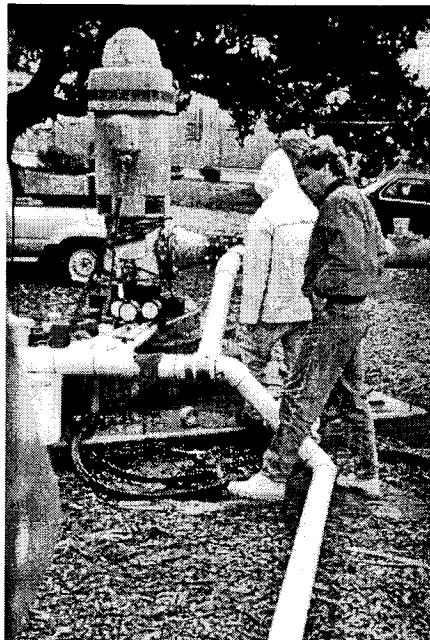


Santa Margarita Aquifer

## Declining Basin Water Levels



## 1996 -- ASR Demonstration Test at Existing Well



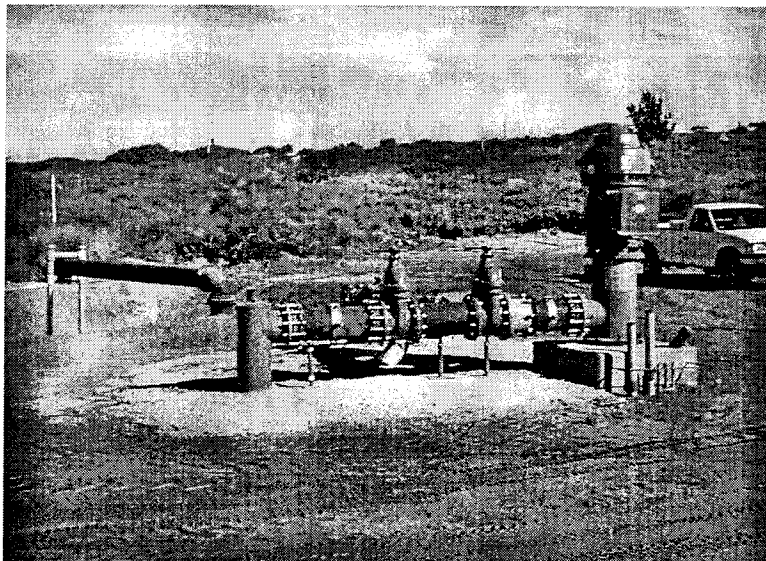
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**1998 -- Paso Robles Aquifer Test Injection Well**



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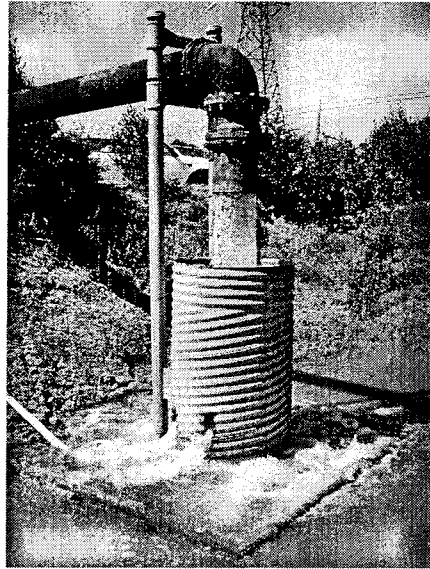
**2002 -- Santa Margarita Test Injection Well #1**



## SMTIW #1 Injection Operations



- 1,000 gpm average injection rate (4.4 AF/D).
- Weekly backflushing @ 2,500 gpm to maintain injection capacity.
- Water recovered at 1,700 gpm during high demand period; bi-weekly WQ sampling.



