

**Robertson Geo** brings a proven global reputation for delivering the highest quality calibrated data from the most challenging renewable energy locations both onshore and offshore.



**ROBERTSON  
GEO**

**RENEWABLES**

Unlocking Your GeoData

# Renewables

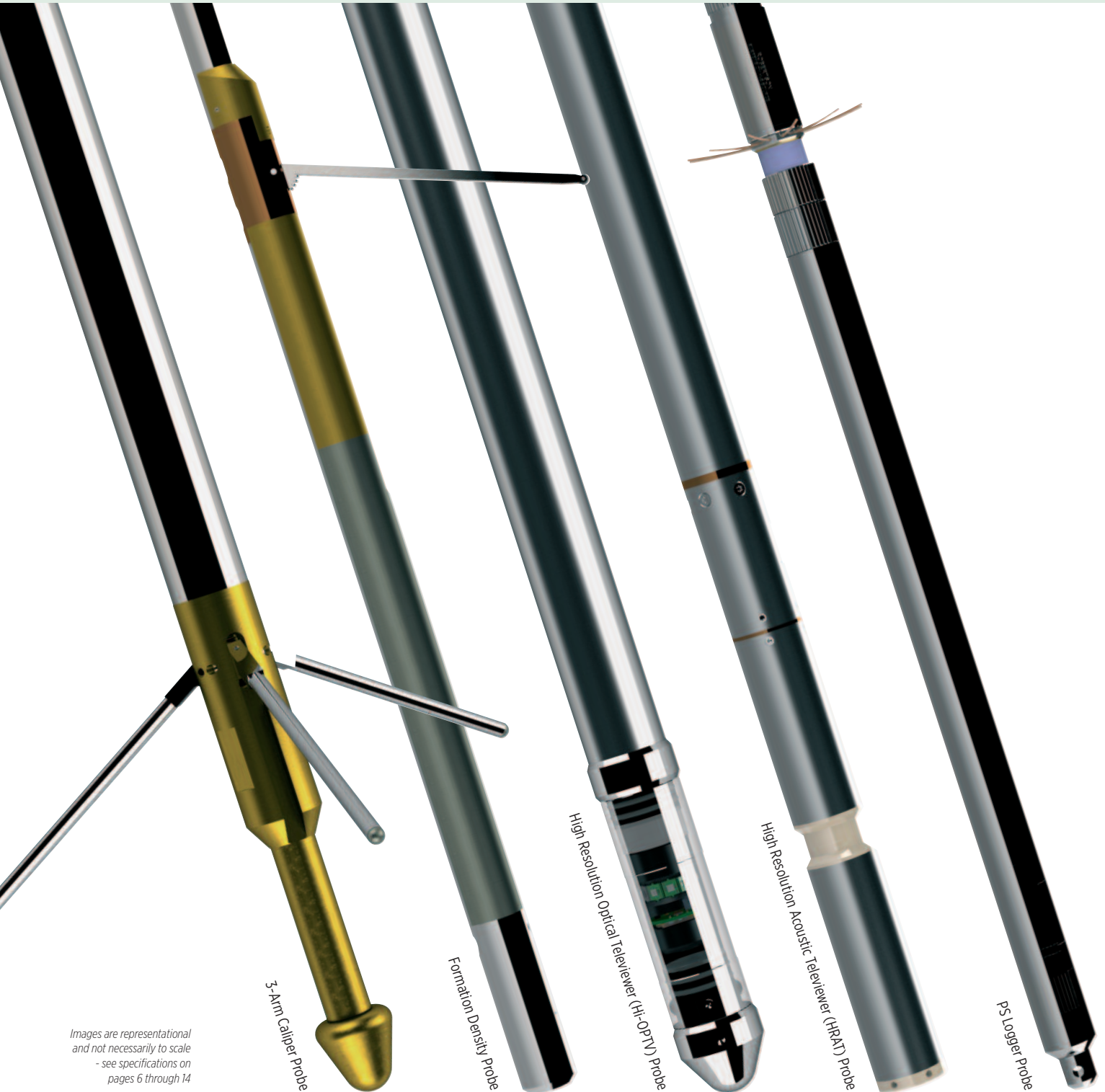
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*The new generation of offshore wind turbines will be 10-12 MW units with increasingly larger masts. Robertson Geo is the first choice provider for the essential demand of increased quality data and frequency of seabed and onshore subsurface investigations.*

# Renewables

Robertson Geo is the market leader and globally the largest supplier of wireline logging instrumentation systems with its comprehensive offer of geophysical probes and supporting surface equipment purpose designed and built in-house.



*Images are representational  
and not necessarily to scale  
- see specifications on  
pages 6 through 14*

Since 2007 Robertson Geo has extensive international experience as a specialist provider of services and equipment to the renewable energy markets with a proven results-based record of reliability in securing the highest quality calibrated data from both on-shore and with systems suitable for heave compensated drill ships or jack-up rigs from the harshest of offshore locations.



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## Wind turbines

Wind power is increasingly moving out to sea. In our seas the only limitation on size will be the engineering technology with offshore turbines, today increasing in size even faster than the past decade of onshore turbines.

These new generation of wind turbines will be 10-12 MW and ever larger masts will require more frequent subsurface investigation and more and better quality data. The equipment of choice for this type of work is the PS Logger probe and its ongoing development for use in harsh environments; it has successfully been deployed to collect data in thousands of offshore boreholes worldwide. *See page 6*

## Geothermal

As geothermal projects gain momentum globally, Robertson Geo equipment is increasingly used for logging and investigation of subsurface hot water sources. Applications include geothermal projects for water supply to homes in rural areas (heating and hot water) and also for heating greenhouses to protect crops in harsh winters. The temperature requirement for geothermal water supply and heating is typically 45-55° but the resources can be up to 2,000m deep, well within the capabilities of our logging tools.

## Hydroelectric

Projects involving dams and other hydroelectric infrastructure, such as shafts and tunnels, are often located in remote, mountainous terrain. Robertson Geo equipment is highly portable and well suited for these types of applications, which include the identification of suitable hydroelectric sites, and fracture detection, prior to tunnelling (vertically and horizontally). Our acoustic and optical Televiewers are typically used for these types of investigations.

## Service logging operations

Robertson Geo engineers are experienced, highly trained and fully certified for offshore working and can be deployed to any global location.

The complete catalogue of equipment is available on a service basis operated by these field crews. They are capable of prolonged service logging operations with minimum outside support and are expert in data processing and interpretation.

These are very cost effective contracting services in circumstances where projects do not justify purchasing equipment and the necessary back up facilities.

## Equipment supply

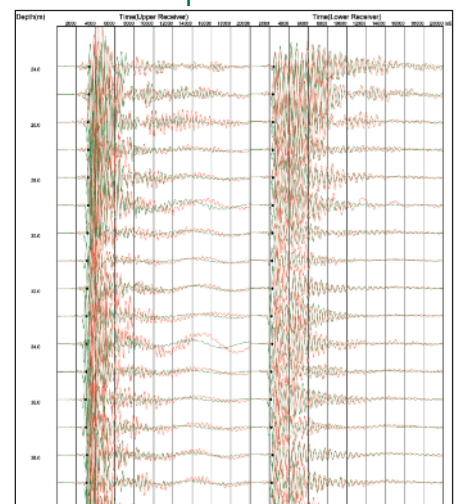
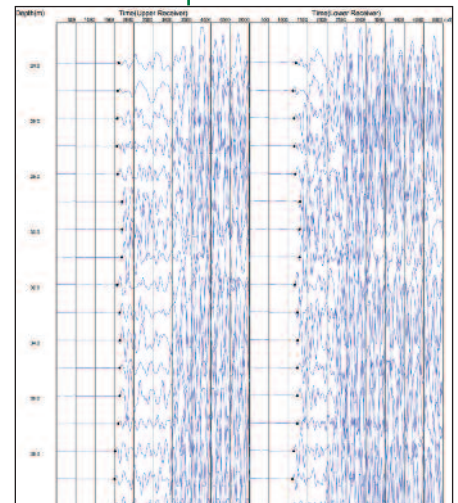
All Robertson Geo probes are fully tested and calibrated at the Deganwy facility prior to dispatch, eliminating testing time on site and ensuring the probes are fully operational prior to downhole use.

