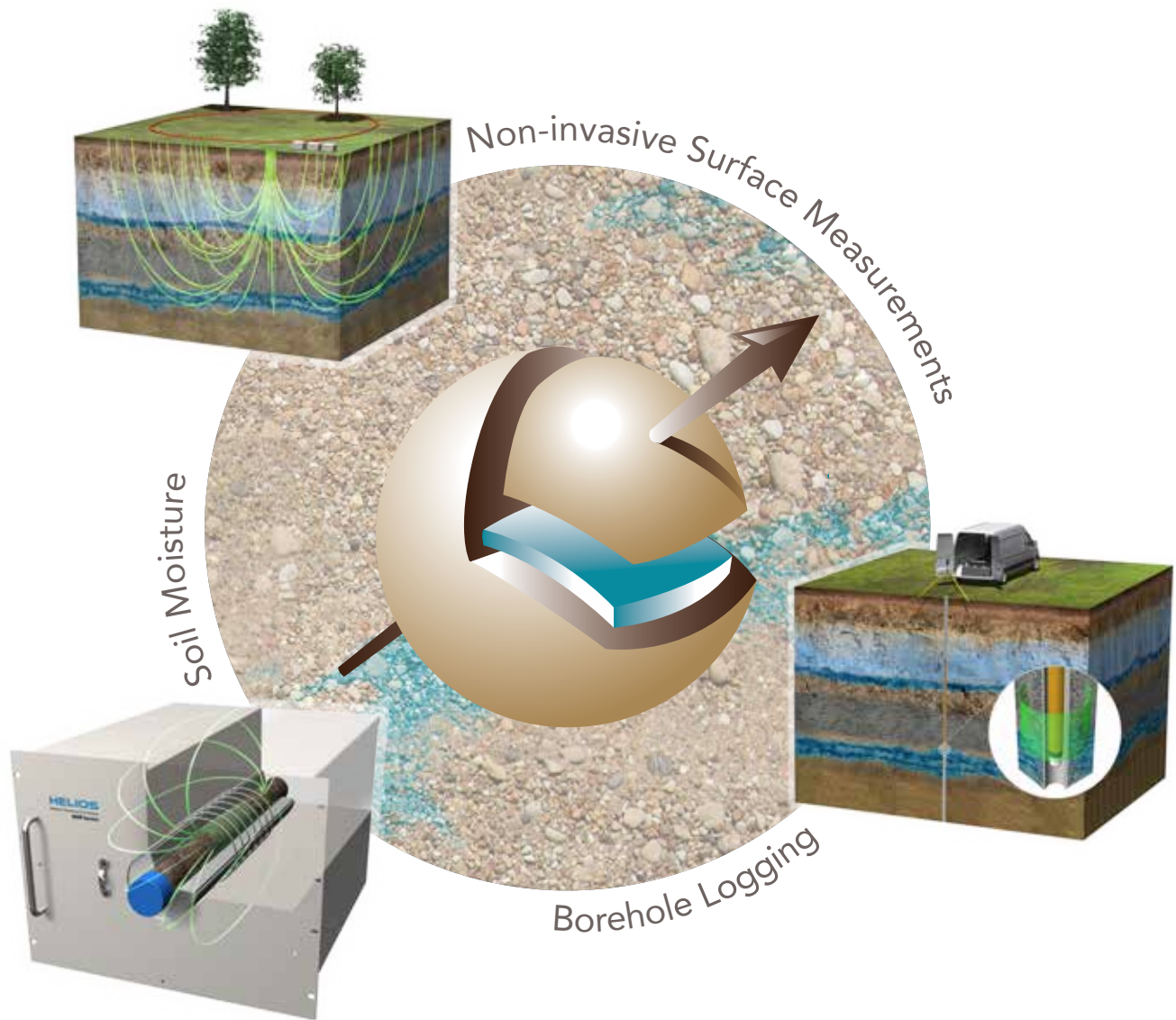
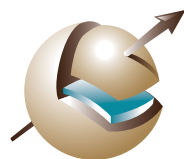


