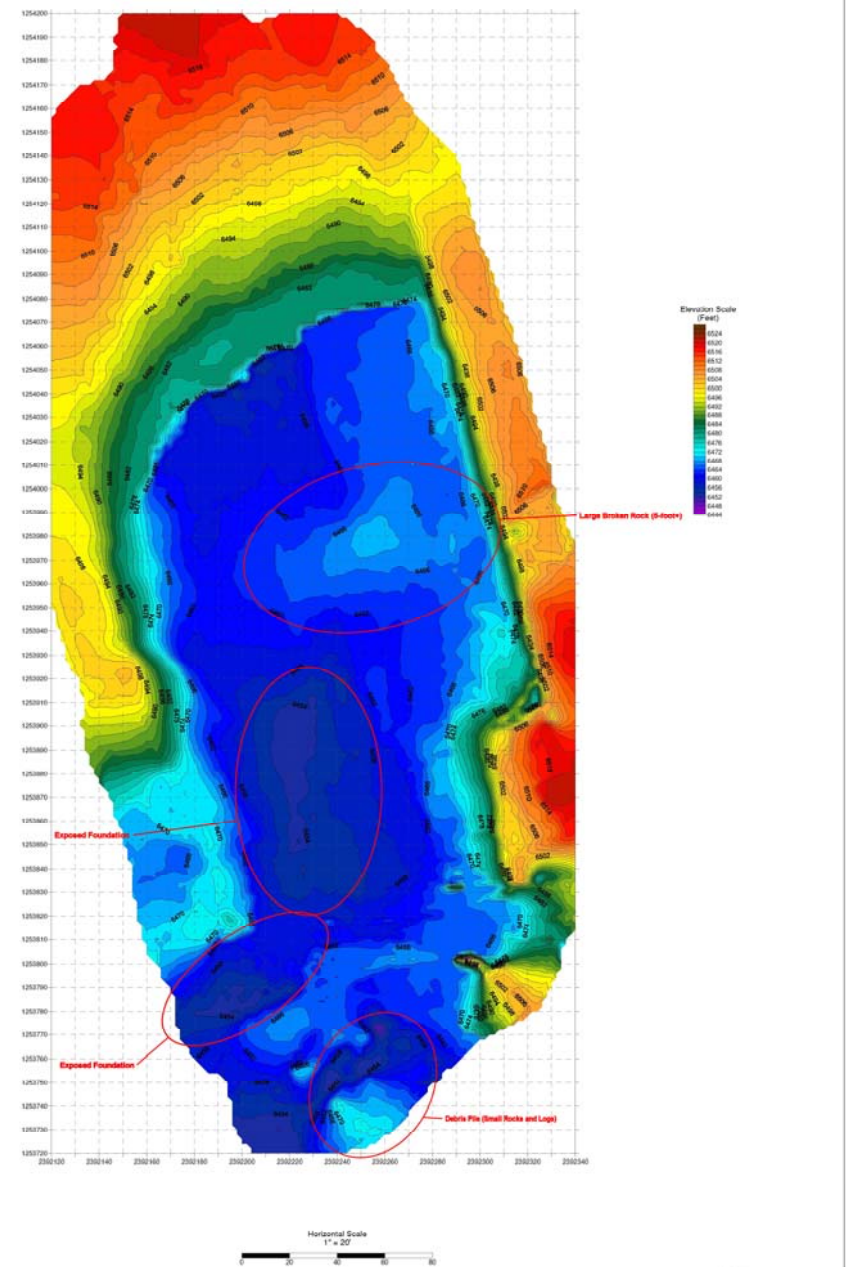