Depending on customer needs operational and customised training can be provided; this for winch use, probe deployment, logging techniques, data capture and equipment maintenance and troubleshooting.

## Equipment rental

Robertson Geo equipment is available to rent with a minimum rental period of 3 days in the USA or 15 days elsewhere. Full systems (including winches) or individual probes can be rented as required with borehole and classroom based training made available for rental customers.

In-house processing service can be supplied for rented equipment and all offshore systems come complete with spare probes and surface units together with essential spares to eliminate problems and expensive vessel downtime.



*Example of data created by the PS Logger Probe.*

*Further data examples are shown with each specification page for probes and where applicable surface equipment on pages 6 through 14.*

Robertson Geo is the only logging services provider with a QMS certified to ISO 9001, comprehensively calibrating all of its logging systems and uniquely using an on-site borehole for testing at its Deganwy test well and calibration facility.

## Probes

**PS Logger:** the go to probe for investigating seabed strength, providing measurements within a single borehole of high resolution shear-wave and compressional velocity data in rock and soils down to 500m. *See page 6*

**Natural Gamma:** measure the activities of naturally occurring or man-made isotopes. *See page 7*

**High Resolution Acoustic Televiewer (HRAT):** provides a continuous high-resolution oriented ultrasound image of the borehole wall. *See page 8*

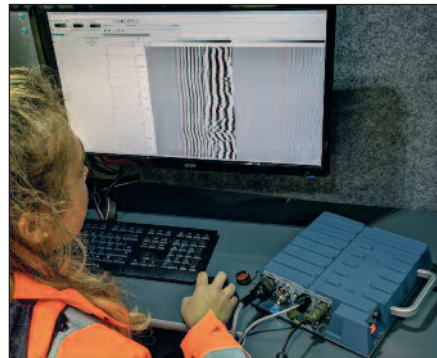
**Formation Density:** uses dual shielded detectors to provide a borehole-compensated density measurement with good bed-boundary resolution. *See page 9*

**3-Arm Caliper:** provides a single continuous log of borehole diameter as recorded by three mechanically coupled arms in contact with the borehole wall. *See page 10*

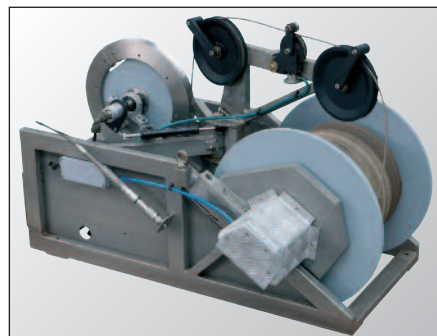
**High Resolution Optical Televiewer (Hi-OPTV):** provides a continuous very high resolution oriented image of the borehole walls using a conventional light source. *See page 11*

## Surface equipment

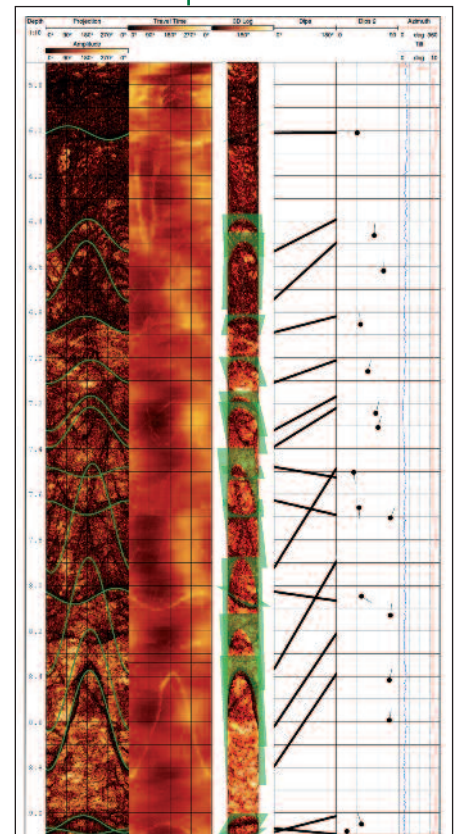
**Micrologger2:** surface interface system for handling logging data acquisition, which supports all Robertson Geo probes, including acoustic and imaging tools. *See page 12*



**Winlogger:** MS Windows based operating system for the Micrologger2, provides field acquisition capability. In-house processing, interpretation and reporting is undertaken. *See page 12*



**Winches:** Robertson Geo has designed and manufactures a range of winches for the renewable energy market of a mini winch and 500m/600m/2,000m (marine) capacities for deploying subsurface probes on 4-core or co-axial cable. *See pages 13-14*



*Example of data created by the HRAT probe.*

*Further data examples are shown with each specification page for probes and where applicable surface equipment on pages 6 through 14.*



# Renewable Energy Applications

Representative examples to show **Essential**, **Intermediate** and **Advanced** systems as a benchmark for identifying the level of data and interpretation required for individual locations and characteristics.

Robertson Geo support teams are always available for further information and discussion when considering system applications at [support@robertson-geo.com](mailto:support@robertson-geo.com)

## Essential

Micrologger2  
 Winch (Mini/500m/600m/2,000m marine)  
 PS Logger Probe

## Intermediate

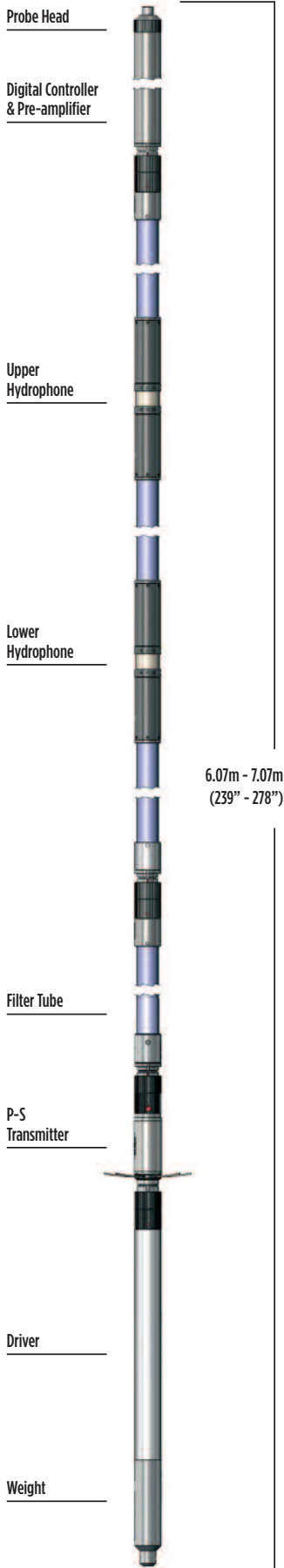
Micrologger2  
 Winch (Mini/500m/600m/2,000m marine)  
 PS Logger Probe  
 3-Arm Caliper Probe  
 High Resolution Acoustic Televiwer Probe  
 Natural Gamma Probe

## Advanced

Micrologger2  
 Winch (Mini/500m/600m/2,000m marine)  
 PS Logger Probe  
 3-Arm Caliper Probe  
 High Resolution Acoustic Televiwer Probe  
 Natural Gamma Probe  
 Pressure Meter  
 Formation Density Probe  
 High Resolution Optical Televiwer Probe

See probe and surface equipment specifications pages 6 through 14

# PS Logger



PS Logger Probe

The PS Logger probe is a low-frequency acoustic sonde designed to measure compressional and shear-wave velocities in soils and soft rock formations.

