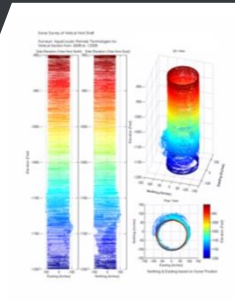


**MINES, TAILING PONDS,  
STOPES, & BOREHOLE SURVEYS**



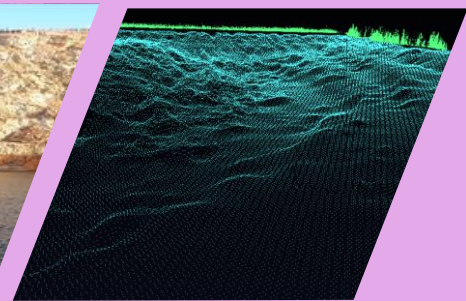
**Flooded Stope Survey**



**Borehole Survey**



**Open Pit Survey**



**Tailing Pond Survey**

**COMPREHENSIVE INFRASTRUCTURE SURVEYS**

**ESSENTIAL DATA FOR INTELLIGENT DECISIONS**

Portable, Easily Deployed Equipment



**AquaCoustic**   
REMOTE TECHNOLOGIES INC.

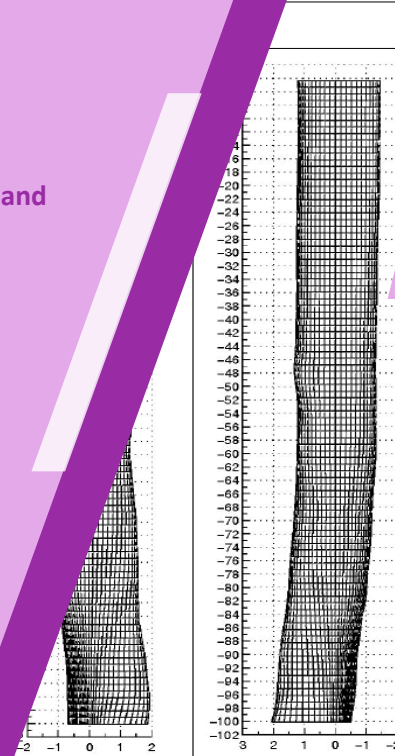
- FLOODED AND DRY STOPES
- SHAFTS
- BOREHOLES
- TAILING PONDS
- RESERVOIRS

SINCE 1993 OUR GOAL HAS BEEN TO PROVIDE  
EASILY UNDERSTOOD DIGITAL SURVEY REPORTS



# WE DELIVER THE DATA YOU NEED

- Our multi-sensor data collection technology can provide you with new and unrivalled definition of your fixed assets
- If you have a challenging inspection or survey problem; our design team can help
- We have designed & built innovative robotic systems to position the sensors accurately
- We collect video & xyz point cloud data above and below water using digital video cameras, time of flight lasers and digital sonars
- We develop and continuously improve our unique and system-based data analysis software
- Since 1993, civil engineers have used our data to prioritize remedial work for their fixed assets

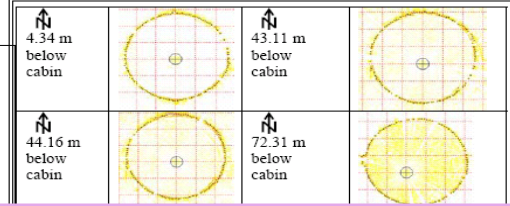


View Looking North View Looking East

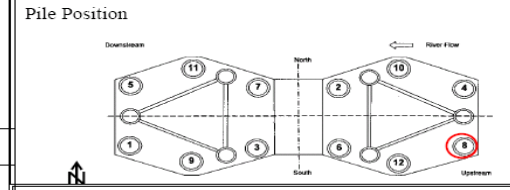
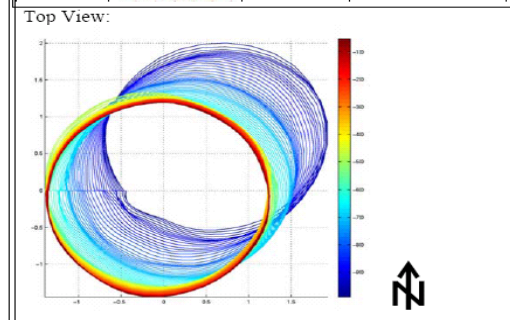
Top right window shows actual sonar data.