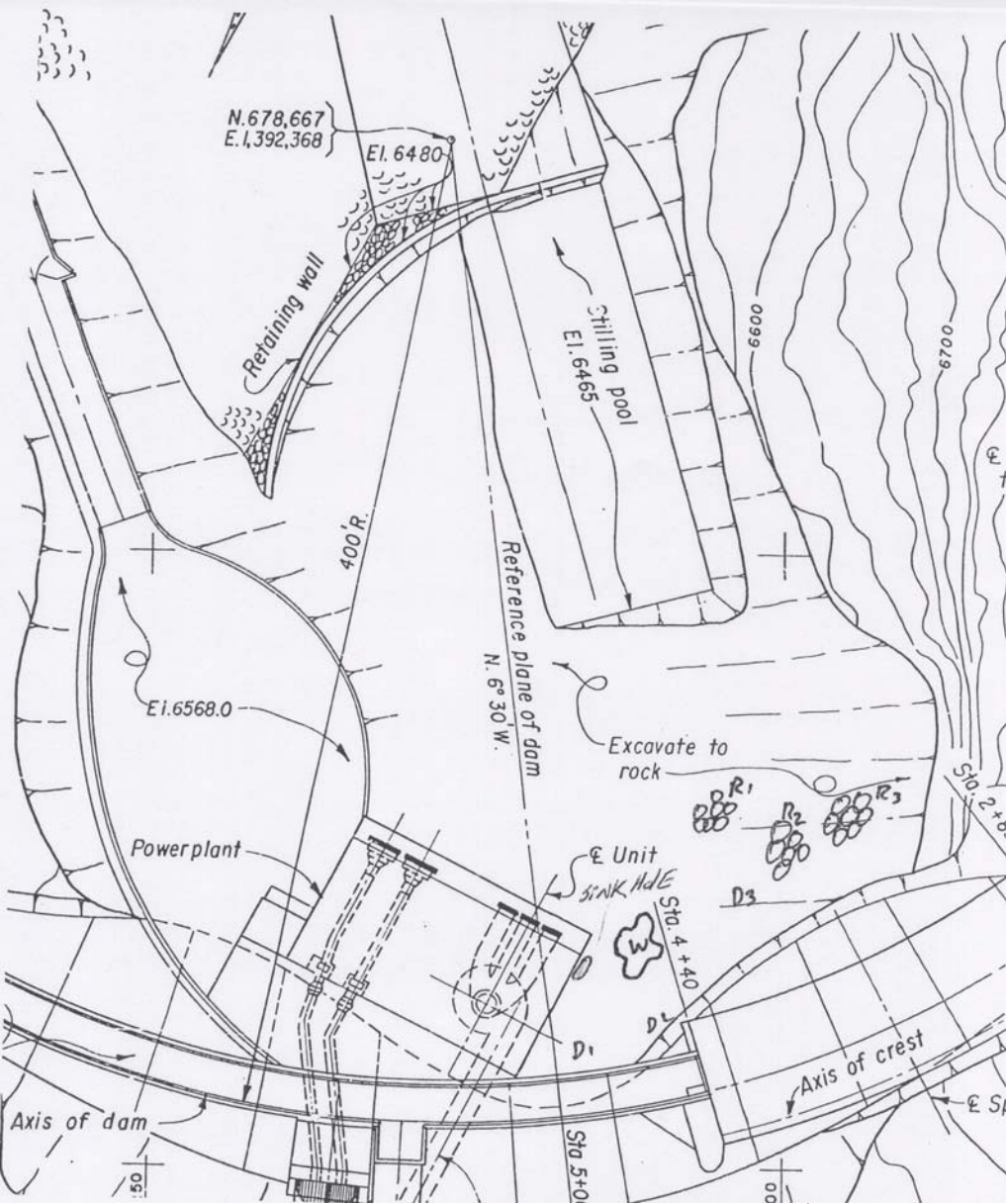