It operates using indirect excitation rather than mode conversion as in a conventional sonic. It is capable of acquiring high resolution P and S wave data in borehole depths of up to 600m in water.

### Principle of Measurement:

The PS Logger probe contains a unique design of powerful hammer source and two receivers, separated by acoustic damping tubes. To acquire data, the probe is stopped at the required depth and the source is fired under surface command. Firing causes a solenoid-operated shuttle aligned across the borehole axis to strike plates on opposite sides of the probe in turn, setting up a pressure doublet in the surrounding fluid. The resultant fluid motion produces a tube wave at the borehole wall with velocity close to the shear velocity of the formation together with a compressional wave.

As the waves propagate parallel to the borehole axis, they set up corresponding fluid movements that are detected by the two neutral buoyancy 3D hydrophone receivers and geophones, allowing the wave velocity to be determined.

The facility to stack multiple shots and filter the data as in normal seismic data acquisition is included in the operating software.

## SPECIFICATION:

### Features

- High energy shear-wave source has typically 20x power of conventional sonic probes
- Low-frequency measurement, more representative of engineering situations
- Stacking of multiple shots
- Probe separates for shipping
- Real-time wavelet (wiggle) display
- Compatible with Robertson Geo Micrologger

### Measurements

- Formation compressional wave velocity
- Formation shear-wave velocity

### Applications

- Site Investigation - foundation studies, windfarms, offshore structures, dam safety
- Physical properties of soil/rock - shear modulus, bulk modulus, compressibility and Poisson's ratio
- Earthquake engineering - characterization of strong motion sites
- Velocity control for seismic reflection surveys
- Engineering

### Operating Conditions

- Borehole type: open-hole, water-filled
- Recommended Logging Speed: Static measurements

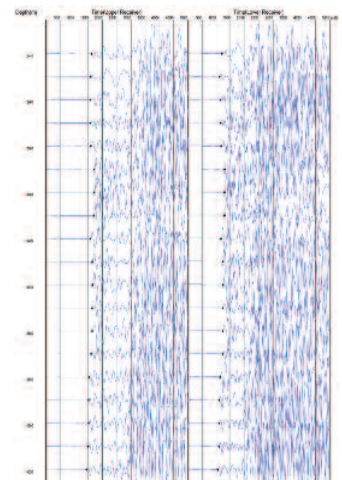
### Specifications

- Diameter: 50mm
- Assembled length: 6.07m - 7.07m (1 or 2m filter)
- Shipping case length: 1.45m (4.75ft)  
supplied in two transport cases
- Assembled weight: 26.5kg - 28kg (1 or 2m filter)
- Max. temperature: 70°C
- Max. pressure: 6.5MPa
- Transducer type: solenoid and hammer
- Receiver type: 3D hydrophones (p), geophones (s)
- Receiver spacing: 1000mm (3.28ft)
- Waveform acquisition period: 5.12mS to 409.6mS
- Sampling: 2.5µs minimum
- Down-hole gain: 0db to 42db (surface control)

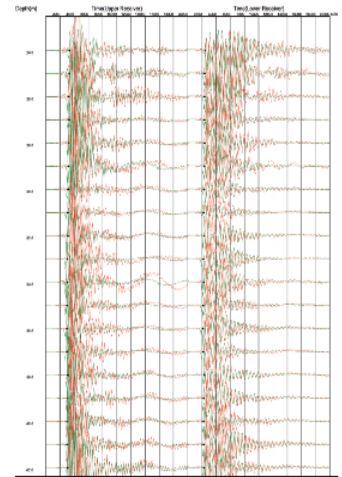
### Part Numbers

- 1002244 PS Logger probe in carrying case

### P Waves



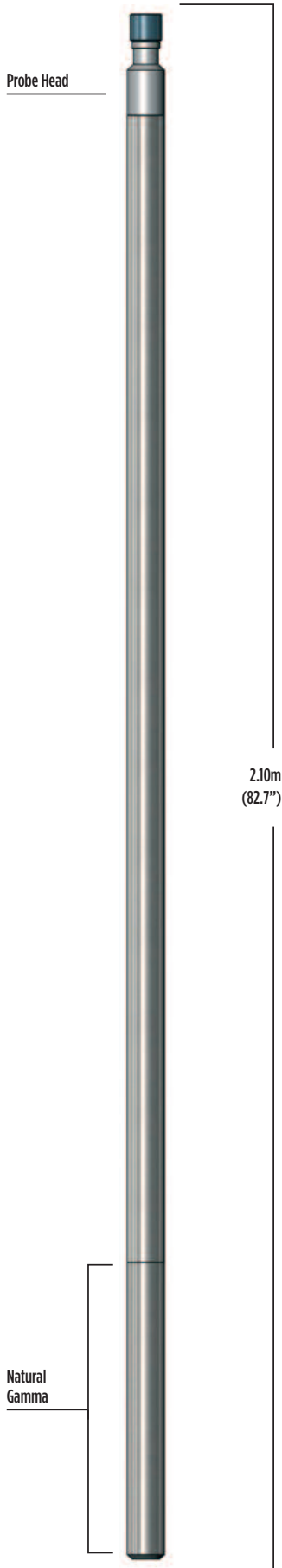
### S Waves



Examples of logging data

# Natural Gamma

## Triple Gamma & Ultra-Slim Gamma



The Triple Gamma and Ultra-Slim Gamma probes measure the activities of naturally occurring or man-made isotopes.

### Principle of Measurement:

The probes are based on scintillation gamma detectors. The detectors measure the natural gamma radiation released from potassium and the decay products of uranium and thorium in the borehole.

### SPECIFICATION:

#### Features

- Small diameter for slim-hole operations
- Multiple detectors with different sensitivities

#### Measurements

Natural Gamma

#### Applications

- Mineral detection
- Strata correlation between wells

#### Operating Conditions

- Borehole type: open/cased, water/air-filled
- Recommended Logging Speed: 4m/min (slower in low gamma lithology)

