

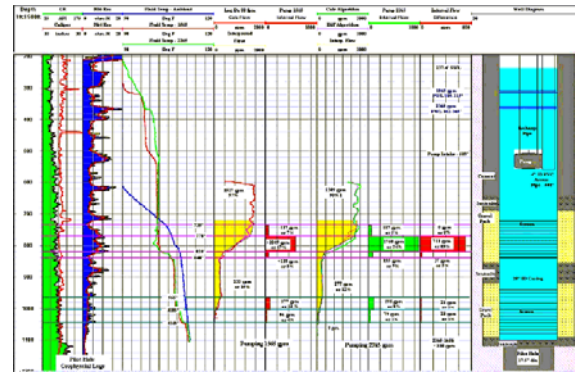


# R E Crowder Consulting, LLC

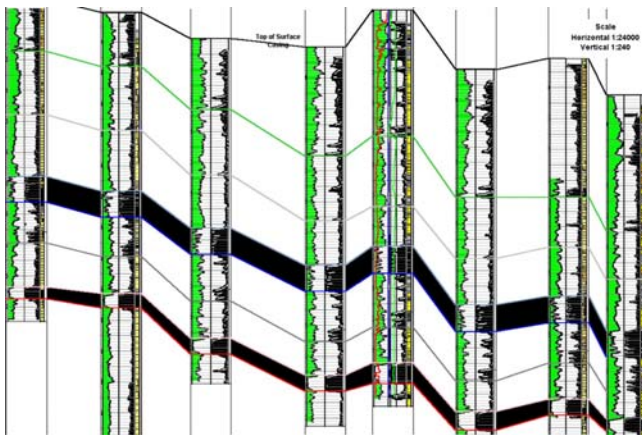
## Quantitative Log Analysis

Energy -- Environmental -- Geotechnical -- Ground Water -- Minerals

R. E. Crowder Consulting was founded in 1997. Robert E. Crowder is a registered geologist and geophysicist who has provided geophysical surveys throughout the world. He is one of the founders of several successful geophysical equipment and survey companies. He has more than 25 years of experience in the technical management and application of geophysics and in conducting sophisticated geophysical surveys.