Crystal Sonar Mapping
March 5, 2008





Sonar mapping
March 5, 2008



- NOTES:
- 1) Survey data was collected by Veolia Special Services, Hydrographic Survey Team. Survey data was collected using a real-time kinematic system with GPS/RTK. The real-time system utilizes DGPS and corrections for base, shift, roll, and heading fluctuations in real time. Data was collected in the Colorado State Plane - NAD83 Control coordinate system (State - U.S. Survey Feet).
 - 2) Contour maps were generated with "SURFER 7.0" topographic software utilizing triangulation with linear interpolation as its gridding method.
 - 3) Depth contours represented at 2' intervals.
 - 4) Water level for these readings as referenced to USBR (Base cap "CRY")
 - 5) American USBR Datum = 6566.27
 - 6) These soundings were taken during 0 cfs flow from dam.
 - 7) Water Elevation during this time varied from 6530.04 to 6529.27.

Crystal Dam Stilling Basin

March 5, 2008

VEOLIA
ENVIRONMENTAL SERVICES

Veolia ES Special Services, Inc.
181 County Rd. 158
Dodge, NE 68580
Phone: (402) 552-0216
Fax: (402) 552-0210

Color Filled Contour Map

US Bureau of Reclamation
Crystal Dam Stilling Basin
Gunnison River
Mar. 3-10, 2008

Cartographer: Bill Schwab
File Name: Elevation_2008_158.rvt
Job #: 140759C_08.007
Date: 3/11/08
Drawing: 2008-USBR Zero Flow



Crystal Dam Forebay March 18, 2008

Crystal Dam tailbay
March 18-19, 2008



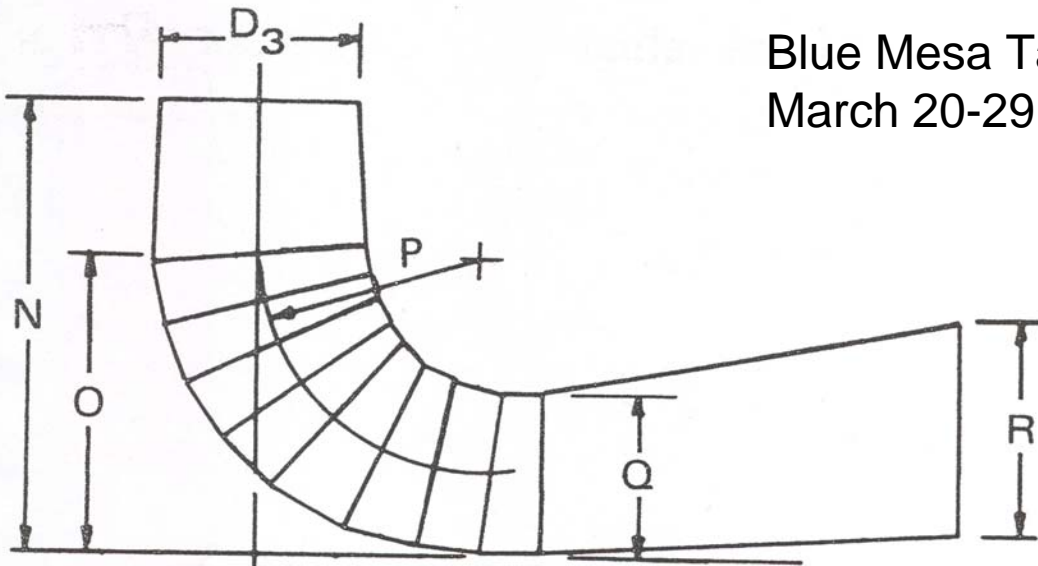
Conclusion:

Although loose material has been moved around within the plunge pool, there appears to be no significant damage caused by normal discharges from the powerplant and outlet works, or occasional spillway flows.

