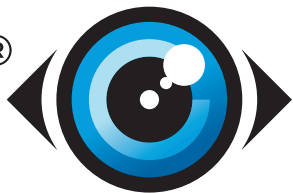> **Seeing is believing** - **RGeo-eye®** is the world first high-speed wireline borehole camera system. A slimline full colour downward view camera, operating to 3000m (10,000ft) on a 4-core or coaxial cable at high transmission rate and fully compatible with existing Robertson Geo winches and surface systems. "

# RGeo-eye®
## Downhole Camera

**RGeo-eye® VISUALIZER**

**RGeo-fast®**
*Delivering 1 Megabit/sec communication speed*

90°C

3,000 METRES

30 FRAMES per sec

GeoCAD®, RGeo-eye® and RGeo-fast® are **ROBERTSON GEO** registered brands

# RGeo-eye®
## Downhole Camera

**RGeo-eye®** is the world first high-speed wireline borehole camera system.

A slimline full colour downward view camera, operating to 3000m (10,000ft) on a 4-core or coaxial cable at high transmission rate and fully compatible with existing Robertson Geo winches and surface systems.
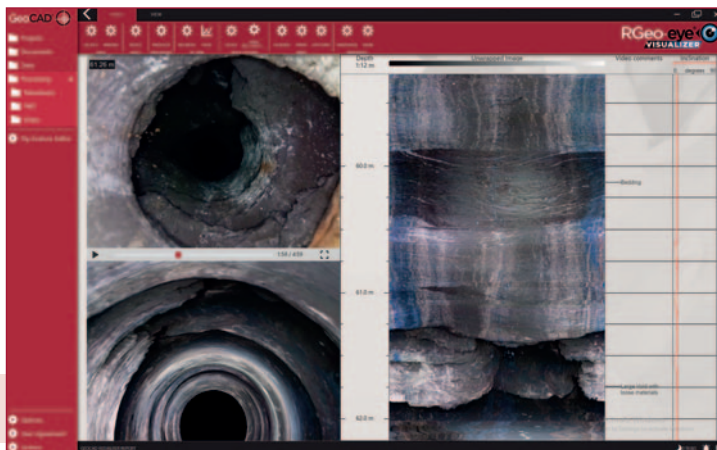
**Page 03**

# RGeo-eye®
## VISUALIZER

**RGeo-eye® Visualizer** redefines borehole camera surveys by providing a full 360° unwrapped image of the borehole. Unlike conventional camera systems, which rely on the operator spotting and recording a side view video of a potential problem in the borehole, RGeo-eye® Visualizer records the complete sidewall or casing, leaving nothing to chance.

**Page 06**

# RGeo-fast®
*Delivering 1 Megabit/sec communication speed*

The camera system incorporates **RGeo-fast® delivering 1 Megabit/sec communication speed** enabling the acquisition of high resolution video feed from downhole (to 3,000m) in air or water filled open or cased boreholes while allowing real-time viewing for the surface operative.

*RGeo-eye® employs a downward facing window with a fish-eye lens fully corrected for lens distortion before data is compressed and sent uphole. An LED light source, with controllable brightness is integral to the probe.*

# Seeing is believing

# RGeo-eye®
## Downhole Camera

The RGeo-eye® camera system is a new introduction of a design and build development by Robertson Geo. It has a deep operating range for the acquisition of high quality video feed for deep subsurface applications. The camera operates on industry-standard 4-core or coaxial wireline cable, and offers pressure ratings to 5000 psi and a 90°C temperature rating.

*Open hole.*
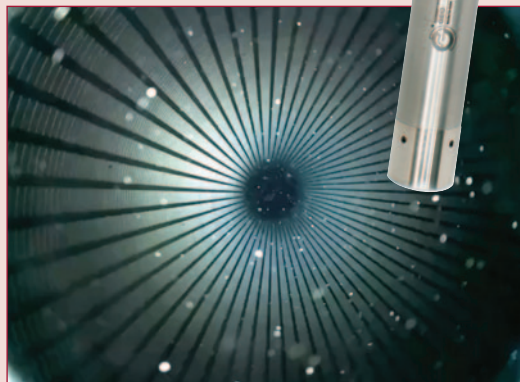
*Cased hole.*

*The RGeo-eye® is a robust, easy to deploy downhole camera at 1.08m (or 1.91m with sinker bar) x 43mm and only 5kg.*



The camera has auto focus, a frontal six LED internal array with adjustable lighting intensity, and a user selectable resolution of SVGA (800 x 600) or (600 x 600), at up to 30 frames/sec.

