

Pyramid Lake Torpedo and Bombing Range Remediation Project



US Army Corps
of Engineers
Sacramento District



EMAssist

1 February 2006





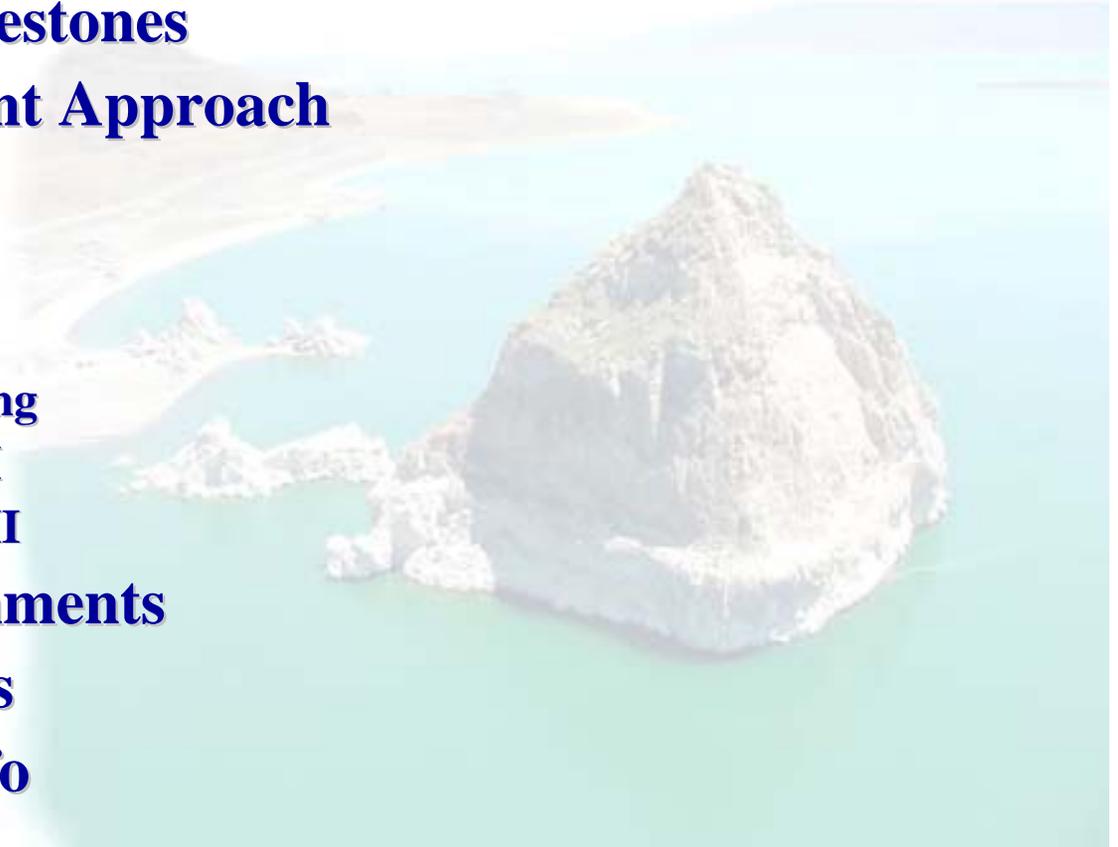
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Introduction

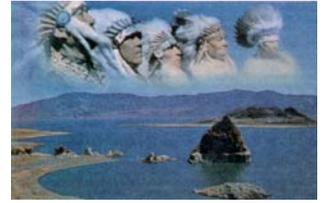


- **Background – History**
- **Organizational Chart – Flow Chart**
- **Project Milestones**
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 - **Shore**
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Project Milestones