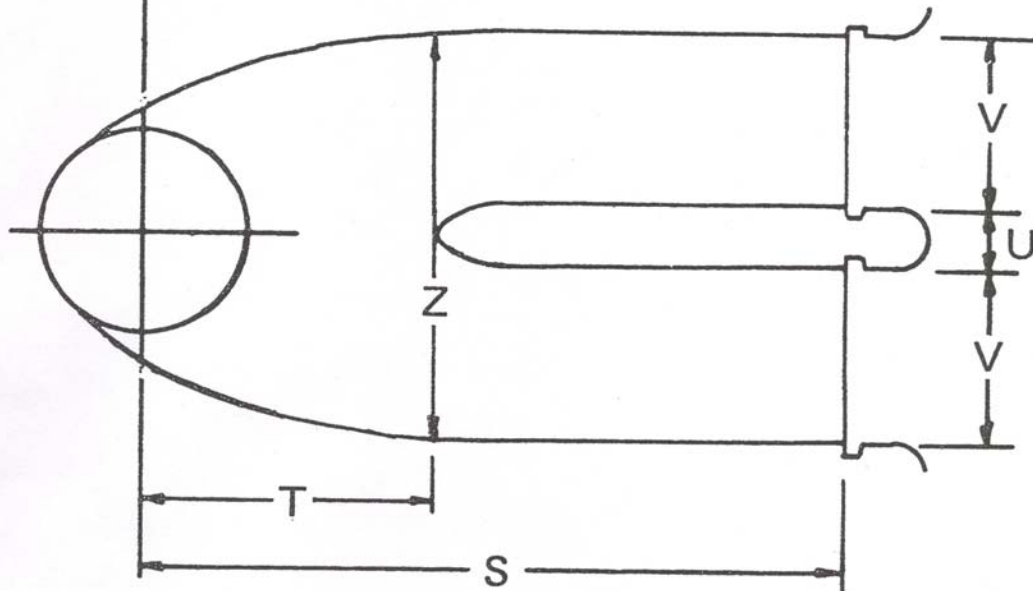
Blue Mesa Unit #1
March 1-18, 2008



Blue Mesa Tailbay rock removal
March 20-29, 2008



$Q =$ turbine discharge at full gate

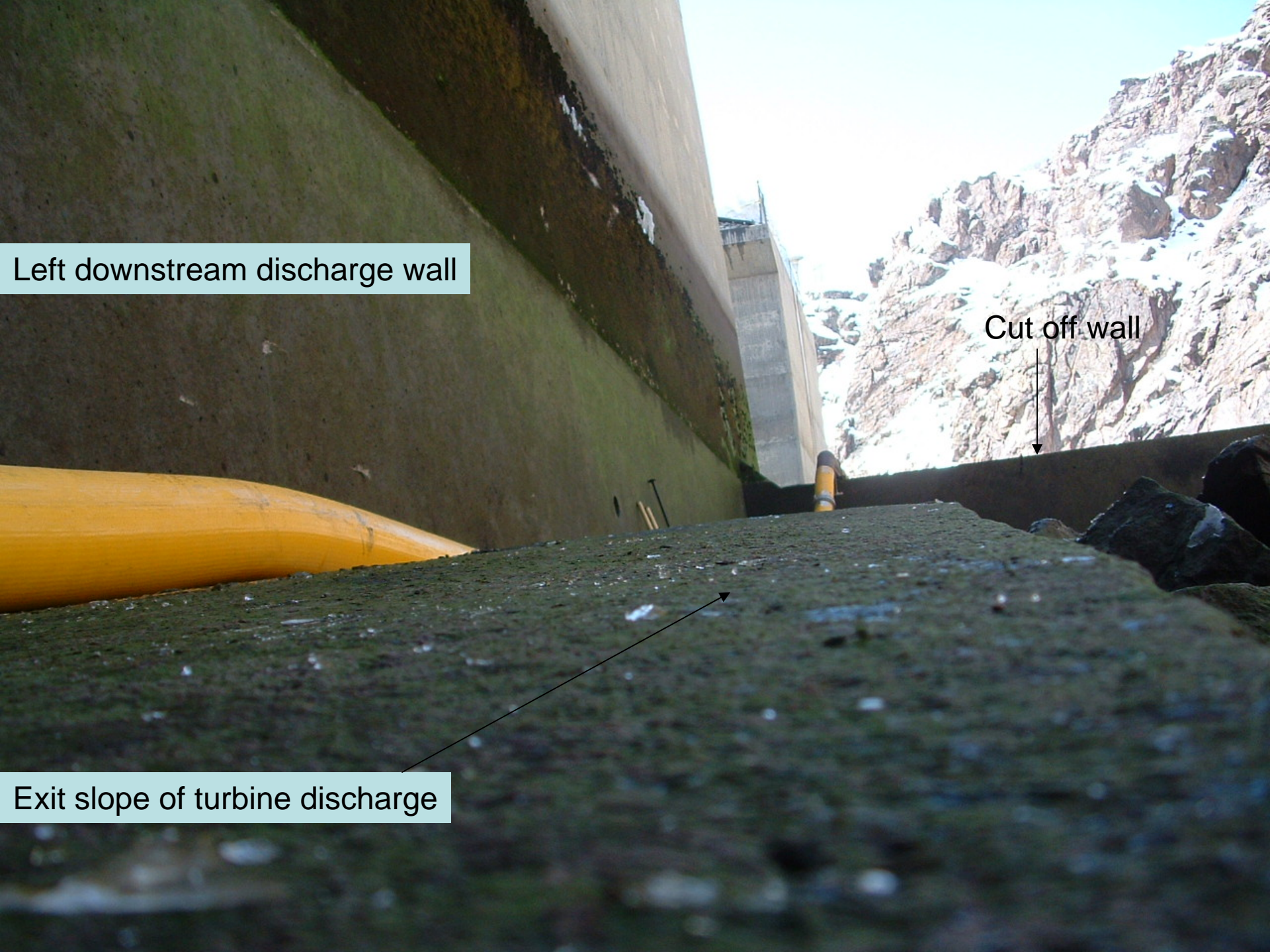


Dimensioning layout for typical draft tube for Francis turbines.