The standard RGeo-eye® camera is rated at 90°C at 5,000 psi (3,000m), and is offered in three versions – 1,000m, 2,000m and 3,000m.

The acquisition software package provided with the RGeo-eye® camera system allows extensive operator control including video resolution, frame rate, shutter speed, lighting brightness, white balance, UXGA 'snapshot' mode and real time video annotations.

Four user definable presets allow the operator to store optimal settings for various borehole conditions. Video is recorded in AVI and converted to MP4 for storage and relay.

It allows screen shots to be captured and text editing while viewing/recording. Where more detail is required, full colour 'snapshot' images can also be captured at 1600 x 1200.

The RGeo-eye® camera comes with acquisition software that's easy to configure and work with, offering resolution control; lighting control; depth recording; text editing; recording video; screenshots; RGeo-eye® specification and depth & temperature warnings; Power meter and High res. frame capture mode with zoom-in function.
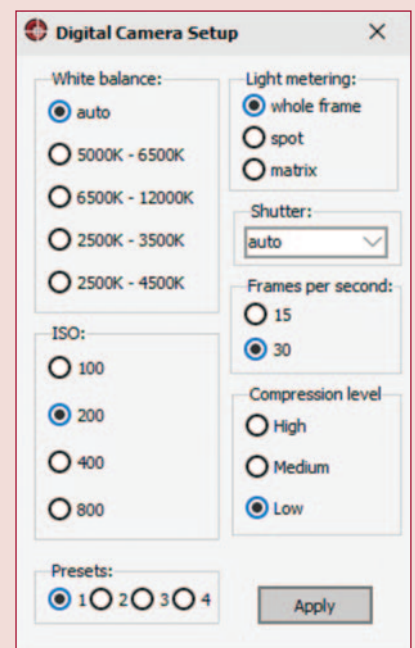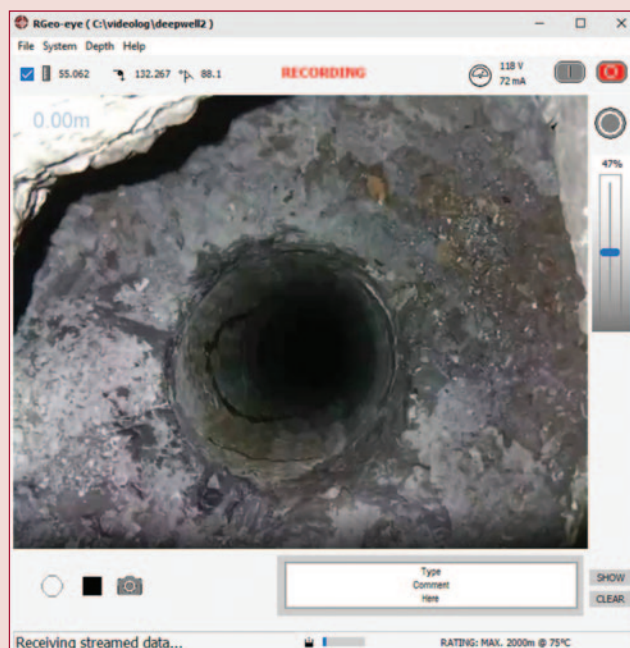
## Applications:

Borehole and casing integrity inspection

Surveillance of mines, shafts, caverns and voids

Assessment of deep concrete piles

Pre-logging borehole examination

Damage detection in subsurface structures

## Operating Conditions:

Borehole Type: Air/water filled open hole or cased hole

Recommended Logging Speed: 2 – 5m/min

Depth rating: 3,000m on 4-core cable
or 1,000m on coaxial cable*

## Specifications:

Diameter: 43mm

Length: 1.08m, or 1.91m with sinker bar

Weight: 5kgs

Communication rate: RGeo-fast® 1 Megabit/sec

Resolution: Up to 30 frames per sec SVGA (800x600)
or (600 x 600) - User selectable