## MPWMD Phase 1 ASR Project



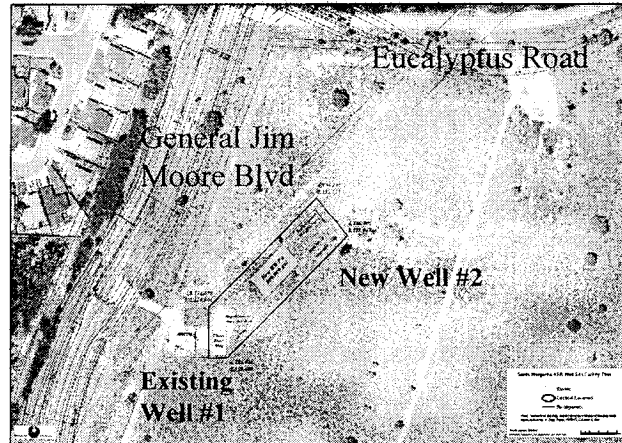
- Second well at Santa Margarita Test Site plus appurtenant facilities.
- Maximum 2,400 AFY diversion; average increased yield of 920 AFY.
- Goal is to reduce dry-season pumping in Carmel River; secondary benefits to Seaside Basin.
- EIR certified in August 2006; federal and local permits approved; SWRCB long-term water rights permit in progress.
- Second well construction completed in April 2007; expected to be ready for injection testing in October 2007.



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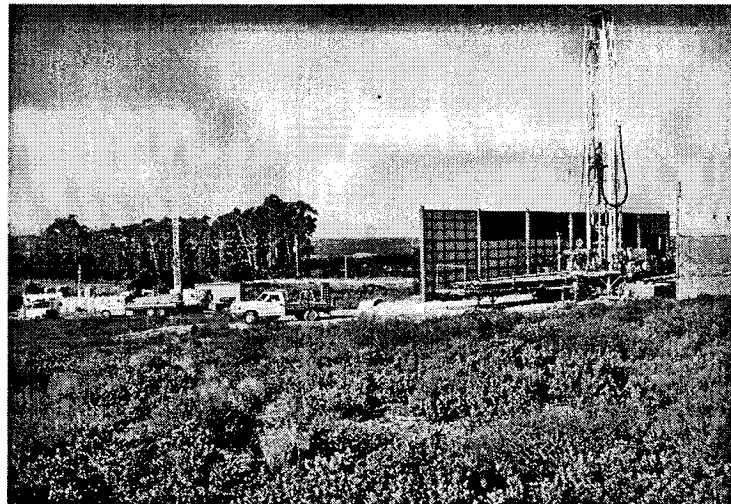
## Phase 1 ASR Project Site Expansion



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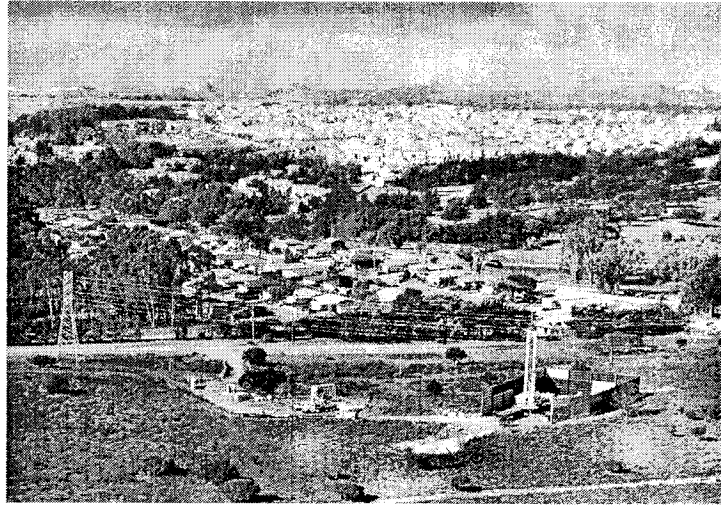
## SMTIW #2 and Monitor Well



