

2005 Groundwater Sampling and Oversight

David Shank, Jr., P.G.
Kleinfelder
Salt Lake City



Deseret Chemical Depot
Restoration Advisory Board Meeting
March 14, 2006

Presentation Overview

- Description of the 2005 Sampling Approach
(Using Kabis sampler and techniques)
- Summary of Sampling Program and Results



Deseret Chemical Depot
Restoration Advisory Board Meeting
March 14, 2006

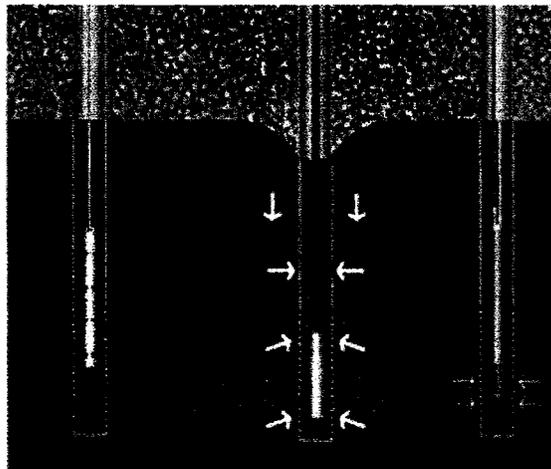
Low-Flow Sampling Approach

- Draws-in groundwater from immediately surrounding formation
- Does not create vertical flow gradient
- Provides depth discrete sample
- Provides high-quality sample
- Does not disturb groundwater environment



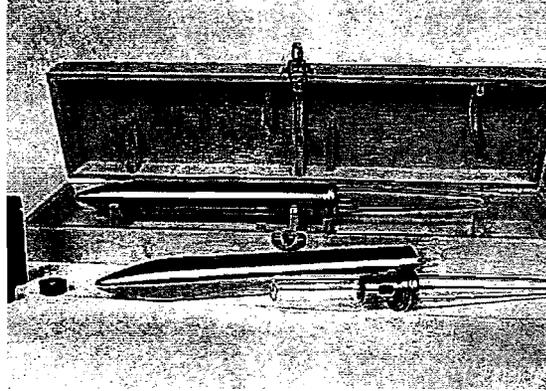
Deseret Chemical Depot
Restoration Advisory Board Meeting
March 14, 2006

Kabis Sampling Approach Compared to Traditional Methods



Deseret Chemical Depot
Restoration Advisory Board Meeting
March 14, 2006

Kabis Sampler



Deseret Chemical Depot
Restoration Advisory Board Meeting
March 14, 2006

Kabis Sampler Benefits

- Minimal Investigation Derived Waste
- Small and easily handled
- No moving Parts
- No electrical or air supply necessary
- Efficient Sampling With a Pump Rig
- Easily decontaminated
- Obtains depth discrete sample
- Causes no vertical mixing



Deseret Chemical Depot
Restoration Advisory Board Meeting
March 14, 2006

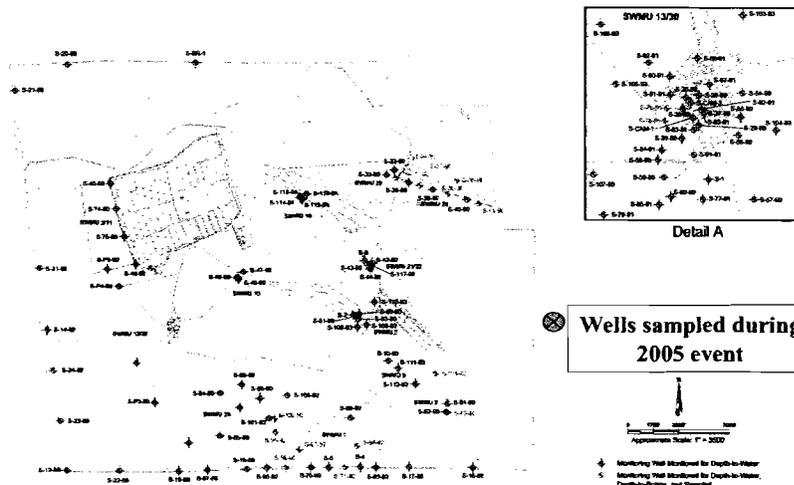
2005 Groundwater Sampling Program

- Measure Groundwater Depths and Elevations in 113 Wells
- Sample Groundwater in 16 Wells at nine SWMUs
- Prepare Groundwater Monitoring Report