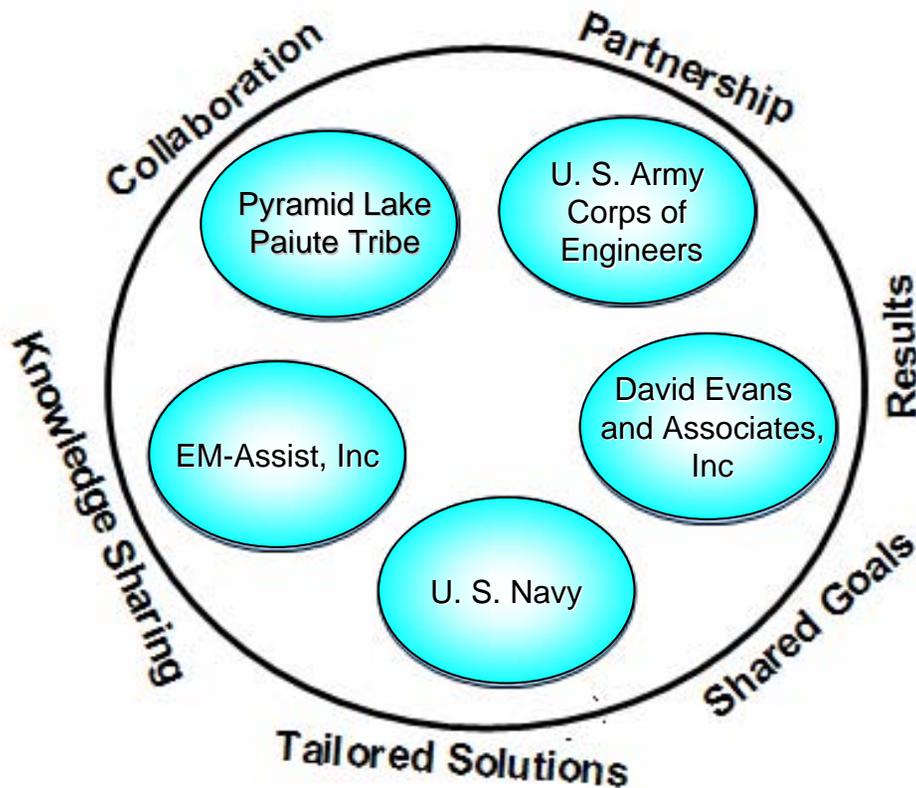
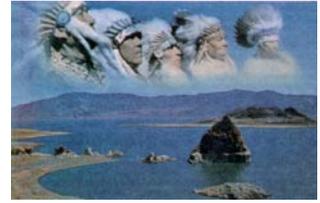
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- S**eptember 2002 **F**irst Cooperative Agreement
- J**uly 2003 **S**trategic Project Implementation Plan
- S**eptember 2003 **L**ake Mapping, Land-Based Structures Removed, Sediment Sampled, Debris Investigation by Navy Divers
- A**pril 2004 **R**emote Operated Vehicle (ROV) Debris Investigation
- J**uly 2004 **S**econd Cooperative Agreement
- A**ugust 2004 **“**Operation Sutcliffe Rocket Lift” Phase I
- A**pril 2005 **“**Operation Sutcliffe Rocket Lift” Phase II
-
- A background image showing a boat on a lake with several people on board, likely related to the project activities.



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Management Approach



Management Strategy

- Stakeholder needs met
- Leverage skills among all parties
- Cost savings
- Knowledge sharing
- Training and growth Opportunities

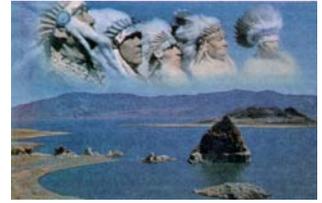


Shore Facilities



- Landing strip located
 - Covered by native vegetation.
- Fuel bladder
 - Abandoned
 - Status: Removed
- Bunkers
 - Two bunkers
 - Safety hazard
 - Status: Removed

Phase I Summary

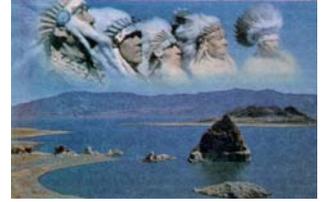


- Dive Depth Limit: 95'
- Recovered 207 rockets and over 500 pounds of small arms munitions to a depth of 95'.
- Verified 4 barrels were breached
- Identified and mapped 154 rockets and 145 crates in depths ranging from 95' - 220'.