'Snapshot' mode: high resolution still image
at UXGA (1600 x 1200)

Standard temperature rating: 0-90°C at 5000psi (3000m) -
1,000m, 2,000m and 3,000m versions available

Max pressure: 5000 psi (3,000m)

Autofocus

Frontal LED internal array, with adjustable lighting intensity

Light output: 6 x 282lm @ 3,000K LEDs

Additional lighting options for large diameter voids

CE  CE Certified and manufactured within an
ISO9001:2015 quality system

Recommended minimum viable computer specification:
i7 7700 processor with 500GB SSD, 16GB of memory running
Intel HD Graphics 630 card running Windows 10 64-bit

## Part Numbers:

| I020263 | RGeo-eye® Digital Downhole Camera (1,000m) |
| I020408 | RGeo-eye® Digital Downhole Camera (2,000m) |
| I020409 | RGeo-eye® Digital Downhole Camera (3,000m) |
| I020412 | Custom Peli Case for RGeo-eye® Camera |
| I020264 | RGeo-eye® Centraliser 76-110mm |
| I020265 | RGeo-eye® Centraliser 90-180mm |
| I020266 | RGeo-eye® Centraliser 180-260mm |
| I020267 | RGeo-eye® Sinker Bar |

### Downhole videos:

If viewing this literature digitally, click on any of the downhole videos to open the YouTube RGeo-eye® playlist.
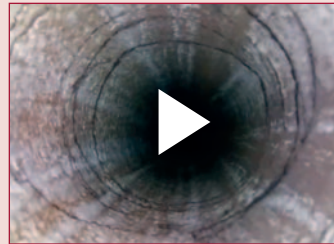






\* The depth rating on coaxial cable is dependent on the coaxial cable properties.
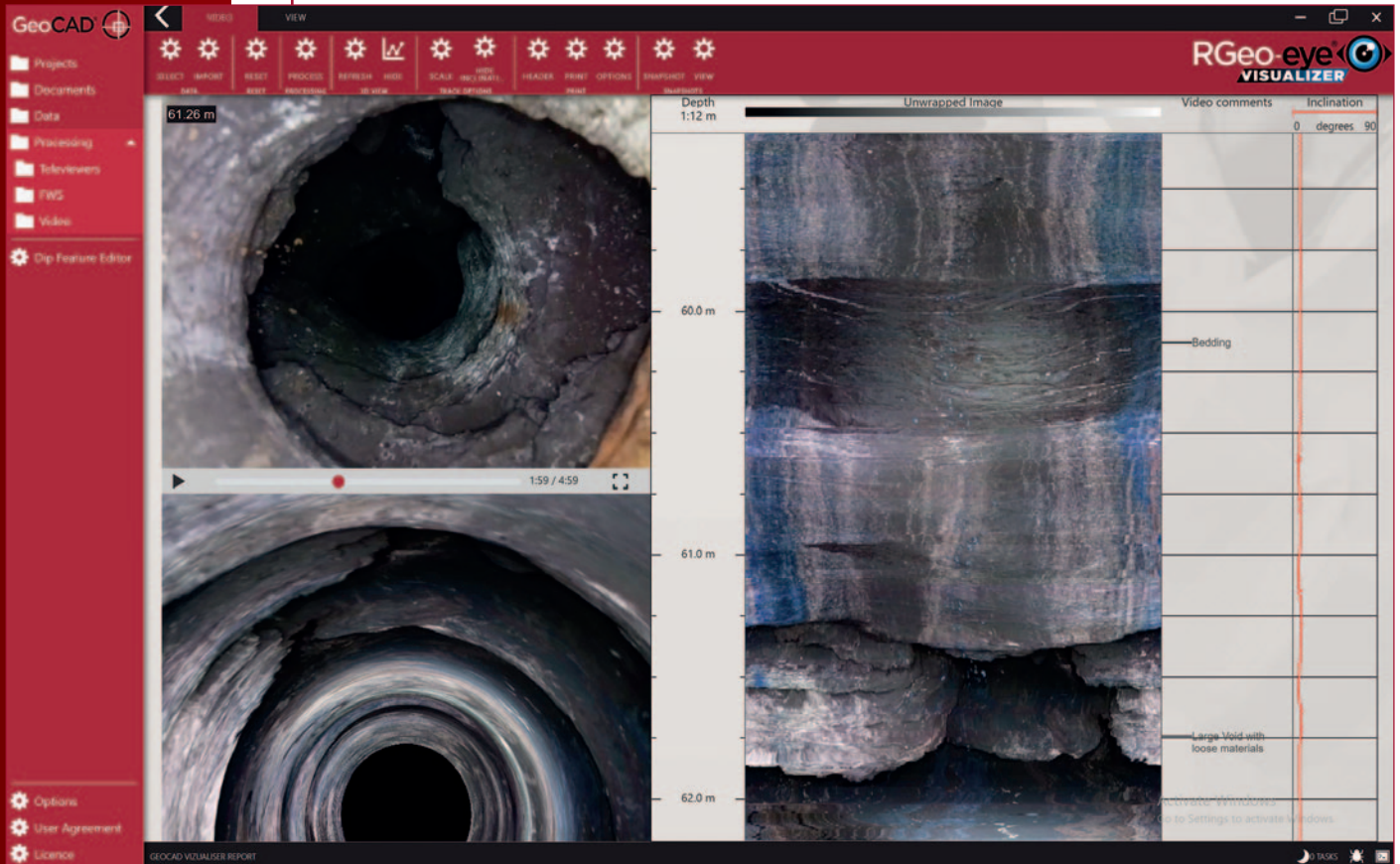
**RGeo-eye®** **Visualizer** redefines borehole camera surveys by providing a full 360° unwrapped image of the borehole. Unlike conventional camera systems, which rely on the operator spotting and recording a side view video of a potential problem in the borehole, RGeo-eye® records the complete sidewall or casing, leaving nothing to chance.

