

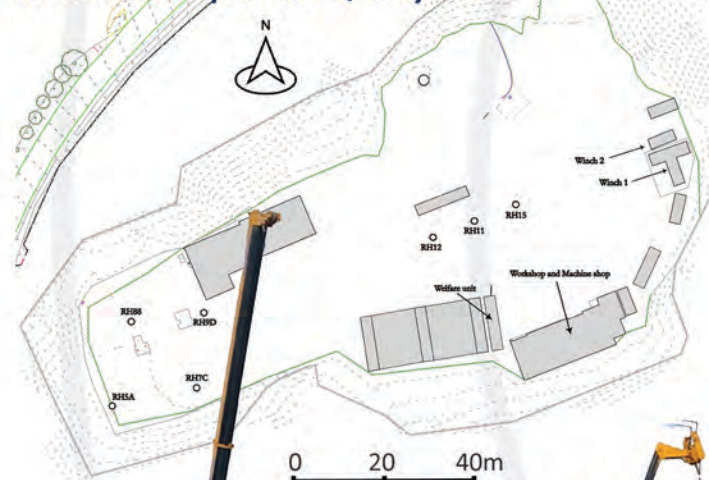
The Rosemanowes Quarry

Rosemanowes Quarry, Herniss, Longdowns, Penryn, Cornwall. UK - TR10 9DU



Avalon Sciences has acquired the ABB Offshore System borehole facility at Rosemanowes Quarry, Penryn in Cornwall (UK). The acquisition of the quarry allows Avalon Sciences to carry out testing of borehole equipment within a controlled environment whilst providing replication of real on-site conditions. The site hosts an abundance of wireline deployment infrastructure and is fully available for hire for both training and hardware testing.

Schematic Map of the Quarry Site



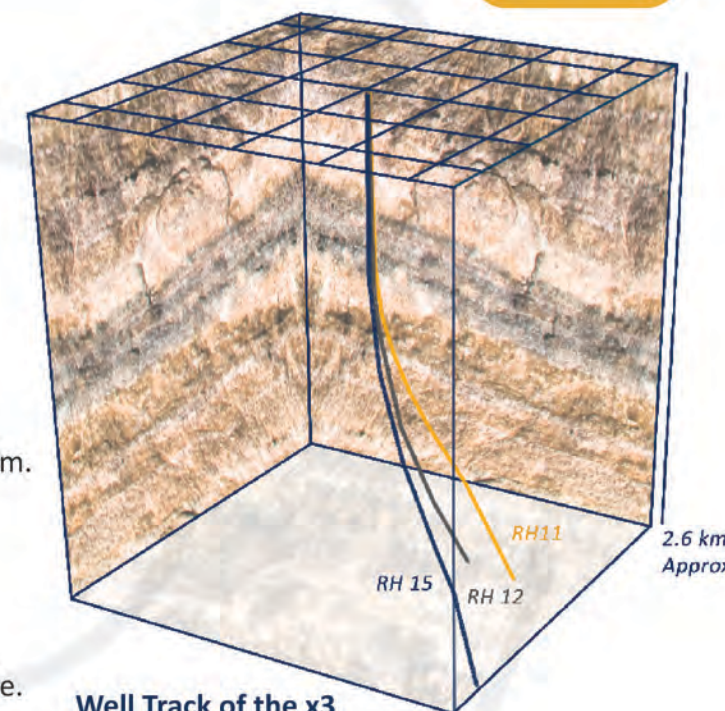
Borehole Test Facility

- The quarry consists of:
 - Three deep boreholes with a 9 5/8" casing, and deep openhole section

Casing	Measured Depth
RH11	2356m
RH12	2058m
RH15	2566m

- A 300 m open hole section inclined at 30°.
- Four 240-300m shallow boreholes with 6" casing at 20m.
- One 150m, 8 1/2" uncased borehole inclined at 30°.
- Logging winches with standard 7 conductor wireline & Optical hybrid wireline options.
- Impulsive and Vibroseis Sweep sources available on site.

On-site welfare, office and workshop facilities available.



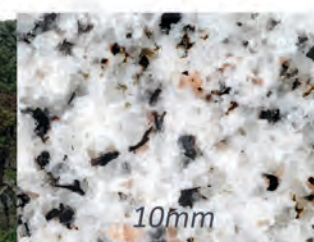
Well Track of the x3 ~2-2.5 km MD deviated boreholes

Avalon's Well Test Facility

- x 3 Deep Test Wells (Up to 2.5km MD)
- Multiple shallow wells (open and cased)
- Logging winches (4C/7C/optical options) & impulsive/vibroseis sources available.
- On-site training provided by dedicated instructors in the use of ASL hardware.
- 'Real Job' environment for Field Engineer and Maintenance Courses.

Heavy lifting and crane infrastructure

On-site welfare, office and workshop facilities.



Wells located within the Carnmenellis 'two-mica' Granite Formation

State of the art winch & logging units

Deep and Shallow Wells (open and cased hole)

Multiple impulsive & sweep acoustic source offerings

History of the Quarry

The quarry was a UK Hot Dry Rock Geothermal Energy Research site, offering access to one of the most comprehensively logged well systems in the world. The boreholes are located within a fresh water filled granite environment. The quarry was the first deep geothermal project within the UK starting in 1977.

The aims of the project were:

- 1) To see if hot dry rock could be fractured by water pressure alone
- 2) To find out if the rock was hot enough to make steam for turbine generation.

The project concluded in 1991, but studies continued until 1997. In 2006 the quarry was used as a deep borehole test facility, making the quarry the best logged site in the world. The Quarry was purchased by ASL in 2013.



Well Hire Options

- HIRE Deep borehole per 24 hour day
- HIRE Logging winch and driver 8 hour day
- HIRE Logging engineer 8 hour day

Longer term discount rates

- 10% for > 7 days continuous use
- 15% for > 14 days continuous use
- 20% for > 28 days continuous use
- 25% for > 56 days continuous use
- 30% for > 84 days continuous use

ASL employs a range of experienced field support staff to help facilitate all client training and testing needs.



Support Services

- Mechanical technician labour
- Electronic technician labour
- Instrument cabin Hire
- Mobilisation and demobilisation

All rates for support services are per 8 hour day



Consultancy

- Logging Engineer
- Geoscientist
- Electronics, Mechanical, Optical Engineer



ATC - Avalon Training Courses

ASL understands the diverse set of skills required for providing an effective borehole seismic service. We can tailor our training courses appropriately to meet the needs of the seismic field engineer, technical/ electrical maintenance engineer. In addition, we provide a more general industry overview and well-deployment experience to business development/ administrative staff and engineering/geoscience undergraduates.

ATC-1 Geochain Mechanical Maintenance

ATC-2 Borehole Field Engineer Course

ATC-3 Borehole Seismic short-course for non-technical staff and management

ATC-4 Undergraduate Borehole Geophysics short-course

ATC-5 Geochain Electronic Maintenance



ROSEMANOWES - Well Test & Training Facility