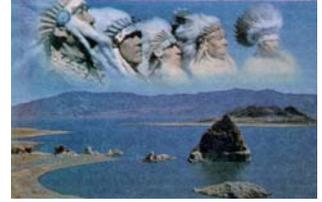
Phase II



A Pyramid Lake Fisheries building modified to meet lake operations requirements:

- LSS, FARC, and Mini-FADL
- Ordnance storage
- Dive equipment and locker area
- Office
- Kitchen and Dining room
- Thermal heating area.

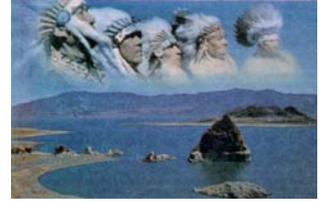
Phase II - Summary



- Diving depths: 65' to 222' at elevation of 3810'
- Operational stats
 - Field Schedule 25 April – 4 June
 - Days deployed 41 days
 - Dives 149 dives
 - Bottom time 31.5 hours
 - Decompression time 49 hours
 - Dive times 80.5 hours
- Ordnance items recovered
 - Rockets 243
 - 20 MM Rounds/50 cal 182 crates



Cost/Time Savings



Contributing Factors:

- Strategic partnership
 - Combined knowledge and collaboration resulted in unique and tailored solutions
 - Specialized tasks completed in agreement with Partners
 - Lower costs by using a mix of Tribal, military, government, and contract employees
- CAs and SPIP focused team members on common goals
- Historical data and technology targeted potential ordnance disposal areas
- The DORS system/Navy divers resulted in precision diving that enhanced recovery efforts.

	Years to Complete	Cost to Complete
RACER Estimate	50	\$142.8 Million
Actual	3	\$1.5 Million



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Accomplishments



- Overcome Challenges
 - Weather
 - Elevation
 - Depth
 - Low visibility
 - Dive schedules
- High Altitude/Deepwater Diving Tables
- Deepwater Ordnance Recovery System
- Cost/Time Savings



Benefits to DoD



- Synergistic benefits from cooperative relationships between Tribe, Navy, & Corps
- Navy performed first high altitude dive at depth – ground truth diving tables
- Navy Divers gained valuable experience by performing real world, operational dives in a controlled, non-combat environment - impossible to replicate in standard training setting
- Demonstrates the need for NALEMP to accomplish timely site restorations on Tribal lands
- Accelerated the remediation of a Formerly Used Defense Site
- Cost savings using innovative technical approaches and collaborative agreements ~\$140M





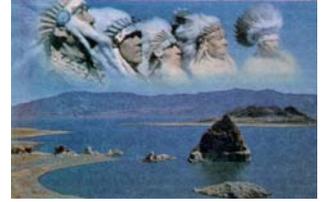
Benefits to the Tribe



- Successful development of cooperative relationships
- Removal of abandoned debris on reservation and discarded military munitions from Pyramid Lake
- Mapping data collected during project to benefit the Tribe for years to come
- Training and mentoring benefits Tribal members and staff in future endeavors



Native American Lands Environmental Mitigation Program (NALEMP)



- Created to address the environmental impacts of present/past DoD activities at sites located on Native American or Alaska Native Claims Settlement Act (ANCSA)-conveyed lands
- Activities critical to the DoD mission to defend and protect the nation, may have impacted the Tribal environment, health, safety, economy and cultural ways of life
- Tailored to resolve environmental impacts in agreement with the unique Native American way of life, in particular the subsistence lifestyle and cultural significance of nature