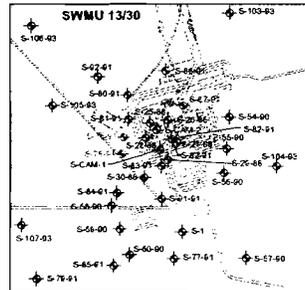
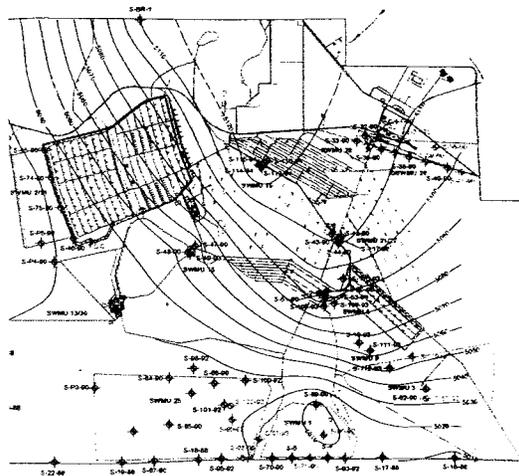
Deseret Chemical Depot
Restoration Advisory Board Meeting
March 14, 2006

DCD Groundwater Monitoring Wells and SWMUs



Deseret Chemical Depot
Restoration Advisory Board Meeting
March 14, 2006

Groundwater Elevation Contours



Approximate Scale 1 : 3000

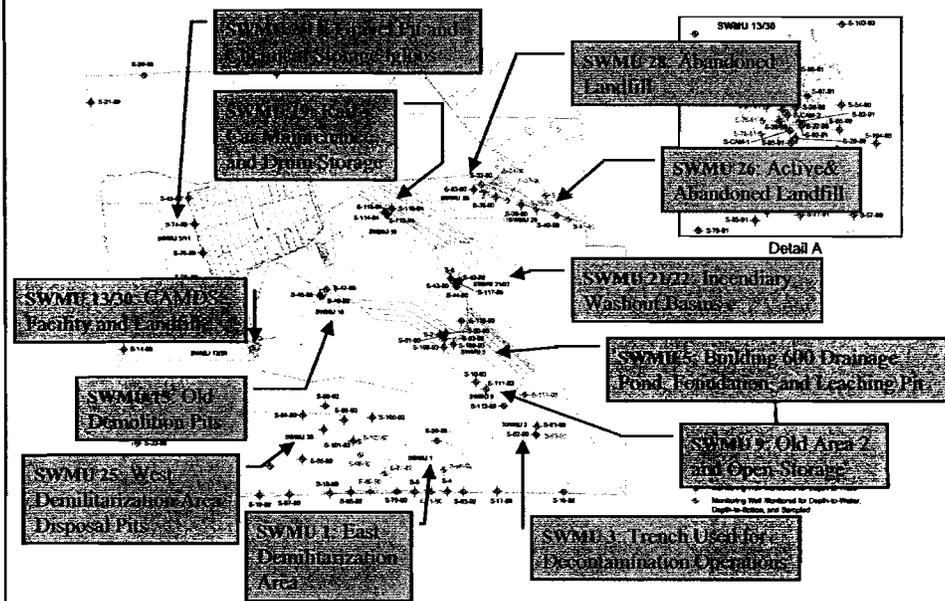
- ◆ Monitoring Well Monitored for Depth-to-Water
- ⊕ Monitoring Well Monitored for Depth-to-Water, Depth-to-Solvent, and Samples
- Groundwater Elevation Contour (elevation is in feet above mean sea level)