All depth measurements are from cabin floor at 11.7. Sonar Data shows casing tip at 44.16 m

Date: 07 March, 2007	
Start Time: 16:15	End Time: 17:15
Pile # 8	Job # Main Bridge Piling M4
Technician: William M	



Sonar survey, through drilling mud, of a drilled vertical vent shaft



Q/A Date: March 7, 2007

Signed: *William M* AquaCooustic REMOTE TECHNOLOGIES INC.



Preparations for a 3D Sonar survey of a vertical vent shaft

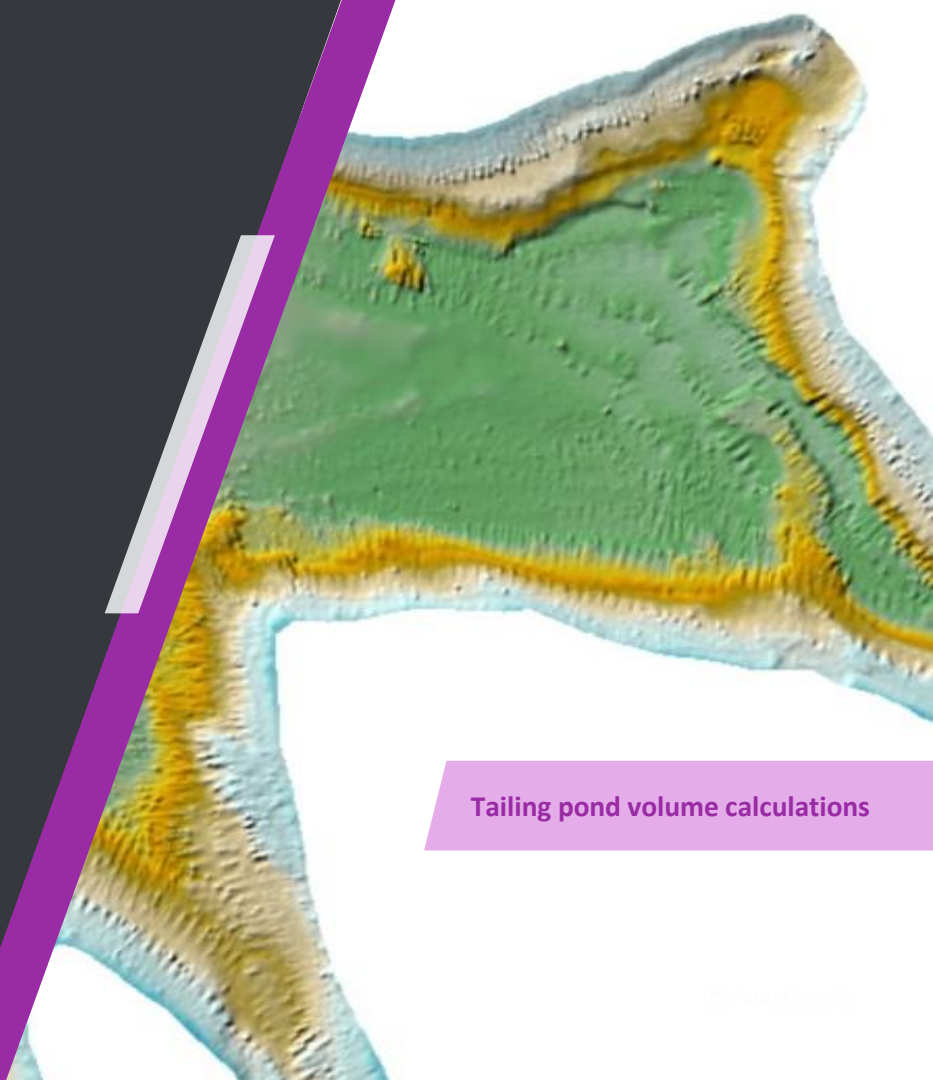
# ALL DIGITAL SENSOR PLATFORMS

- Since 2005, we've used electro fiber optic umbilical cables to power and communicate with our devices
- Fiber optic advantages include long distance communication without losing data quality; small cable diameter and a signal that is immune to electromagnetic interference
- Closed loop Ethernet protocols to communicate with all sensors that may be installed on the units. This also allows client supplied or specific sensor units to be plug and play almost instantly
- The data is then analyzed using proprietary software to create measurable 3D computer drawings, images, graphs and tables that help clients manage and maintain those assets
- All our deliverables can be viewed on freely available software