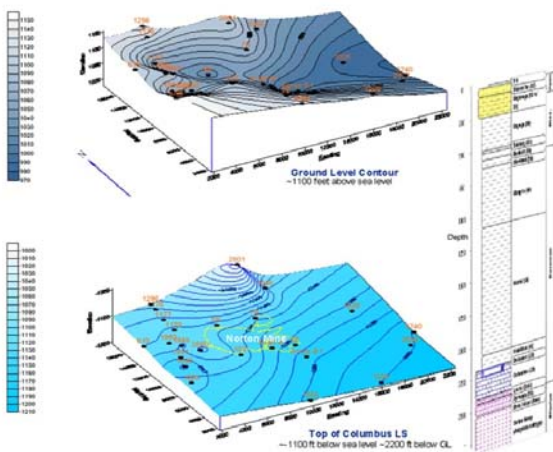


Flow Analysis in High Yield Water Well

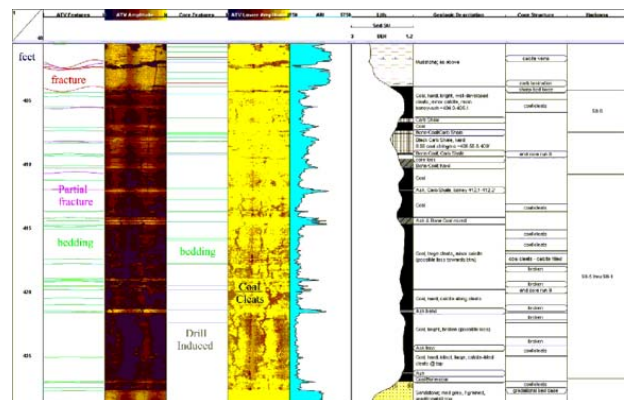


Gamma & Density Correlation Section

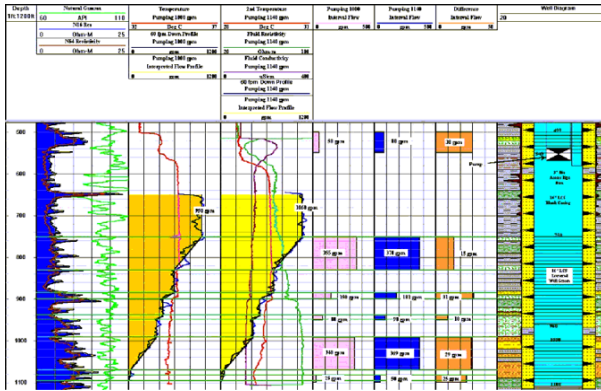
Robert Crowder has taught over 50 formal short courses in borehole geophysical fundamentals and applications for public and private industry groups. He has authored numerous professional papers, and provided interpretations on hundreds of projects. Mr. Crowder is actively designing, promoting and developing new geophysical technology for energy, environmental, geotechnical, ground water and mining investigations. He is a member of the ASTM Committee establishing QA/QC guidelines for well logging, a charter member and past-President of the Minerals and Geotechnical Logging Society (MGLS) and former officer in the Engineering and Environmental Geophysics Society (EEGS).



Topography & Formation Top Contours



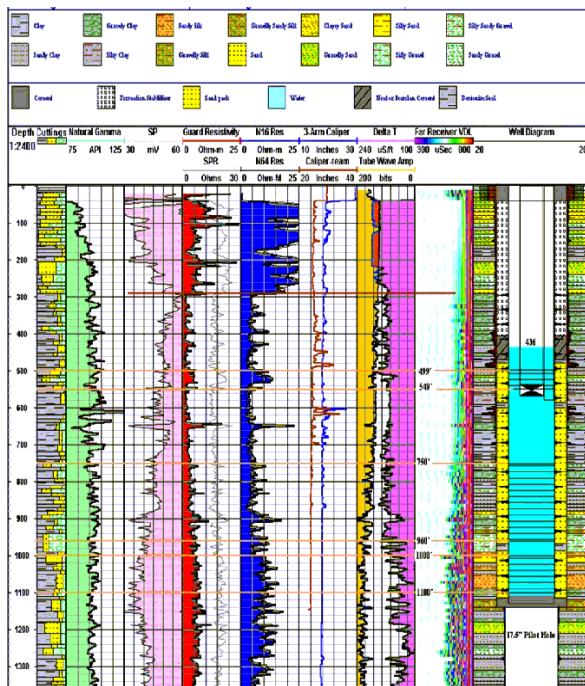
Acoustic Televiewer data in Coal with Geologic Descriptions



Spinner Flowmeter Analysis in High Yield Water Well

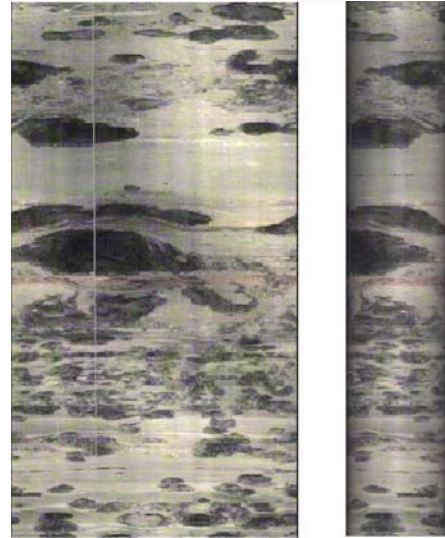
### Products

- **Quantitative Log Analysis** – specializing in slimhole geophysical methods
  - Borehole Imaging
  - Fluid Flow measurements
  - Full waveform Acoustic
  - Physical Parameters
  - Water Quality Analysis
  - Well Completion Analysis
- **Data Integration and generation of Summary Plots** - Geophysical Logs plus
  - Geologic
  - Geochemical,
  - Hydrologic,
  - Well Construction,
  - Other relevant well information