Developed by logging professionals with their reporting needs in mind, the software focuses on producing industry-standard video reports quickly and reliably.

With the emphasis on deliverables, the easy-to-navigate module and pre-set templates reduce processing time without any compromise on quality. The RGeo-eye® Visualizer module within GeoCAD® is the software of choice for all logging users looking to reduce costs, improve workflows and enhance time management.

# RGeo-eye® VISUALIZER

- *100% of the borehole or casing sidewall is recorded every time*
- *No longer dependent on the operator spotting and recording features*
- *No more disorientating videos to interpret*
- *RGeo-eye® delivers a down view video, a full 360° unwrapped image of the entire borehole and a 3D fly-through image of the borehole*
- *Quick and easy data collection - as the unwrapped image is produced after the down view video is obtained, the user just needs to make a record the down view video, as there is no longer any need to waste valuable time scanning the borehole walls looking for features*
- *One easy-to-use interface allows users to replay, review and comment on videos, take screenshots and produce standard reports; it couldn't be easier*

| USER EXPERIENCE |
| :---: |
| Easy to navigate |
| Simple video import tools |
| No need to replay multiple side view video |
| Video, Unwrapped and 3D outputs all on one display |
| Video Comments/Snapshots |
| Quick and easy to use |
| Simple Report Wizard |

| STANDARD OUTPUTS |
| :---: |
| Standard down-view video |
| Full 360° unwrapped image |
| Spanshots with depth and time display |
| Industry-standard log header |
| PDF Reports |
| Comments against depth |
| Borehole inclination log |

| VISUALIZER FEATURES |
| :---: |
| Quick selection menu's |
| Triple view visualizer |
| Full control over image scaling and output |
| Flexible comment writing/editing tools |
| Image drag & rotate |
| 3D Visualiser |
| Data import/export wizard |