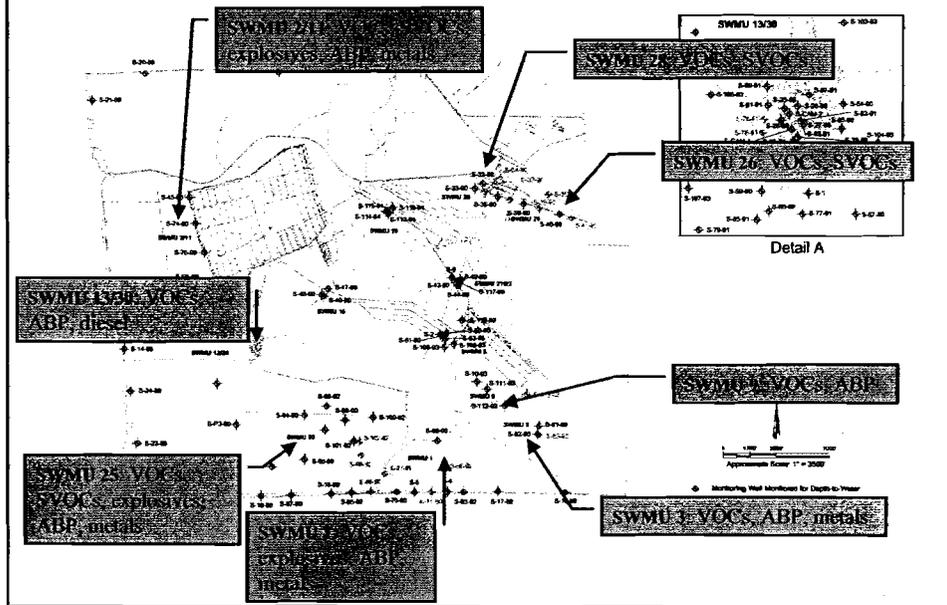
Deseret Chemical Depot
Restoration Advisory Board Meeting
March 14, 2006

SITE-WIDE GROUNDWATER ELEVATION CONTOURS

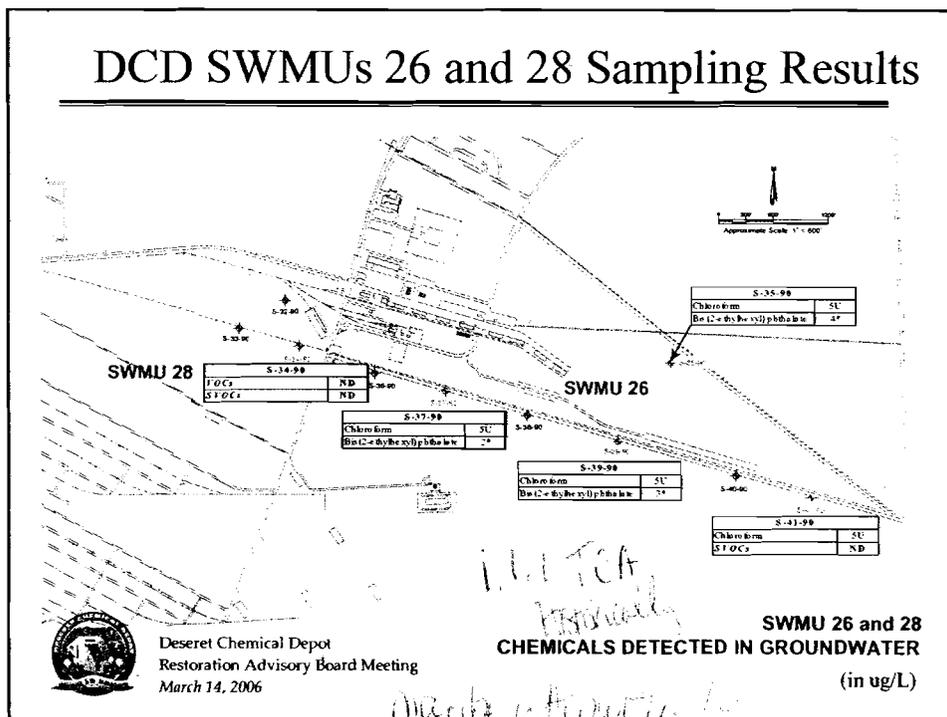
Historical Use of SWMU Areas



2005 Analytical List



DCD SWMUs 26 and 28 Sampling Results



2005 Sampling Event

Summary of Results:

- No significant changes in groundwater elevations or flow direction from previous events.
- Chloroform and bis (2-ethylhexyl) phthalate found at SWMUs 26 and 28.
- Arsenic above the drinking water standard was found in SWMUs 1, 3, 9, and 25.
- Carbon Tetrachloride confirmed at SWMU 25.
- LNAPL detected in four wells from CAMDS Area.



Deseret Chemical Depot
Restoration Advisory Board Meeting
March 14, 2006

2005 Sampling Event

Questions??



Deseret Chemical Depot
Restoration Advisory Board Meeting
March 14, 2006