MAGNETIC RESONANCE GEOPHYSICAL INSTRUMENTS



POROSITY
TRANSMISSIVITY
WATER CONTENT
HYDRAULIC CONDUCTIVITY



VISTA CLARA INC.
NMR GEOPHYSICS

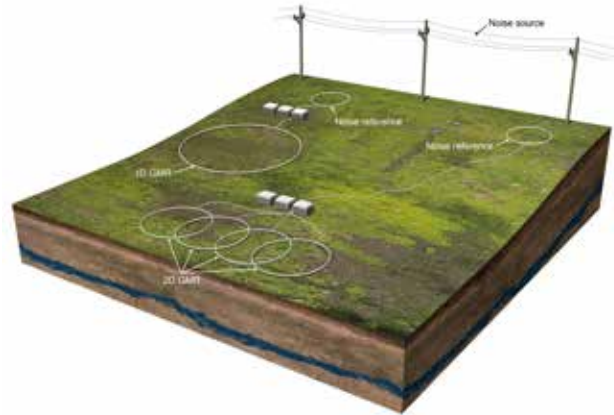
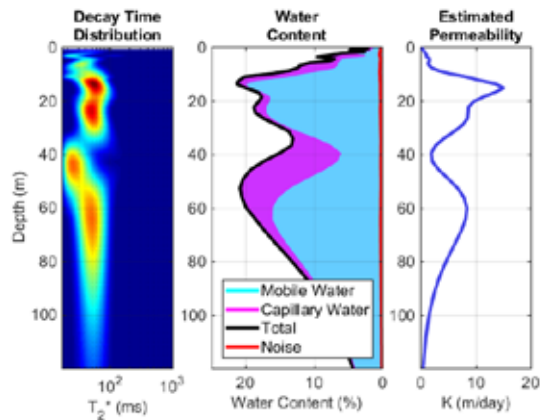
MEASURE GROUNDWATER DIRECTLY

Surface-based Magnetic Resonance Tools



GMR

Noninvasively detect, measure, and image groundwater directly from the surface with Vista's Clara's GMR product family. Using a measurement loop 30-500 ft (10-150 m) in diameter, GMR relies on the same underlying Magnetic Resonance technology as found in medical MRI machines. Both products feature exclusive multi-channel operation and patented pulse sequences enabling both 1D and 2D profiling while reducing the effect of magnetic geology.



GMR

- Industry standard for surface MR survey work by hydrogeological professionals
- Greatest depth of investigation in the industry: Measures to depths of up to 500 ft (150 m)



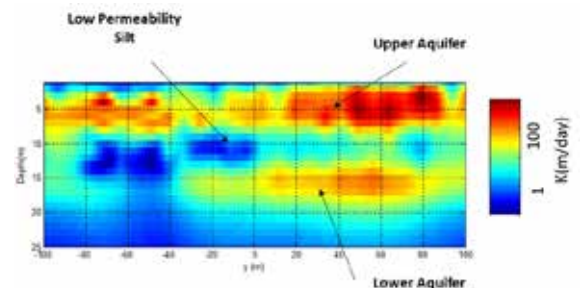
GMR FLEX

- Same data quality as the GMR in a smaller, more portable and easy to use package
- Measures to depths of up to 260 ft (80 m)



	Output (standard)	Output (optional high power)	Power supply	Channels	Channels (optional)	Receiver noise level	Dead time	Depth of Investigation
GMR	4800 V, 600 A	6000 V, 800 A	24 V - 2x12 V batteries	4 full duplex Tx/Rx	8 or 12 total	<300 pV/sqrt (Hz)	<5 msec	up to 500 ft / 150 m
GMR Flex	2000 V, 400 A	NA	24 V - 2x12 V batteries	1 full duplex Tx/Rx, 1 Rx only	2 additional Rx only channels	<300 pV/sqrt (Hz)	<1 msec	up to 260 ft / 80 m

GMR enables 2D surface MR imaging of aquifer properties



Magnetic Resonance Borehole Logging Tools

JAVELIN®

Designed specifically for groundwater investigations, Javelin borehole MR logging tools provide high resolution characterization of aquifer properties including volumetric water content, pore size distribution, porosity, and hydraulic conductivity. Capable of collecting data down to 6500 ft (2000 m), Javelin's powerful permanent magnets polarize hydrogen contained within the nucleus of water molecules. Simultaneous multifrequency data collection speeds up logging time while ensuring that the sensitive zone is outside the zone disturbed by drilling. Interchangeable lower probe sections enable flexible operations and reduce capital equipment costs.

WIREFINE MAX



JPX350F Probe
JPX525F Probe
Power & Digital Module

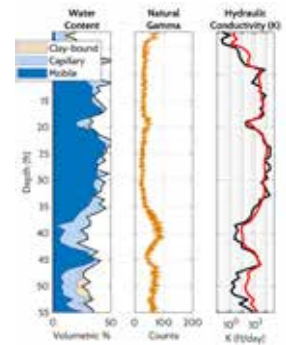
WIREFINE SLIM



JPY238 Probe
JPY350 Probe
Power & Digital Module

- Tool of choice for large bores up to 17 inches (43 cm)
- Up to 4 simultaneous diameters of investigation
- Popular choice for bores from 3 to 11 inches (7.6 to 27.9 cm)
- Compact down hole electronics