#### Specifications

##### Triple Gamma Probe

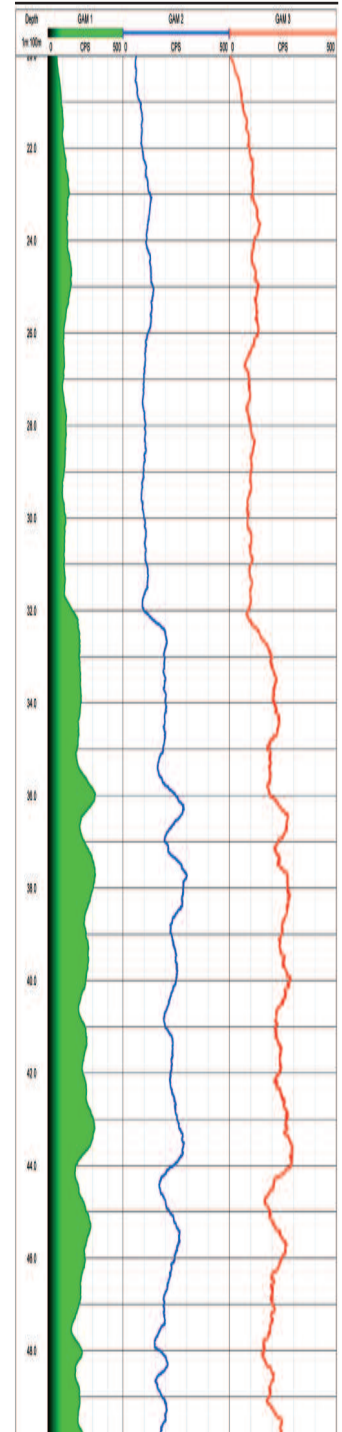
- Diameter: 38mm
- Length: 2.10m
- Weight: 6kg
- Natural-gamma detectors: 25mm x 25mm NaI(Tl)  
50mm x 25mm  
100mm x 25mm
- Temperature: 0-70°C (extended ranges available)
- Max. pressure: 20MPa

##### Ultra-Slim Gamma Probe

- Diameter: 27mm
- Length: 0.79m
- Weight: 4kg
- Natural-gamma detectors: 125mm x 17.5mm Cs(Tl)
- Temperature: 0-70°C (extended ranges available)
- Max. pressure: 10MPa

#### Part Numbers

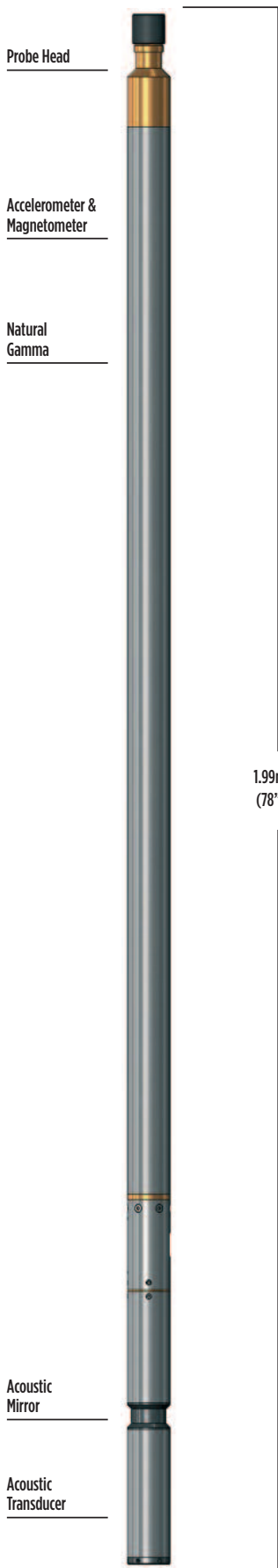
- 1002009 Triple Gamma probe
- 1002007 Ultra-Slim Gamma probe



Examples of logging data

Natural Gamma Probe

# High Resolution Acoustic Televiewer (HRAT)



High Resolution Acoustic Televiewer (HRAT) Probe

The High Resolution Acoustic Televiewer (HRAT) provides a continuous high-resolution oriented ultrasound image of the borehole wall.

The probe uses a fixed acoustic transducer and a rotating acoustic mirror to scan the borehole walls with a focussed ultrasound beam. The amplitude and travel time of the reflected acoustic signal are recorded as separate image logs.

Features such as fractures reduce the reflected amplitude and appear as dark sinusoidal traces on the log. The travel-time log is equivalent to a 360-arm caliper and shows diameter changes within open fractures and 'break-outs'.

Directional information is also recorded and used to orient the images in real time.

## SPECIFICATION:

### Applications

- Fracture identification and orientation
- Stratigraphic studies
- Local stress studies (break-out)
- Core orientation
- Cased-hole studies

### Operating Conditions

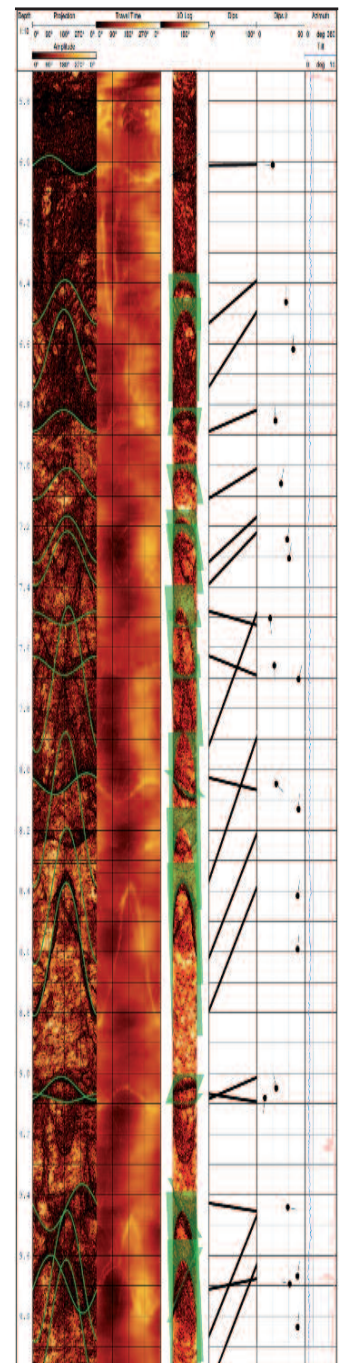
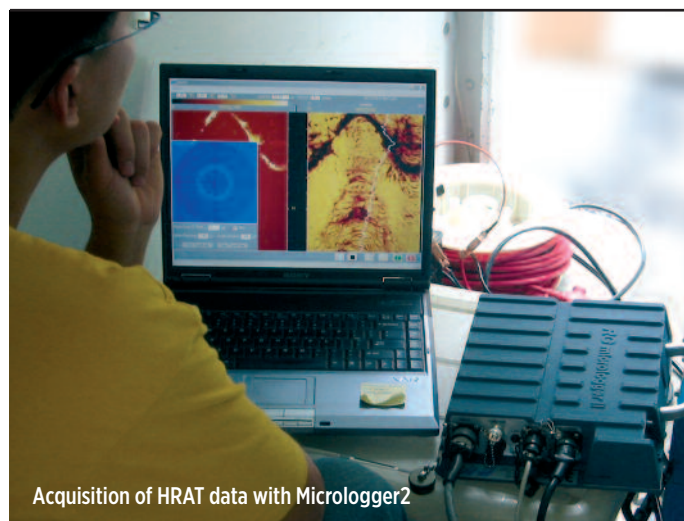
- Borehole Type: Fluid filled
- Recommended Logging Speed: 2.5m/min

### Specifications

- Diameter: 42mm
- Length: 1.55m or 1.99m (with natural gamma option)
- Weight: 5kg
- Transducer type: 1.5MHz piezo-composite
- Rotation rate: 5 – 20rev/s
- Sample rate: up to 360/rev

### Part Numbers

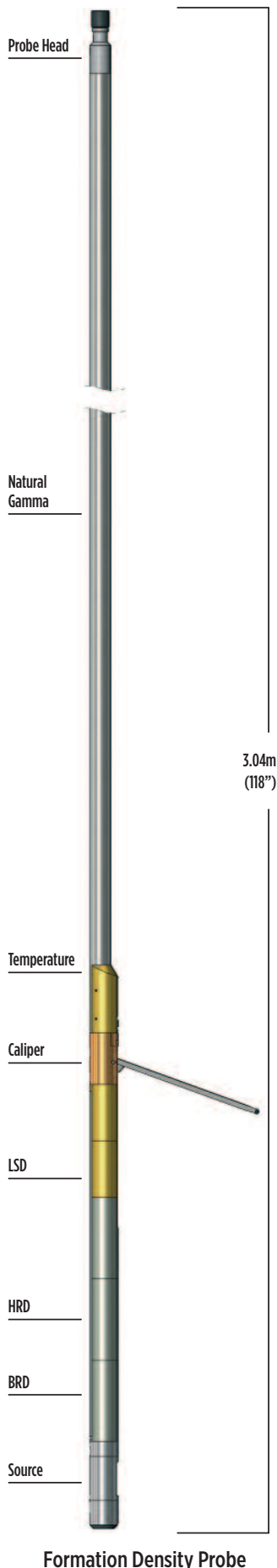
- 1002184 HRAT probe
- 1002192 HRAT including natural-gamma



Examples of logging data



# Formation Density, Density Guardlog & Iron Ore Density



The Formation Density probe uses dual shielded detectors to provide a borehole-compensated density measurement with good bed-boundary resolution.