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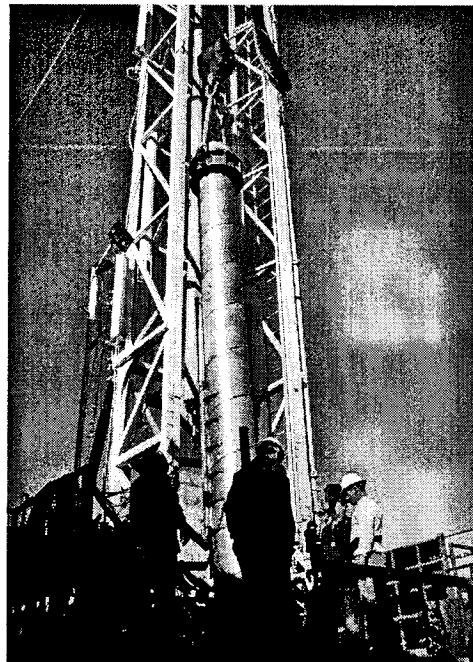
## Phase 1 ASR Site – Aerial View



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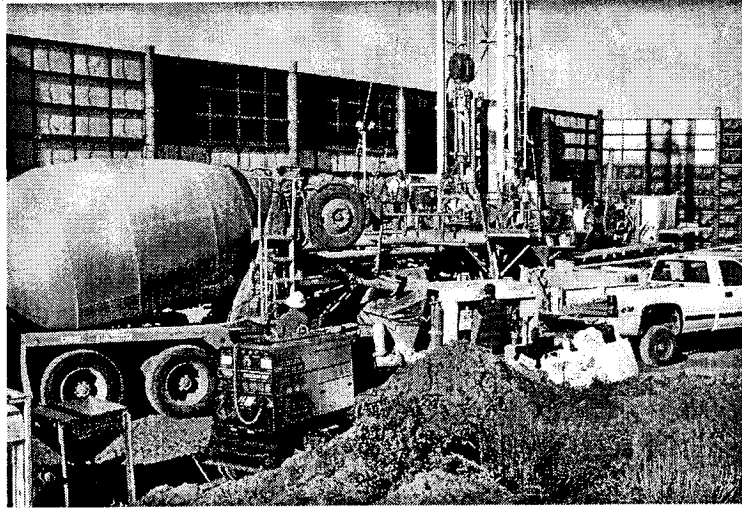
## SMTIW #2 – Well Casing Installation



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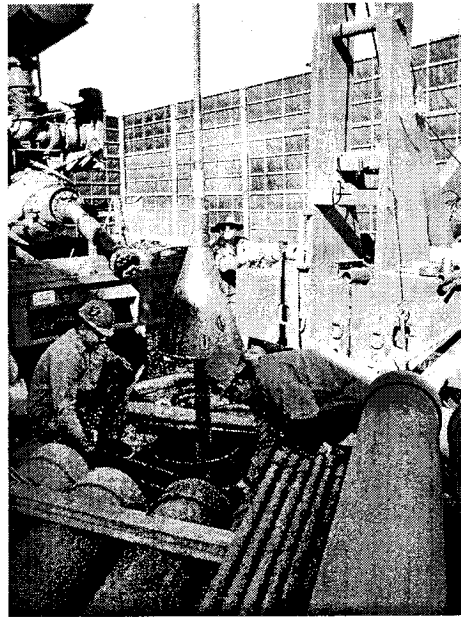
## SMTIW #2 – Placement of Well Seal



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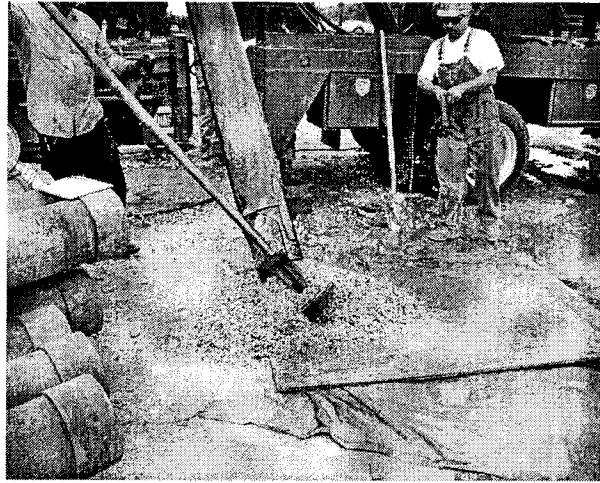
**Test pump  
dropped –  
fishing tool  
fabricated to  
retrieve  
equipment**