Left downstream discharge wall

Cut off wall

Exit slope of turbine discharge



Blue Mesa tailbay
March 20-29, 2008

Cut off wall



Blue Mesa tailbay
March 20-29, 2008

Right down
Stream discharge
wall



Cutoff wall



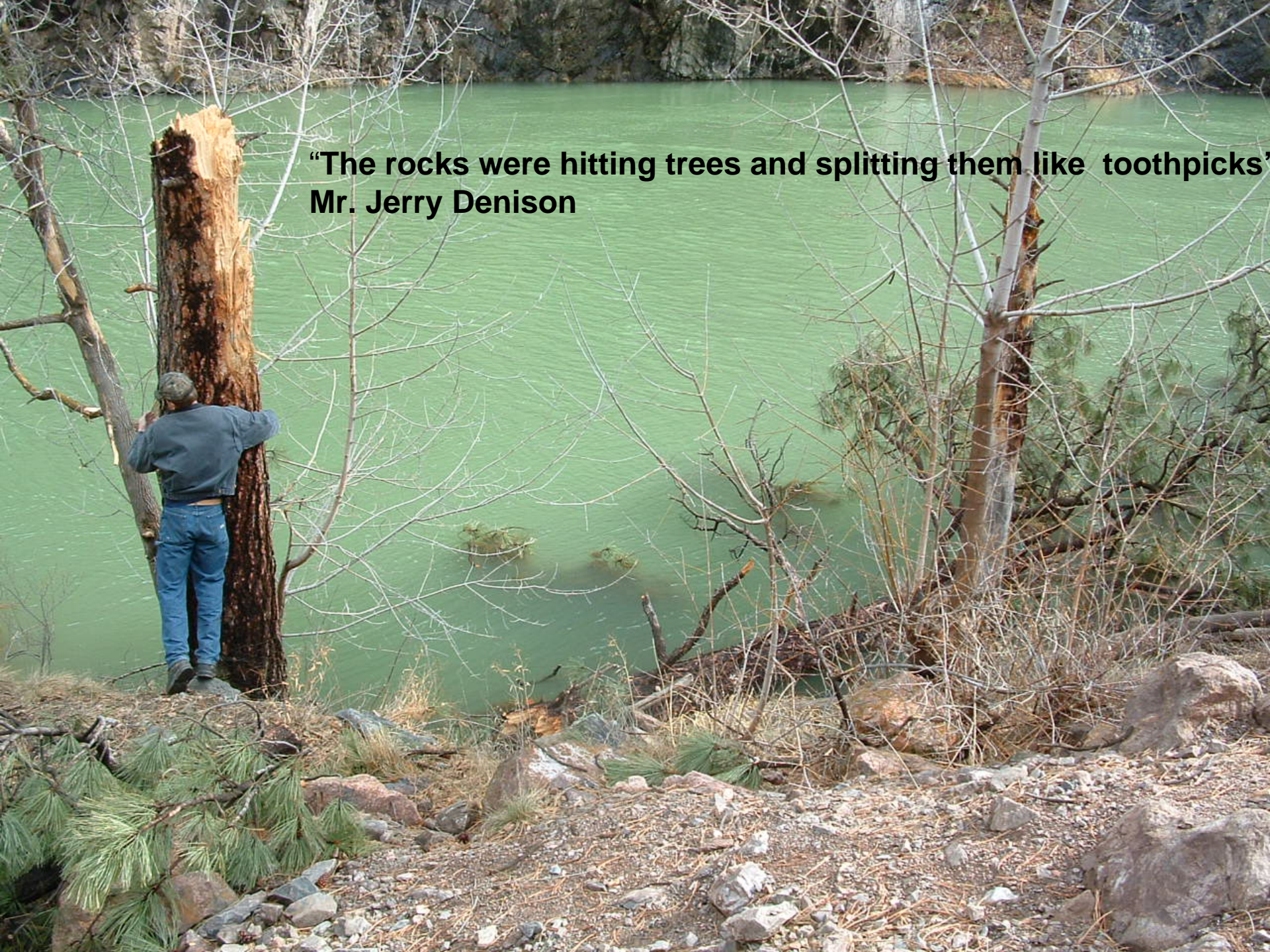


Crystal Dam access road

Rock about 3,300 tons
50 ft long x 30ft wide x 20-30 wide



**“The rocks were hitting trees and splitting them like toothpicks”
Mr. Jerry Denison**





Crystal Dam Access Road
April 4 – 8, 2008







Crystal Dam Access Road
April 4 – 8, 2008
Slide area



rock