The Density Guardlog probe offers an additional LL3 focussed electrical measurement with good vertical resolution and depth of investigation. The Iron Ore Density probe includes extra collimation, different source-detector spacings and a higher activity source to extend the density range to 5g/cc for iron ore logging.

## Principle of Measurement:

The probes contain a detachable <sup>137</sup>Cs gamma source and two scintillation gamma detectors. The active windows of the source and detectors are maintained in contact with the borehole wall by a motorised caliper arm. Gamma radiation back-scattered by the formation (Compton effect) reaches the detectors where the relative count rates provide a measure of formation density.

## SPECIFICATION:

### Features

- Compensated density output in engineering units (g/cc)
- Short-spacing detector for high vertical resolution
- Tungsten shielding reduces borehole effects
- Standard calibration blocks for field or base use

### Measurements

- Bulk density
- High-resolution density (HRD)
- Natural gamma
- Caliper
- Options: Guard resistivity, Bed-resolution density (BRD), Temperature
- Dual calibrated density channels
- Fluid Temperature

### Applications

#### Minerals:

- Density and porosity
- Lithology
- Bed thickness and boundary location
- Coal ash and moisture content

#### Engineering:

- Rock strength and elasticity parameters (with sonic log)
- Detection of weathered or fractured zones

#### Water:

- Location of aquifer and aquitard
- Detection of cavities and missing cement

### Operating Conditions

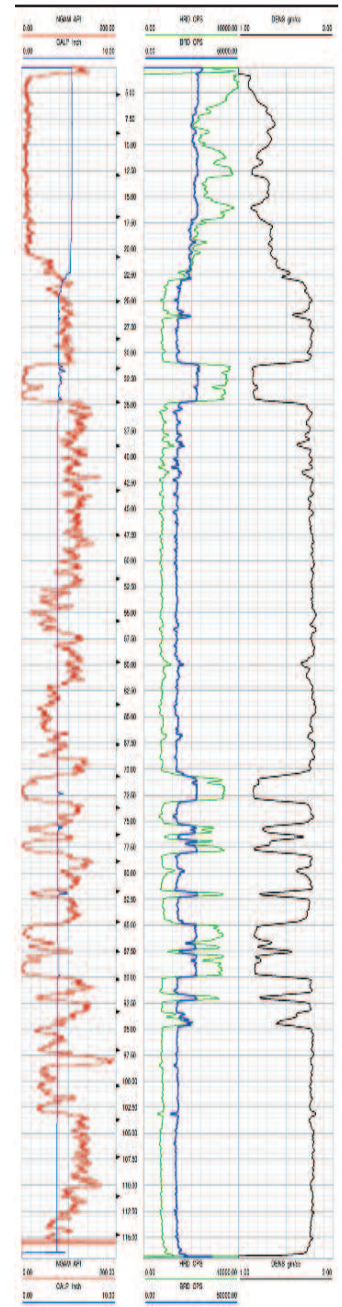
- Borehole type: All, including air filled (qualitative measurement only)
- Recommended Logging Speed: 4m/min

### Specifications

- Diameter: 51mm
- Length: Formation Density 3.04m / Density Guardlog 2.89m
- Weight: 21kg (Density Guardlog 28.5kg)
- Temperature: 0-70°C (extended ranges available)
- Max. pressure: 20MPa
- Density range: 1.1 to 2.95g/cc (Formation Density and Density Guardlog probes)  
1.5 to 5.0g/cc (Iron Ore Density probe)
- Caliper range: 50mm to 300mm
- Resistivity range: 1-10000 ohm-m

### Part Numbers

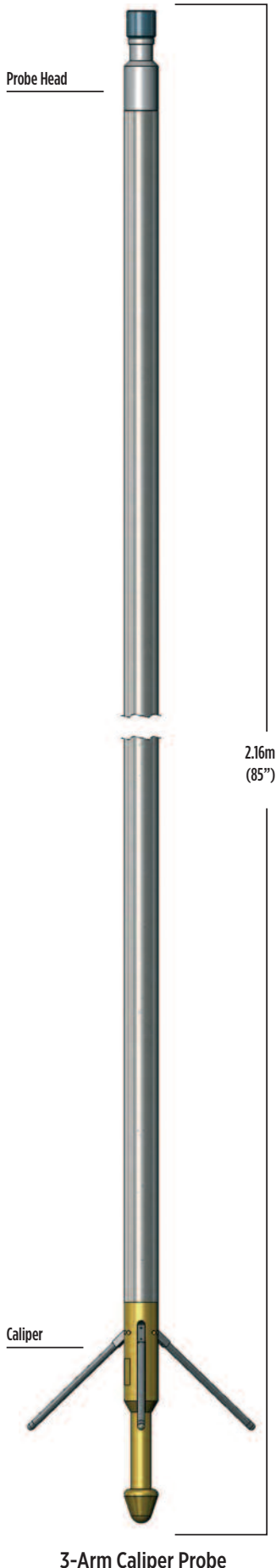
- I002013 Formation Density probe
- I002016 – includes BRD and temperature
- I014720 Density Guardlog probe with BRD
- I018309 Iron Ore Density probe



Example of logging data

# 3-Arm Caliper

710mm, 1000mm and 1500mm ranges



The 3-Arm Caliper probe provides a single continuous log of borehole diameter as recorded by three mechanically coupled arms in contact with the borehole wall.

710mm, 1000mm and 1500mm range calipers are available to suit a range of well diameters. The caliper is a useful first log to determine the borehole conditions before running more costly probes or those containing radioactive sources.

### Principle of Measurement:

Opening and closing of the motor-driver caliper arms is by surface command, allowing the probe to run into the borehole with the arms retracted. Once opened, the spring-loaded arms respond to borehole diameter variations as the probe is raised up the borehole.