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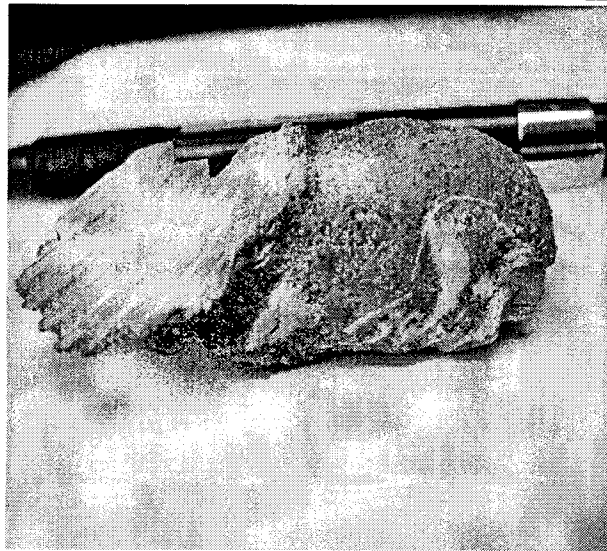
### **Well bailer employed to retrieve well fill from bottom**



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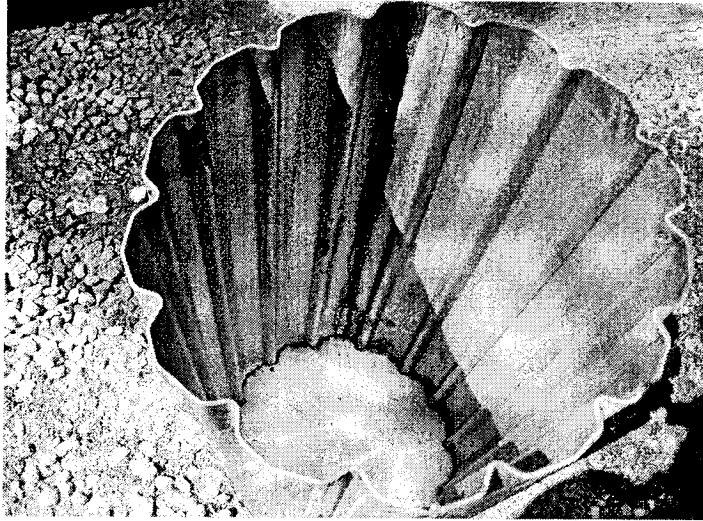
### **Hole in casing allowed retrieval of key geologic samples**



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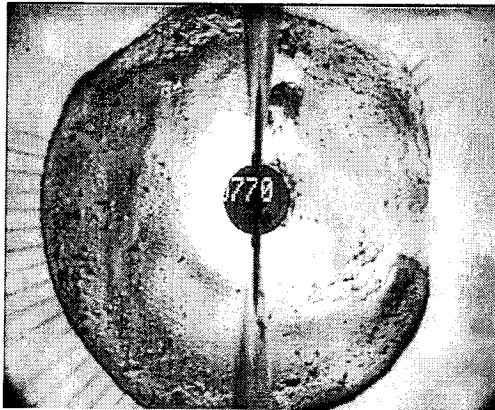
### Custom fabrication of new well cellar



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### Video of Well Shows Successful Placement of New Cellar and Cement Seal





## Next Steps

- Conduct Dual-Well Injection Testing at site
- Complete Phase 1 Engineering Design
- Construct Phase 1 Appurtenant Facilities
- Continue Coordination with CAW on Future ASR Expansion



## For More Information

Visit our website at:  
**[www.mpwmd.dst.ca.us](http://www.mpwmd.dst.ca.us)**

File= u/joe/ppt/ASR presentations/2007/CRSAPresentation\_5jun07