# 3D SONAR UNITS

- In-house designed for simple deployment
- Light weight system (less than 20lbs)
- Is able to pass through a 6" (15 cm) pipe or drill hole
- Better than half inch accuracy
- Rotates in quarter of a degree step angles for fine detail
- Sound footprint approx. 3% of range
- Maximum useful range of 50 m (160'). The sonar has a max range of 150 m
- Depth to 1,000 m (3,200')
- The unit can be surface deployed from structures or from an ROV or surface vessel



Tailing pond volume calculations



## AVAILABLE WORK PLATFORMS

- Inspection class ROV . Uses scanning sonar, profiling sonar and video camera. We can also add specific sensors to fit your needs
- Propane Powered Six Wheel Drive Amphibious Vehicle, with Time of Flight (ToF) laser, video camera, sonar and positioning systems
- Four Wheel Drive Steerable Tractors. 600 m (2,000') distance. Carries all sensors plus any specific sensor that is required
- 14' Achilles inflatable boat with 9.9 HP Yamaha or a Torqeedo electric outboard for sensitive areas. Carries RTK GPS, video camera, ToF laser, high resolution attitude sensor and profiling sonar

Our 6 wheel drive, propane powered amphibious vehicle is used for off road or tunnel surveys

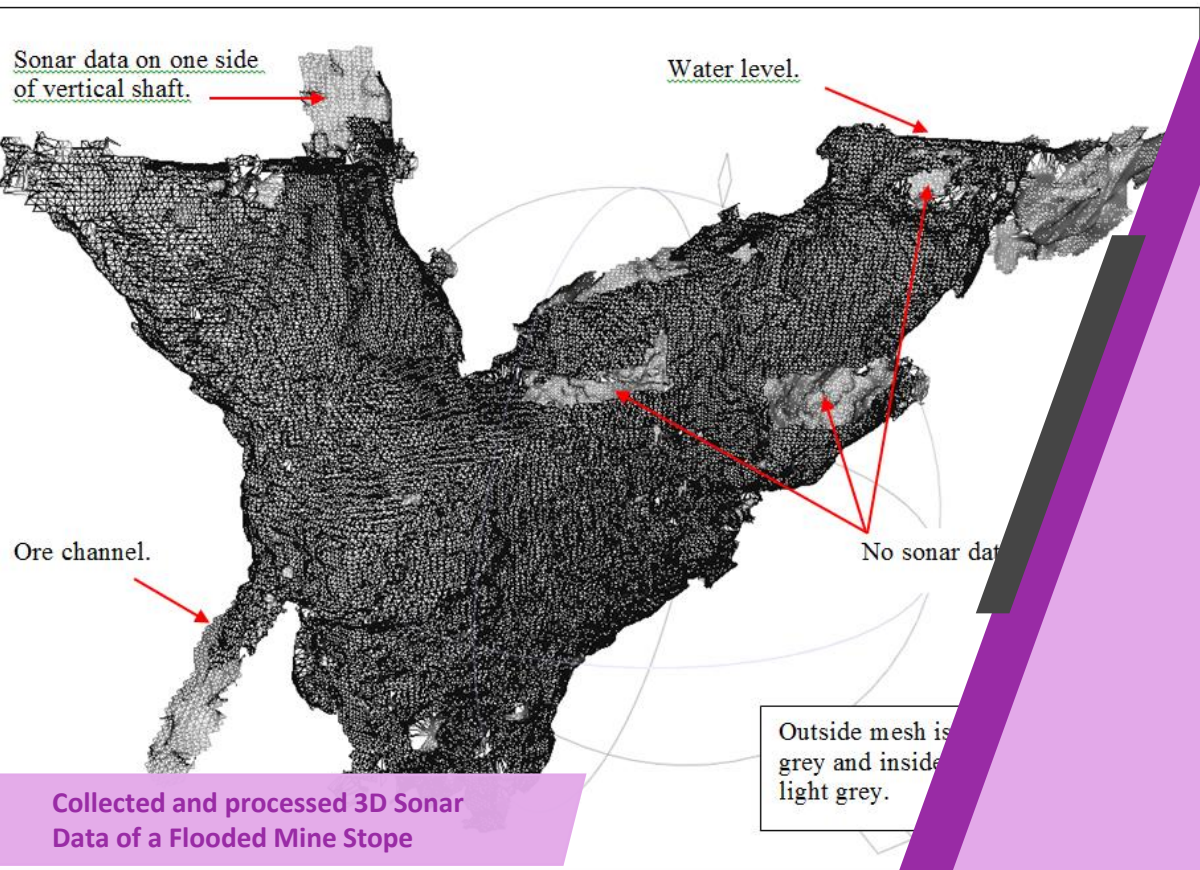


# AVAILABLE INSPECTION SENSORS

- Time of flight (ToF) 2d lasers – 2" (50 mm) minimum range, 25 m (82'), maximum range. Calibrated to 3 mm accuracy
- Time of flight (ToF) 3d lasers – in-house designed unit; rotates the laser head in quarter degree increments for a full 360 degrees
- Digital profiling sonars – Ethernet profiling and scanning sonars. Minimum range 2" (50 mm), maximum range 100 m (330')
- Digital 3D profiling sonars – in-house designed unit, rotates 190 degrees, built to pass through a 6" (150 mm) borehole
- Scanning & side scan sonars – used as a standalone or on a vehicle. 100 m (330') diameter scan range. 20 mm (¾") resolution
- High-resolution digital marine cameras – 1080P, low light
- Additional sensors are easily incorporated
- RTK GPS for 2 cm (¾") accuracy

Shoreline laser data above  
water with sonar data below.

water



Collected and processed 3D Sonar Data of a Flooded Mine Stope

Figure 4- Mesh produced from actual data po