## SPECIFICATION:

### Features

- Small diameter for slim-hole operation
- Extension arms supplied as standard for 38mm version
- Optional natural-gamma measurement
- Optional casing collar locator

### Measurements

- CCL (optional)
- Borehole volume (derived)
- Natural Gamma (optional)
- Borehole volume

### Applications

- Minerals/Water/Engineering
- Location of borehole collapse or obstructions
- Cement volume calculations for grouting
- Identification of hard and soft lithology
- Location of cracks, fissures, caving, faulting, casing breaks
- Correction of other logs affected by borehole diameter

### Operating Conditions

- Borehole type: open/cased; water/air-filled
- Centralisation: recommended in large holes
- Centralisation: recommended in inclined holes
- Recommended Logging Speed: 5m/min

### Specifications

- Temperature: 0-70°C (extended ranges available)
- Max. pressure: 20MPa

#### 3-Arm Caliper (710mm range)

- Diameter: 38mm
- Length: 2.18m-2.68m (depending on CCL and extended arms)
- Weight: 7.5kg
- Range: 40-300mm and 40-710mm

#### 3-Arm Caliper (1000mm range)

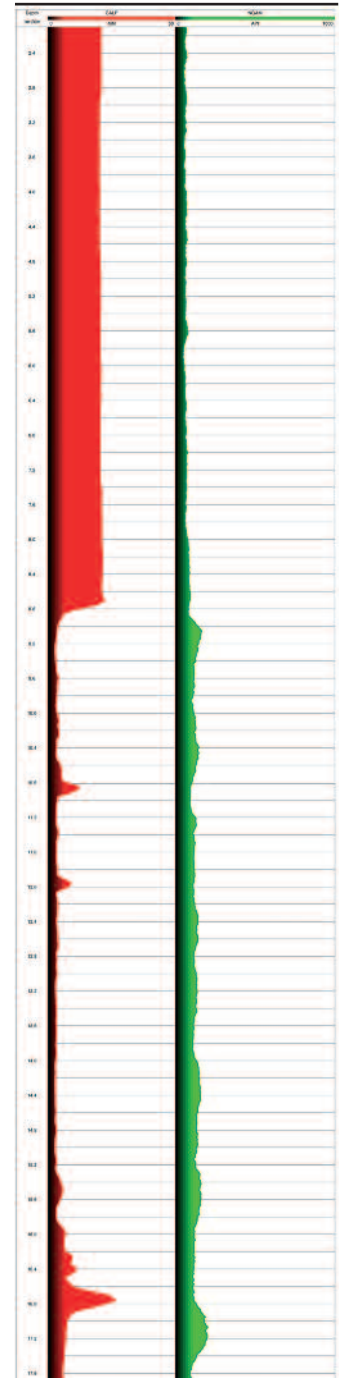
- Diameter: 60mm
- Length: 2.83m
- Weight: 15kg
- Range: 65-1000mm

#### 3-Arm Caliper (1500mm range)

- Diameter: 80mm
- Length: 3.14m
- Weight: 17.5kg
- Range: 100 - 1600mm

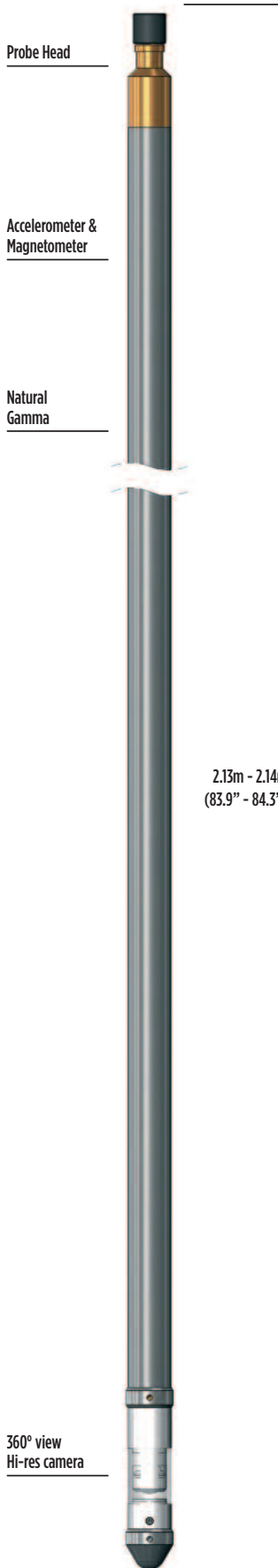
### Part Numbers

- 1002035 3-Arm Caliper (710mm range) with arm extension kit and calibrator
- 1002037 - including natural gamma
- 1002041 3-Arm Caliper (1000mm range) with calibrator
- 1002052 3-Arm Caliper (1500mm range)



Example of logging data

# High Resolution Optical Televiewer (Hi-OPTV)



The High Resolution Optical Televiewer (Hi-OPTV) provides a continuous very high resolution oriented image of the borehole walls using a conventional light source.

A unique optical system based on a fisheye lens allows the probe to survey 360 degrees simultaneously. This information is processed in real time to produce a complete 'unwrapped' image of the borehole oriented to magnetic north. The probe offers superior resolution to the High Resolution Acoustic Televiewer (HRAT) and produces images in real colour. While, unlike the HRAT, it can operate in air-filled boreholes, it is unsuitable for boreholes containing mud or cloudy fluids.

### WellCad™ Image-processing software:

WellCad™ is a Windows-based package for processing, interpreting and displaying acoustic and optical televiewer image logs. Standard log presentations include tadpole and stick plots, stereographic projections of poles to planes and azimuth frequency diagrams. The synthetic core display allows convenient comparison of log and field data for orientation of fractured or incomplete core sections.

## SPECIFICATION:

### Applications

- Fracture identification and orientation
- Stratigraphic studies
- Local stress studies (break-out)
- Core orientation
- Cased hole studies

### Operating Conditions

- Borehole Type: Air filled or clear fluid
- Recommended Logging Speed: 3m/min

### Specifications

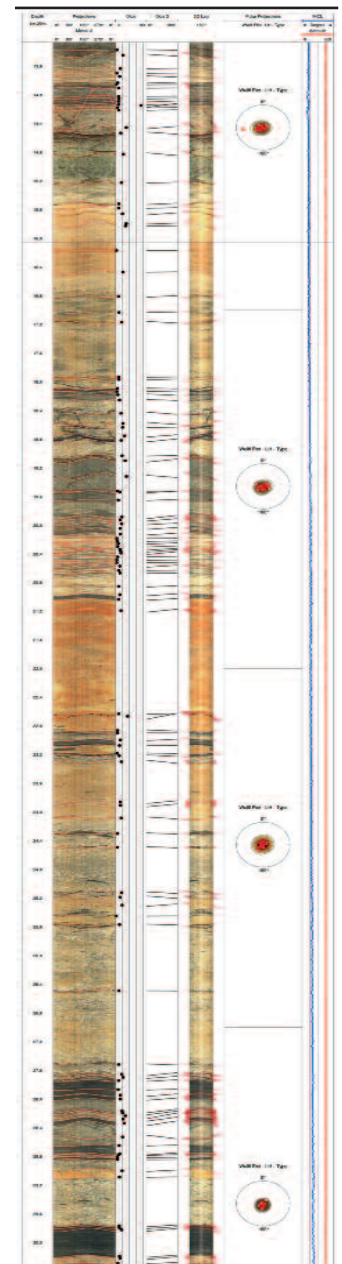
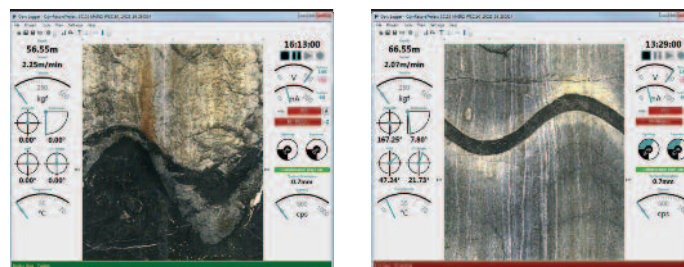
- Length: 2.13m - 2.14m (10MPa/20MPa window)
- Diameter: 46mm (10MPa) & 58mm (20MPa)
- Weight: 6kg (10MPa) or 7.2kg (20MPa)
- Temperature (max): 60°C
- Circular resolution: user definable 360/540/720 /900/1080/1260/1440 pixels
- Sensor type: 1280 x 1024 pixels CMOS image sensor
- Colour resolution: 24 bit RGB

### Part Numbers

- 1017187 Hi-OPTV probe (46mm)
- 1017188 Hi-OPTV probe (46mm) with gamma
- 1017125 Hi-OPTV probe (58mm)
- 1017216 Hi-OPTV probe (58mm) with gamma
- 1015464 Gamma Test Blanket

### WellCAD™ Image-processing software

- 1000942 WellCAD™ Software
- 1000944 WellCAD™ Image Module



Examples of logging data

High Resolution Optical Televiewer (Hi-OPTV) Probe

# Micrologger2 | Winlogger Software

## Micrologger2

Micrologger2 is the surface interface system for handling logging data acquisition. It supports all Robertson Geo probes including acoustic and imaging tools.

