

# Engineering and Operations Committee

Item #6a

**Subject:** Moab Uranium Mill Tailings Remedial Action Project

**Purpose:** To provide an update on the Uranium Mill Tailings Remedial Action Project near Moab, Utah

# Engineering and Operations Committee

Item 6a

## Summary

This presentation will provide an update on the Uranium Mill Tailings Remedial Action Project near Moab, Utah. The presentation will focus on (1) project site background and history; (2) current status of the uranium mill tailings removal and site conditions; and (3) project funding.

# Moab Uranium Mill Tailings Remedial Action Project

Engineering and Operations Committee  
Item 6a  
April 9, 2012

Donald Metzler  
Moab Federal Project Director  
U.S. Department of Energy

# Colorado River Basin

Uranium Mill Tailings  
Moab, UT (~650 miles)

Colorado River Intake



**Mill Tailings**



**Colorado River**



**Moab, Utah**



# Moab Site Background and History

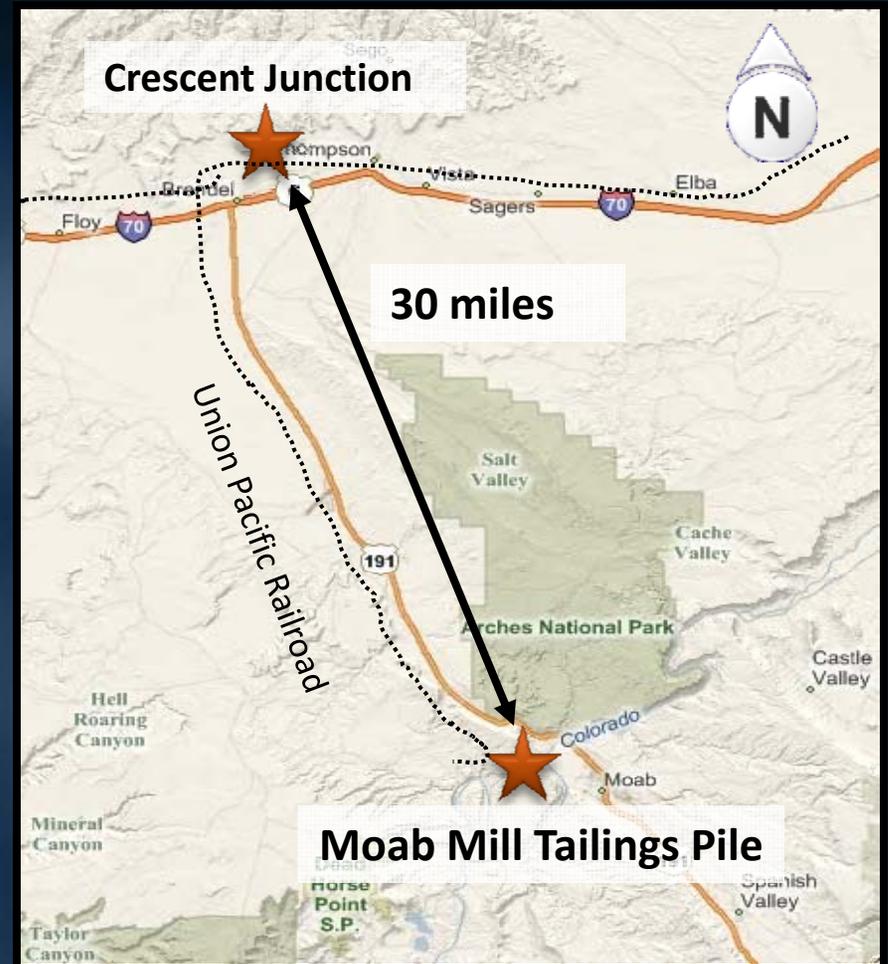
- Ore processing sites built on Colorado Plateau in SW U.S.
- 1956: Uranium Reduction Company began Moab mill operations
- 1962-1984: Atlas Minerals Corporation acquired site and operated mill
- 1998: Atlas filed for bankruptcy
- Site regulated by U.S. Nuclear Regulatory Commission (NRC)



Circa 1966

# Background and History (continued)

- 2001: Ownership of millsite transferred to DOE for site cleanup and reclamation
- 480-acre site; 130 acres covered by tailings pile
  - Toe of pile is 750 ft from west bank of Colorado River
- Largest uranium mill tailings pile (16 million tons) to be relocated in the world



# Moab Site Features



# Uranium Mill Tailings Removal

## Current status

- Over 5 million tons removed (about 31 percent of total 16 million tons)
  - Currently shipping four trains each week, about 20,000 tons per week
- DOE awarded new Remedial Action Contract to Portage, Inc.
  - 5-year, \$121.1 million contract
  - Technical assistance contractor is S&K Aerospace, LLC