## VIDEO PROCESSING

Once the down view video is downloaded, the 360° unwrapped image is just a click away.
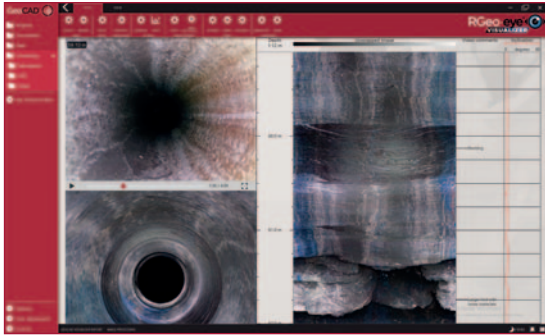


*Standard Triple View Visualizer.*

The full-width display allows a more detailed analysis of the full borehole image. Unlike conventional side-view camera outputs, users know exactly where they are in the borehole. No more disoriented images and reliance on the operator to capture features.
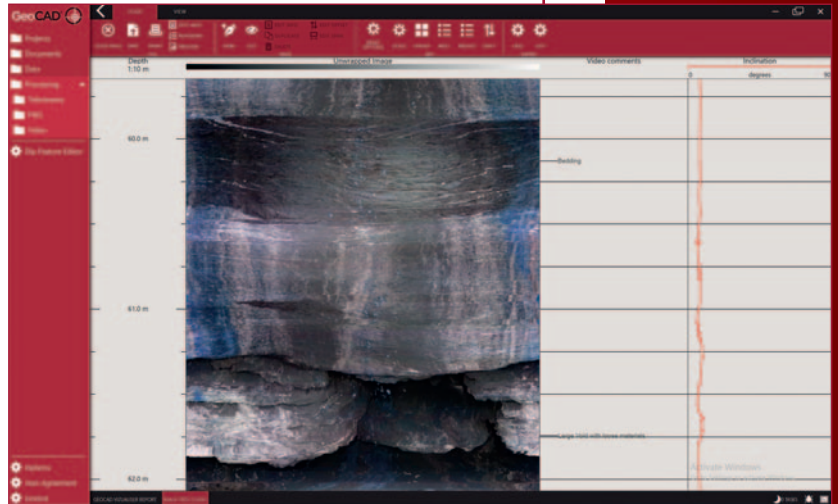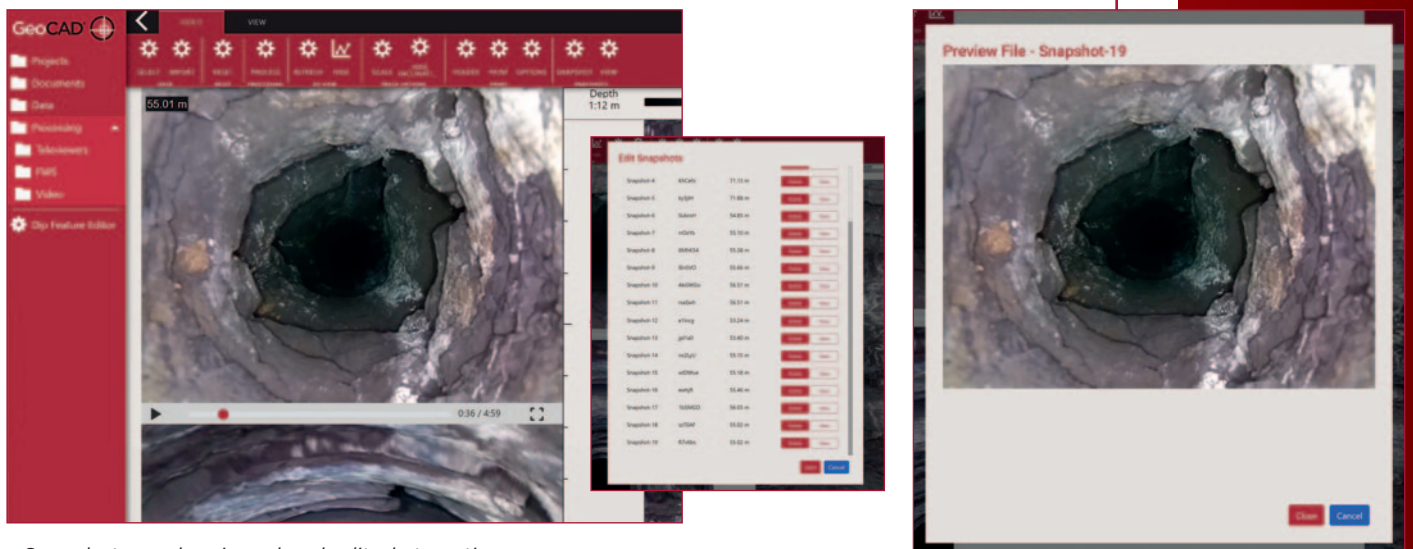