Compact and lightweight Micrologger2 is probably the most powerful portable logging system around and with over 600 units used around the globe it has a proven record for its reliability and technology.

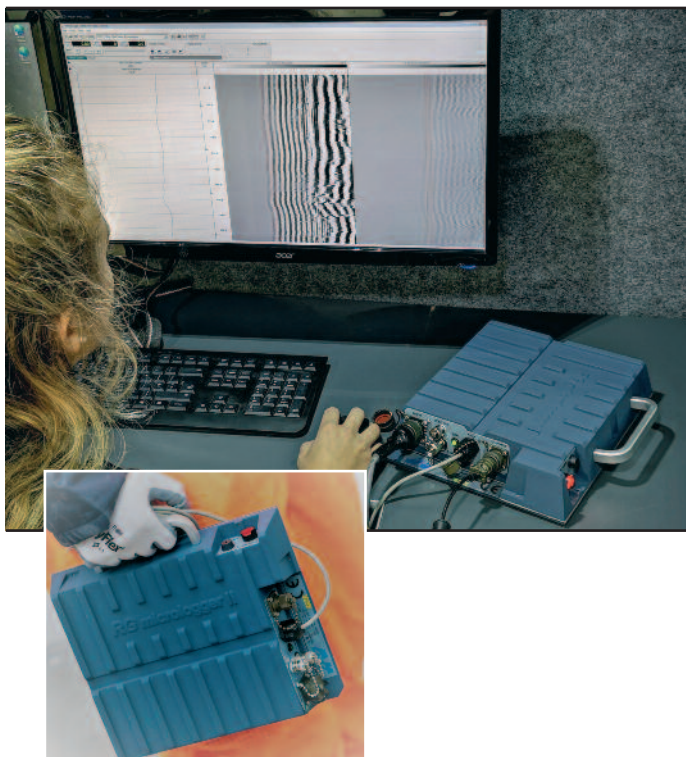
### SPECIFICATION:

#### Features

- Logging
- Supports Robertson Geo and many third-party probes
- USB high-speed link to PC Compatible with most winches/cables
- Real-time data display and printing
- Supports Windows™ printers
- Data output in LAS and Robertson Geo formats
- Modular construction for easy field maintenance

#### Part Numbers

|         |   |
|---------|---|
| 1000184 | Robertson Geo USB Micrologger2                            |
| 1000204 | 110/220VAC power supply for ML2 and winch (up to 500m)    |
| 1000197 | Canvas bag for Micrologger2                               |
| 1013689 | Robertson Geo Micrologger2 (video capability installed)   |
| 1000192 | Micrologger2 12V PSU (Black Box)                          |
| 1000211 | Notebook PC using latest Windows software                 |
| 1000213 | Semi-Ruggedised notebook PC using latest Windows software |
| 1014942 | Fast Thermal Printer for continuous plots (Desk Top)      |
| 1014946 | Fast Thermal Printer for continuous plots (Rack Mounted)  |



## Winlogger Software

Winlogger is the MS Windows based operating system for the Micrologger2, providing field acquisition capability, processing and reporting for the full range of Robertson Geo probes.

It is easy to operate, retaining a standard Windows™ look using familiar tool bars and drop-down menus for all frequently needed functions.

The package incorporates powerful features including a built-in compiler to allow the more advanced user to construct custom 'User Functions' to process multichannel data in real time during logging.

Robertson Geo Winlogger is supplied with a multi-user licence allowing free distribution of the software to any user of Robertson Geo log data.

This policy has proved popular with wireline service companies who may provide Winlogger to clients to allow them to replay or reprocess data in-house without resorting to 3rd-party packages.

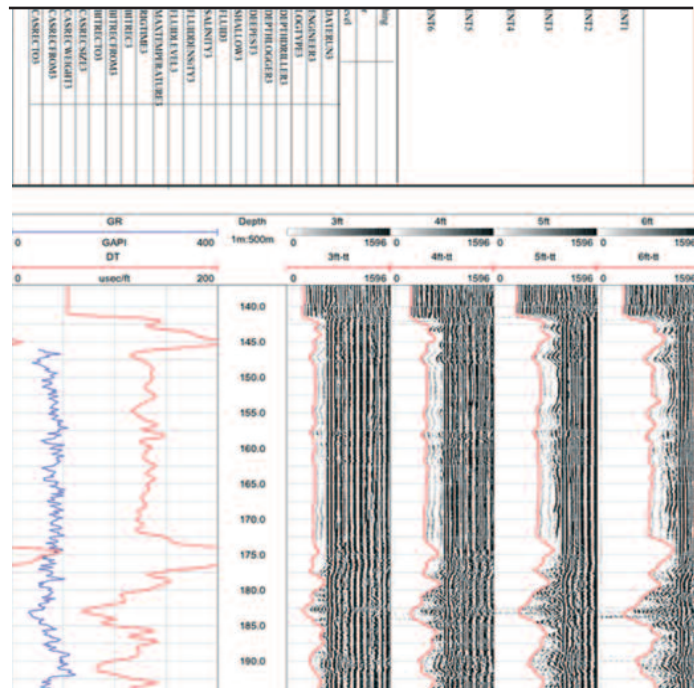
### SPECIFICATION:

#### Features

- Support for all Robertson Geo digital slim-hole probes
- Screen/printer log display in calibrated engineering units
- Selectable depth sample interval (1, 2, 5, 10 cms etc)
- Metric and imperial logs in API format
- Custom logos and headers Data export in ASCII (LAS) format
- Compatible with Windows 10 and earlier OS

#### Part Numbers

|         |                    |
|---------|--------------------|
| 1000466 | Winlogger software |
|---------|--------------------|



# Mini Winch | 500m Winch | 600m Winch

Robertson Geo designs and builds its own range of winches of varying capacities for deploying subsurface probes on 4-core or co-axial cable.

Each winch is precision engineered for reliable use in the most challenging field applications. The winches are fully compatible with the Micrologger2 surface system and the full range of Robertson Geo probes to depths of up to 2,000m.

## Mini Winch

The Robertson Geo Mini Winch is portable, compact and robust. Its basic 'no-frills' design is aimed at long-term reliability under arduous conditions.

### SPECIFICATION:

#### Specifications

|           |   |
|-----------|---|
| Capacity: | 175m (575') 4.72, (3/16") cable                             |
| Speed:    | 0 - 17.5m/min (0 - 57ft/min) on full drum (12VDC operation) |
| Motor:    | 550W (12 - 24VDC)   |
| Size:     | 340(w) x 400(l) x 320(h) mm                                 |
| Weight:   | 19kg excluding cable  |

#### Part Numbers

|         |   |
|---------|---|
| 1013754 | Mini Winch includes power and data cables |
| 1001117 | Mini Winch Tripod with Encoder            |



## 500m Winch

A robust heavy-duty unit, the 500m Winch can be operated from a vehicle battery and is ideal for heavier probes in shallow boreholes.