# Progress Photos



# What is in the Pile and Ground Water

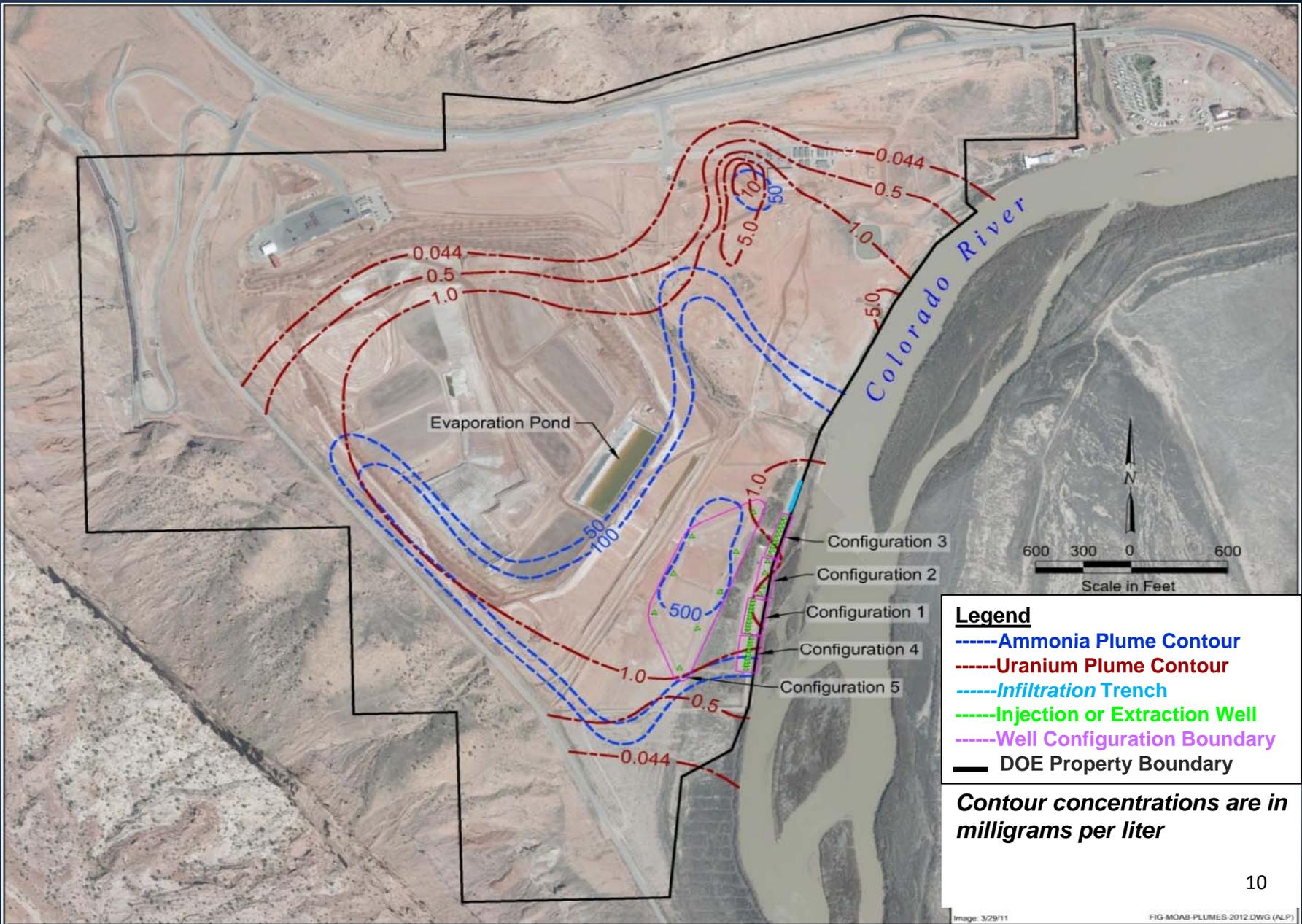
- Radiological constituents
  - Residual uranium and small quantities of
  - Thorium-230
  - Thorium-232
  - Radium-226
  - Decay progeny
- Ground water constituents of concern
  - Ammonia
  - Total uranium
  - Total dissolved solids

# Moab Site Conditions

- Situated on a valley floor along the Colorado River (about 3,300 ft of SE property boundary) at the confluence with Moab Wash
- River usually crests each spring during late May or early June
- River periodically floods, inundating as much as 150 acres of the site during a 100-year flood
- Moab Wash can flash flood at almost any time