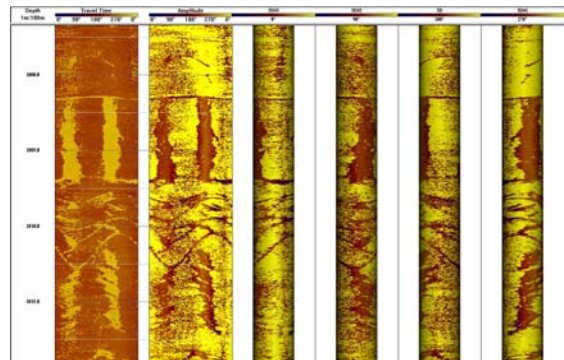
Log Summary Plot for Water Well

- **Expert Witness Testimony**
- **Logging Program Design, Oversight and Quality Control**
- **Drilling Supervision**
- **Multi-well Log analysis including Cross-Section Generation**

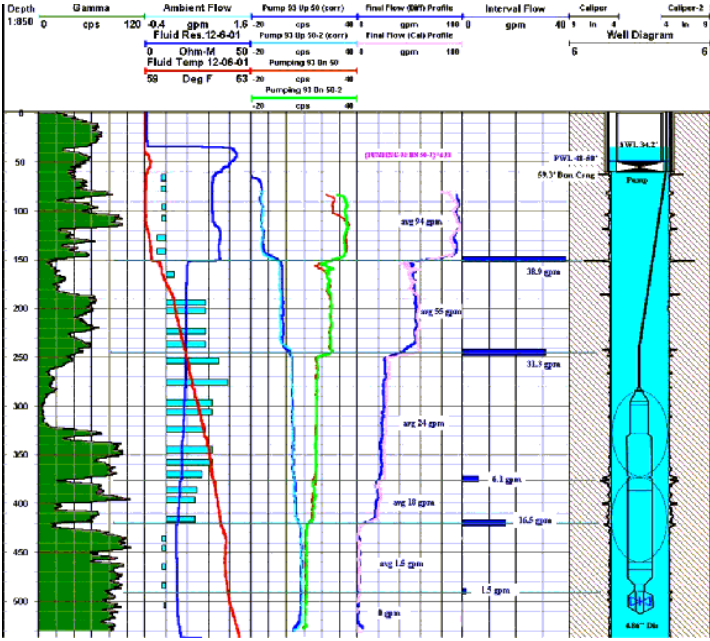


Oriented Optical Image of Vuggy Carbonates

- **Old Electric Log Interpretation**
- **Training/ Short Courses**
  - Data Acquisition
  - Borehole Geophysical Theory & Application
  - Log Analysis
  - WellCAD and other Log Processing Software
- **Wellsite Log Analysis and Quality Control**