### SPECIFICATION:

#### Specifications

|           |                                 |
|-----------|---------------------------------|
| Capacity: | 530m (1738') 3/16" 4-core cable |
| Speed:    | 0 - 13m/min (0 - 43ft/min)      |
| Motor:    | 180W at 12VDC                   |
| Size:     | 582(w) x 482(l) x 414(h) mm     |
| Weight:   | 52kg excluding cable            |

#### Part Numbers

|         |   |
|---------|---|
| 1001019 | 500m winch including tripod, power and data cable |
|---------|---|



## 600m Winch

Of similar basic construction to the 500m winch, the 600m is mains/generator powered.

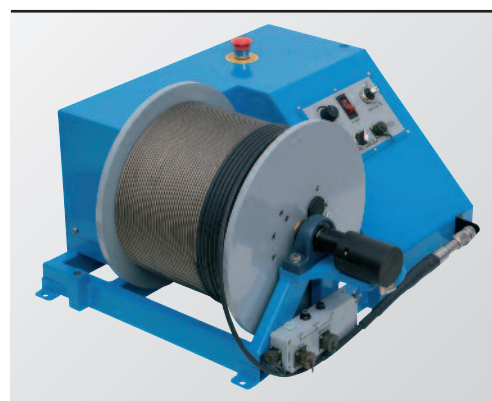
### SPECIFICATION:

#### Specifications

|           |                                 |
|-----------|---------------------------------|
| Capacity: | 630m (2066') 3/16" 4-core cable |
| Speed:    | 0 - 15m/min (0 - 49ft/min)      |
| Motor:    | 540W at 110/220VAC              |
| Size:     | 622(w) x 696(l) x 370(h) mm     |
| Weight:   | 80kg excluding cable            |

#### Part Numbers

|         |   |
|---------|---|
| 1001043 | 600m winch including tripod, power and data cable |
|---------|---|



# 2000m Marine Winch

Robertson Geo designs and builds its own range of winches of varying capacities for deploying subsurface probes on 4-core or co-axial cable.

Each winch is precision engineered for reliable use in the most challenging field applications. The winches are fully compatible with the Micrologger2 surface system and the full range of Robertson Geo probes to depths of up to 2,000m.

## 2000m Marine Winch

Working experience by Robertson Geo offshore logging crews has led to the modification of the 2000m Winch and the introduction of a Marine variation to resist corrosive, saline conditions.

The communications box is waterproofed and filled with silicon to protect the electronics.

Grade 316 stainless steel has been introduced to replace standard steel components. 316 contains the alloy molybdenum, significantly enhancing corrosion resistance, especially for more saline or chloride exposed environments. 316 components include structural frames, depth wheel, panels, spacers, shafts and gears, sprockets and chains.

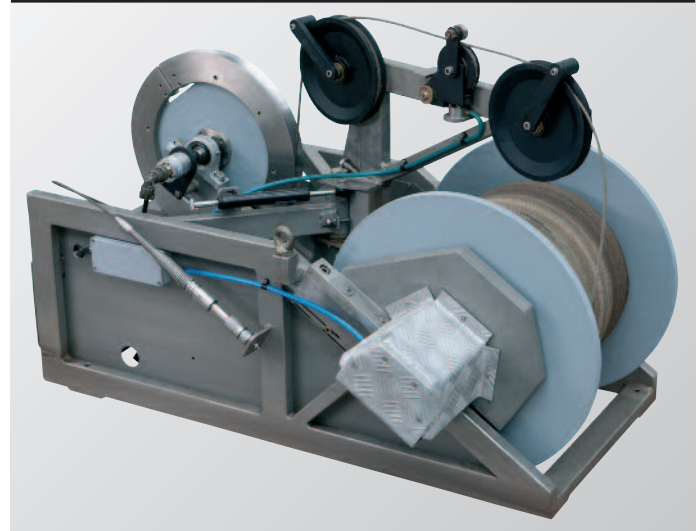
## SPECIFICATION:

### Specifications

|           |  |
|-----------|--|
| Capacity: | 2030m (6658') 3/16" 4-core cable<br>1030m (3378') 1/4" coaxial cable |
| Speed:    | 0 – 30m/min (0 – 99ft/min)   |
| Motor:    | 2hp (1.5kW) at 110/220VAC  |
| Size:     | 605(w) x 1060(l) x 735(h) mm   |
| Weight:   | 142kg excluding cable  |

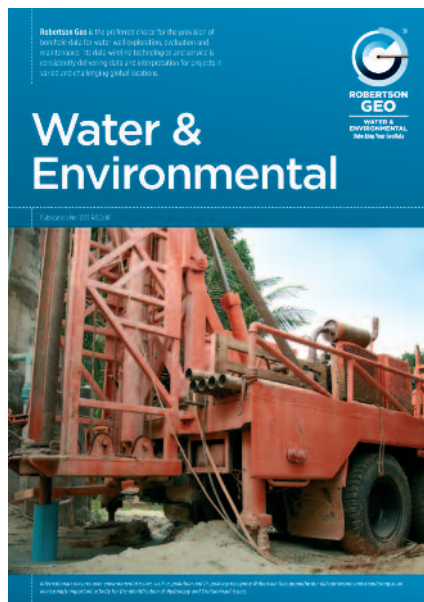
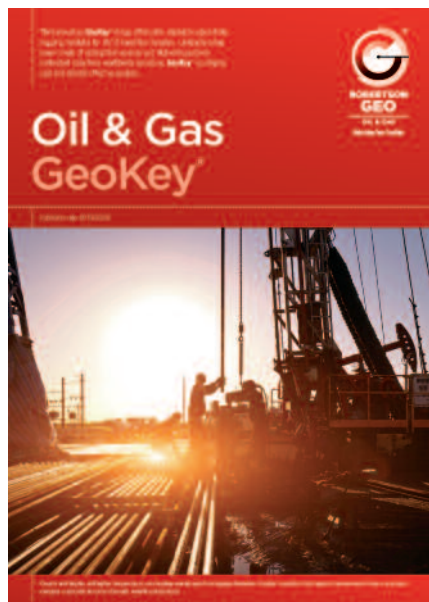
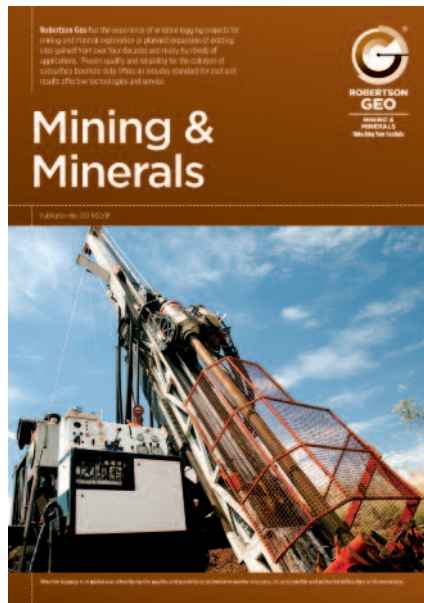
### Part Numbers

|         |                    |
|---------|--------------------|
| 1019167 | 2000m Marine Winch |
|---------|--------------------|





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**ROBERTSON  
GEO**

Unlocking Your GeoData

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