# Ground Water Plumes

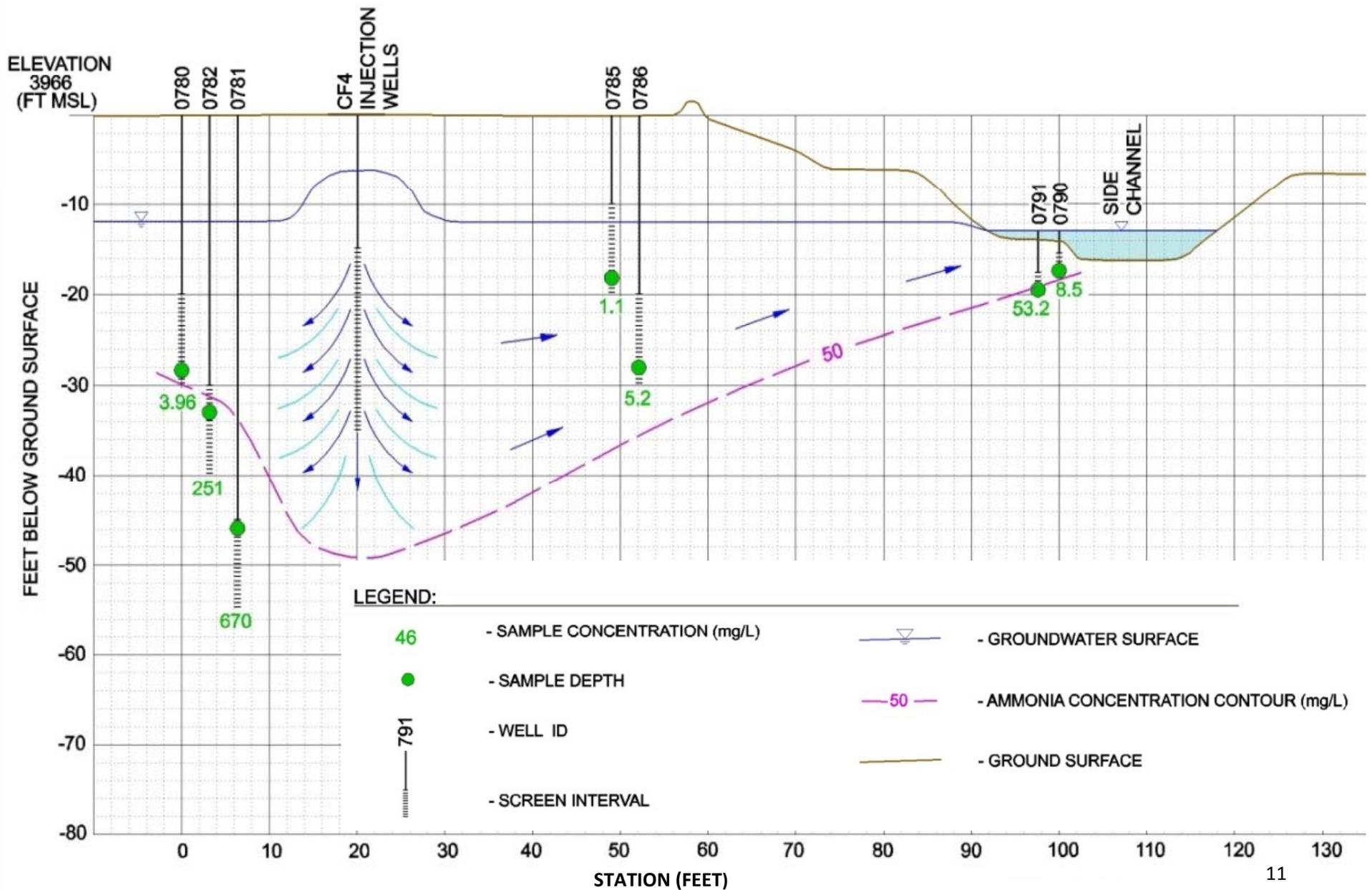


**Legend**

- Ammonia Plume Contour
- Uranium Plume Contour
- Infiltration Trench
- Injection or Extraction Well
- Well Configuration Boundary
- DOE Property Boundary

*Contour concentrations are in milligrams per liter*

# Effect of Freshwater Injection



# Ground Water Interim Action System

- Freshwater injected through wells closest to the river to create hydraulic barrier
- Eight extraction wells focus on contaminant mass removal closer to tailings pile
  - 172 million gallons extracted, including 704,000 pounds of ammonia and 3,200 pounds of uranium
  - Evaporation used to eliminate extracted water

# Project Funding

- FY2012 budget is \$31 million
- Budget request for FY2013 is \$30.9 million
- End date is 2025 based on current life cycle baseline
- Remedial Action Contract Request for Proposal for next 5 years was to ship 650,000 tons annually

# Summary

- DOE appreciates the continued support of the Metropolitan Water District of Southern California
- For additional Moab Project information:

DOE Environmental Management Headquarters      Environmental Management at Grand Junction Home

 **Moab, Utah, UMTRA Project**



- ◆ General
- ◆ Current Status
- ◆ Project Documents
- ◆ Environmental Impact Statement Information
- ◆ Contacts
- ◆ News Releases
- ◆ Additional Information
- ◆ American Recovery and Reinvestment Act Information

Privacy and Security Notice and Section 508  
Please email your questions or comments about the Moab, Utah, UMTRA Project to [moabcomments@gjem.doe.gov](mailto:moabcomments@gjem.doe.gov) or call toll free at 1-800-637-4575.

This site uses Adobe Acrobat   
Best viewed with Internet Explorer 5.x or newer

[www.gjem.energy.gov/moab](http://www.gjem.energy.gov/moab)