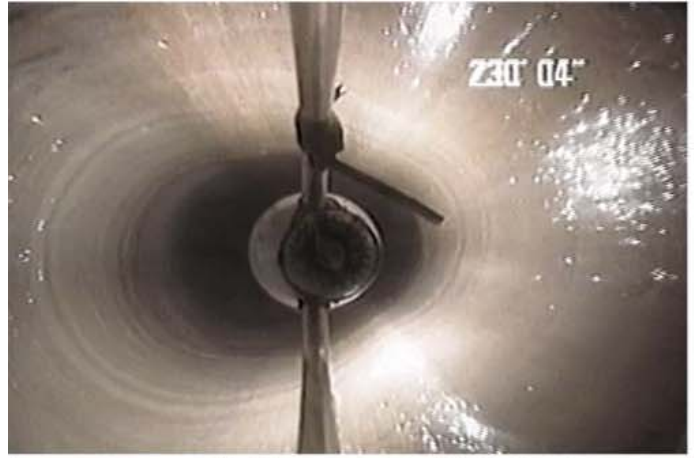


Borehole Breakouts on Acoustic Televiewer Data

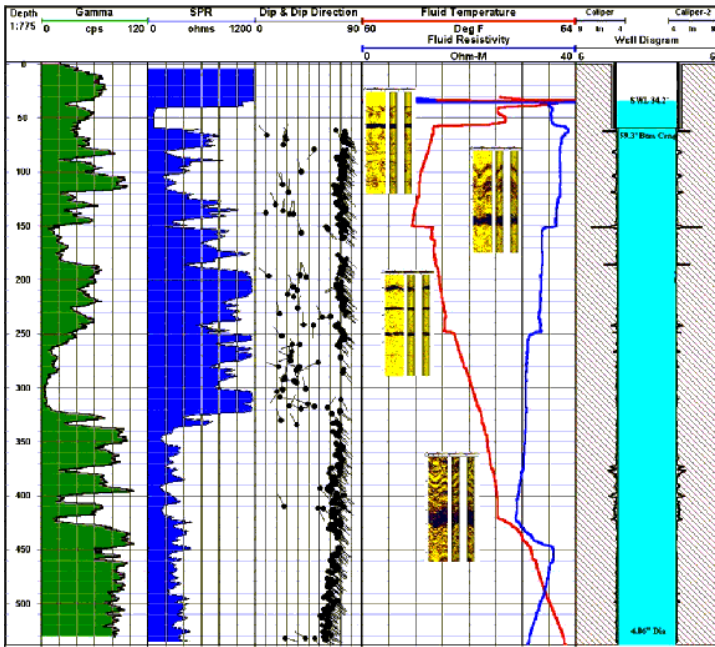


Ambient & Pumping Flow Analysis in Fractured Carbonates

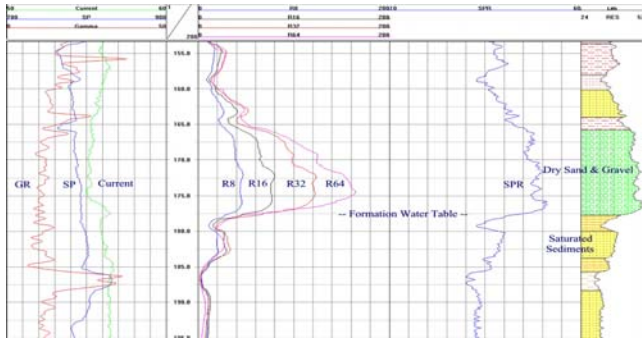
**Affiliates** – RECC has established a network of affiliated experts and professionals to provide a comprehensive response to client needs. These affiliates include: Academia, Borehole Geophysical Manufacturing and Service Companies, Engineering Companies, Geologists, Hydrologists, Mining engineers, Surface Geophysical Companies, and Log Processing Software Designers



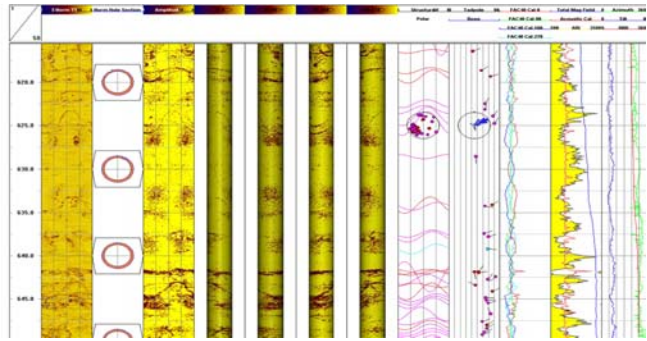
Axial View Video Survey Showing Twinned Hole



Log Summary in Fractured Steeply dipping Carbonates



Multi-spaced Resistivity Logs for Ground Water Study



Acoustic Televiewer Data Analysis

## Recent Projects:

**Ground Water Supply Wells** from < 100 gpm to > 4000 gpm. Includes determination of interval Water Quality and Transmissivity

**Multi-well Log Analysis/Data integration at Environmental Sites**

**Fracture Characterization/Data integration** at Proposed underground compressed air storage facility

**Fracture Characterization/slope stability analysis** for highway road cuts

**Multi-well Fracture Analysis/Data integration** Ground Water Characterization for large energy mineral projects

**Well Completion evaluation** of fiberglass, PVC and steel cased monitoring wells to > 2000' in depth

**Exploration and Production Mining Applications** – including Physical Properties, Rock Strength, Slope Stability, in-situ Stress Analysis and Ground-Water Characterization for: Coal, Copper, Gold, Phosphate, and other minerals.

Applications in Alluvium, Clastic sediments, Carbonates, Volcanics and Metamorphic Environments



Logging Nevada In the Winter



Robert Crowder in Logging Truck with Client



Salt Stalactites & Stagmites 2200 feet Underground

***R E CROWDER CONSULTING, LLC***

***Quantitative Log Analysis***

PO BOX 594

Golden, CO 80402-0594

Phone: (303) 216-2226, Facsimile: (303) 278-8903

E-Mail: [BobCrowder@AOL.com](mailto:BobCrowder@AOL.com)