View from the East.

## WHY HIRE AQUACOUSTIC?

- Rapid, cost effective asset assessment surveys
- You spend less time understanding the issues you may have
- You can concentrate your efforts where critical or to budget for future work
- Quickly identify areas that do not need intervention
- The advancement, continuing education and encouragement of our employees is important to us
- We are solutions-driven: our employees are dedicated to delivering on our promises and providing positive client experiences





Pole mounted 3D Sonar system lowered into a 6" borehole at a flooded mine

## AQC KEY POINTS

- We are an infrastructure pre-engineering firm that develops unique data gathering solutions
- Our data helps you prioritize areas of concern and can be instrumental in reducing costs of repairs
- We design and build robotic systems capable of meeting any challenge and develop software that transforms data into useful information
- We control the data from collection to deliverables without outsourcing; therefore, we respond to client input directly and completely
- Our technological solutions generate actionable information that reduces costs
- If you have any technical questions please phone or email us & we'd be happy to provide an answer

# AREAS OF INFRASTRUCTURE INSPECTIONS

IF YOU HAVE A PARTICULAR INTEREST OR CHALLENGE, WE CAN DISCUSS SOLUTIONS ON THE PHONE OR WE CAN SEND ADDITIONAL INFORMATION ON THE FOLLOWING:

- ✓ Dams
- ✓ Bridges
- ✓ Tunnels
- ✓ Culverts
- ✓ Manholes
- ✓ Mine Stopes
- ✓ Ports & Marinas
- ✓ Large Diameter Pipes
- ✓ Traffic Control Plans
- ✓ Mine Tailing Ponds
- ✓ Shafts and Boreholes
- ✓ Specialty Sonar/Laser Surveys
- ✓ Pipe and Cable River Crossing Surveys
- ✓ Internal ROV outfall surveys, minimum diameter 450mm (18")
- ✓ Historical Video Re-coding to New Standards or AI Quality Control
- ✓ Processing Client Collected Sonar & Laser Data

AQUACOUSTIC CAN PLAY A SIGNIFICANT ROLE IN YOUR RISK MANAGEMENT STRATEGY

# WHAT CAN WE DO FOR YOU



info@Aquacoustic.com  
www.aquacoustic.com  
188 West 6th Avenue  
Vancouver, BC V5Y 1K6

Phone: +1.604.730.8117  
Fax: +1.604.730.8817

Toll free in North America: +1.888.379.7601

Bathymetry of a Flooded Open Pit Mine