*Detailed 'unwrapped' display.*

## COMMENTS & OBSERVATIONS

Comments and observations can be displayed against depth. These can be edited or deleted at any time.
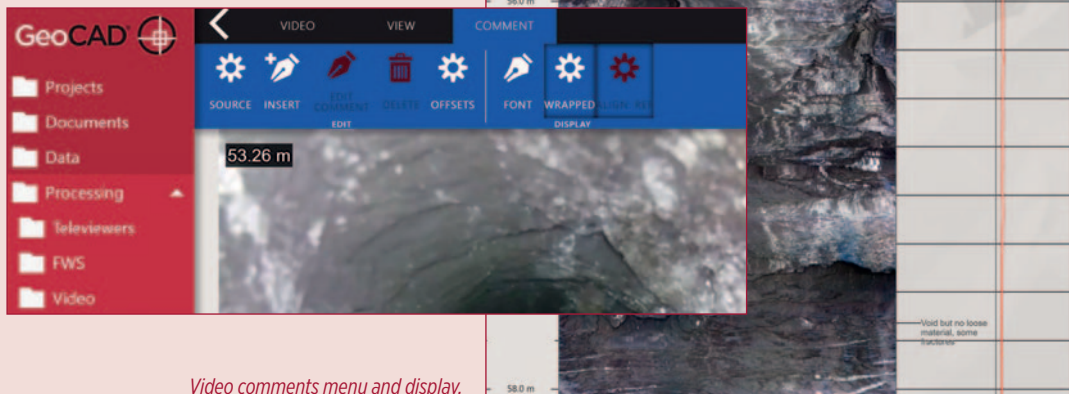


*Video comments menu and display.*

## SNAPSHOTS

Snapshots can be taken during replay, and can be viewed and edited before saving for inclusion in the final reports.



• Snapshots can be viewed and edited at anytime
• Depth and video time is recorded on the snapshots for the final reports

*Example snapshot.*

## REPORTS AND DATA EXPORT

The report wizard provides a user-friendly reporting routine, which is quick and easy to use. Standard reports have never been easier.

## BOREHOLE INCLINATION

Borehole inclination is also given, and this can be used to determine 'true vertical' depth, or provide vital information to aid pump installation etc.



*Inclination display.*



*Standard header and report printing options.*
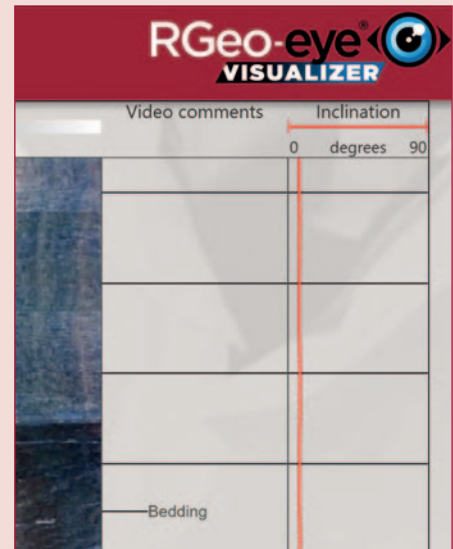
You simply select which elements you wish to include in your report and the wizard handles the rest. Standard reports are presented in a PDF format, and data images, video files and log data can also be exported in industry-standard formats.



*Standard printing layouts.*



*Snapshot with depth and time.*



*Unwrapped image, comments and Inclination.*

**Recommended minimum viable computer specification:**
i7 7700 processor with 500GB SSD, 16GB of memory running Intel HD Graphics 630 card running Windows 10 64-bit

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**ROBERTSON GEO**
Unlocking Your GeoData

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