United States Section
International Boundary and Water Commission

American Dam/Carlos Marin
Field Office
REMEDIATION PROJECTS

Rio Grande Citizens Forum
March 23, 2010
Remediation

- Remediation is defined as:
  
  *the removal of pollution or contaminants from the environment that have affected the soil, groundwater or surface water, for the general protection of human health and the environment*
Effects of Metals Present

- Arsenic: human carcinogen
- Lead: neurological damage
- Risks to health from soil exposure are low, but increase significantly when the contamination moves into the water supply
Remediation Methods

• Remediation method depends on:
  – site characteristics
  – concentration
  – types of pollutants to be removed
  – the end use of site or medium

• Five general approaches may include:
  – isolation, immobilization, toxicity reduction, physical separation and extraction
Remediation Methods

- **Isolation**: prevent transport by containing within designated area (capping or subsurface barriers)
- **Immobilization**: designed to reduce mobility by changing the physical characteristics of contaminated matrix (solidification/stabilization)
- **Toxicity Reduction**: chemical or biological processes to alter the form of metal contaminants
Remediation Methods

• Physical Separation: separate the contaminated material from the rest of the soil matrix (screening)

• Extraction: designed to extract the contaminated fraction from the rest of the soil (on-site or off-site) by “washing” with extracting agents
USIBWC Remediation Projects

- American Dam/Carlos Marin Field Office Complex (5.56 acre site)
  - Approximately 4,147 cubic yards soil remediation
- American Dam Island
  - Approximately 12,874 cubic yards soil remediation
- Remediation method has not been determined
American Canal Remediation

• 3 Open Channel Segments (~2 miles total length)
• Will require soil remediation along construction footprint
• Groundwater removal and remediation also along construction footprint
• Remediation method has not been determined
American Canal Reconstruction

- 2 Open Trapezoidal Channel Segments
- 1 Closed Conduit Segment -12’ x 12’ double pre-cast concrete closed culverts
- Anticipate 3 Construction Phases
  - During non-irrigation season (October to February)
  - No work anticipated on the closed conduits under Paisano Drive
American Canal Segments

- Phase 1- Canal reach from American Dam to Paisano Drive
- Phase 2- Canal reach adjacent to ASARCO (north side of Paisano)
- Phase 3- Canal reach from double gates to near La Hacienda Restaurant beginning of RGACE
Questions