	Component	Diameter	Length	Weight	Pressure Rating	Vertical Resolution	Echo Spacing
JAVELIN WIREFINE MAX	JPX350F Probe	3.5 in (89 mm)	70 in (178 cm)	60 lb (27 kg)	1700 psi	18 in (50 cm)	800 µsec
	JPX525F Probe	5.25 in (133 mm)	65 in (165 cm)	90 lb (41 kg)	1700 psi	18 in (50 cm)	800 µsec
	Max Digital Module	3.5 in (89 mm)	64 in (163 cm)	68 lb (31 kg)	1700 psi	n/a	n/a
JAVELIN WIREFINE SLIM	JPY238 Probe	2.38 in (60 mm)	74 in (188 cm)	25 lb (11 kg)	2350 psi	9 in (25 cm)	450 µsec
	JPY350 probe	3.5 in (89 mm)	72 in (183 cm)	55 lb (25 kg)	1700 psi	18 in (50 cm)	600 µsec
	Slim Digital Module	2.38 in (60 mm)	70 in (178 cm)	39 lb (18 kg)	2350 psi	n/a	n/a
	Digital module with Gamma	2.38 in (60 mm)	85.5 in (217 cm)	45 lb (20 kg)	2350 psi	n/a	n/a



DART

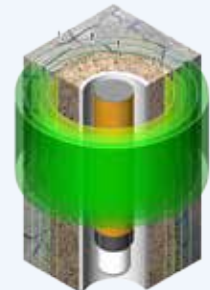
The Dart™ is the world's only portable, battery-powered MR logging tool. Its small diameter and ultra-short echo spacing are ideal for measuring water content in shallow soils and sediments. The optional Geoprobe® (JP140G) has a narrower diameter and can be deployed using Geoprobe's direct push profiling system.



	Component	Diameter	Length	Weight	Pressure Rating	Vertical Resolution	Echo Spacing
DART	Dart Probe	1.75 in (44 mm)	68 in (173 cm)	14 lb (6.4 kg)	190 psi	9 in (23 cm)	400 µsec
	JP140G	1.4 in (36 mm)	68 in (173 cm)	12 lb (5.5 kg)	380 psi	9 in (23 cm)	500 µsec

SENSITIVE SHELL

A key feature of Vista Clara's borehole MR products is its ability to "see radially outward" in multiple shells up to 21 inches (53 cm) from the borehole's center.



	Sensitive Shell Diameter			
	F1	F2	F3	F4
JPX350F PROBE	10 in (25 cm)	12 in (30 cm)	13.5 in (34 cm)	15 in (38 cm)
JPX525F PROBE	14 in (36 cm)	16 in (41 cm)	18 in (46 cm)	21 in (53 cm)
JPY238 PROBE	9 in (23 cm)	11 in (28 cm)	n/a	n/a
JPY350 PROBE	12 in (30 cm)	15 in (38 cm)	n/a	n/a
DART/JP140G	5 in (13 cm)	6 in (15 cm)	n/a	n/a

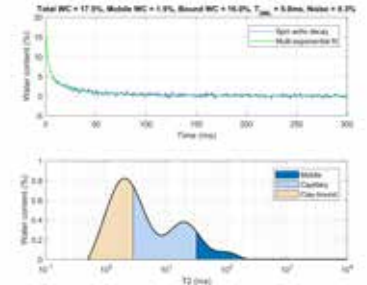
Magnetic Resonance Analysis of Soil and Core Samples in the Laboratory or Field



HELIOS

Ruggedized & portable MR soil/rock core analyzer that handles a wide variety of shapes and sizes.

- Low-field, high-bandwidth operation enables accurate measurement of water content in magnetically susceptible rocks and sediments
- Short echo spacing (~200 μ sec) enables high SNR and high accuracy measurement of water in clays and unsaturated samples

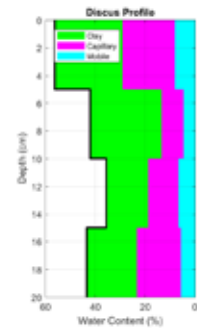


US Patent #10,302,733

DISCUS

Delivers accurate, and non-invasive direct measurements of soil moisture from the surface (even beneath asphalt or stone).

- Fast measurement time (3-10 minutes) to depths up to 8 inches (20 cm)
- No soil-specific calibration required



US Patents # 8,816,684; 10,162,026; 9,429,673; 9,429,673; 10,302,733



VISTA CLARA, INC OUR STORY

Vista Clara Inc. develops and manufactures advanced Magnetic Resonance (MR) geophysical instruments for groundwater, environmental, mining, and geotechnical investigations. Since 1997, Vista Clara has been the world's sole geophysical instrumentation company exclusively focused on MR technology. With over 20 patents, this unique core expertise has enabled rapid

development and application of the technology while enhancing the capability of groundwater professionals to make superior measurements of groundwater directly. Vista Clara's innovative MR geophysical products enable advanced groundwater science, improved project outcomes and reduced drilling and sampling costs.



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