



BY  BOART
LONGYEAR™



Downhole Data Platform

TruProbe® revolutionizes driller-operated geophysical surveys.



TruProbe®

☐ GYRO

☐ GAMMA

☐ DEPTH

☐ ALIGN



About Veracio

Veracio provides mineral exploration and mining companies with a range of technology solutions that are specifically designed to improve the speed, richness and reliability of core sample and downhole data.

This suite of tools, together with Veracio's expertise, improves, automates, and digitally transforms orebody sciences across exploration, resource definition, and production. Leading a modern approach through a diverse product portfolio, Veracio fuses science and technology together with digital accessibility by using advanced scanning, sensing with strong data governance and the deployment of AI to accelerate real-time decision making and significantly improve efficiency, profitability, and sustainability across the value chain.

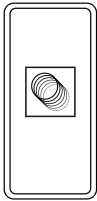
How It Works



TruProbe®

APP

Simple, easy to use operator app allows operators to log gamma and borehole deviation at the same time.



GYRO SENSOR

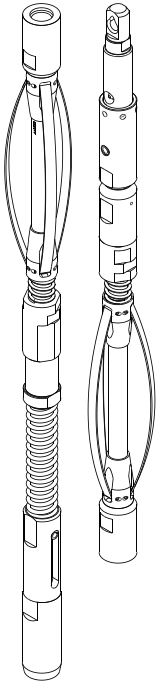


GAMMA SENSOR

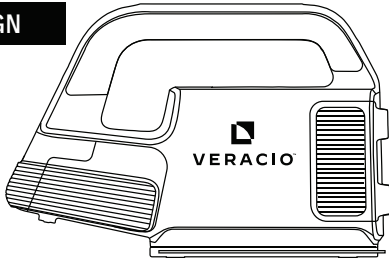


RUNNING GEAR

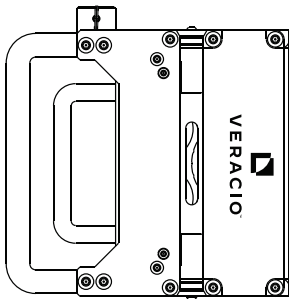
Integrated with industry standard running gear for safer, faster operation.



ALIGN



DEPTH COUNTER



Accurately
survey holes
with a drill crew
using stackable
TruProbe product
architecture.



SENSORS
INSIDE
RODS

GYRO

GAMMA

BOTTOM HOLE
ASSEMBLY



Integrated in a Single App

A downhole surveying platform within a single app

Central to the TruProbe Platform is the operator app. It redefines data management in drilling operations with its advanced connectivity and integration features.



WIRELESS CONNECTIVITY

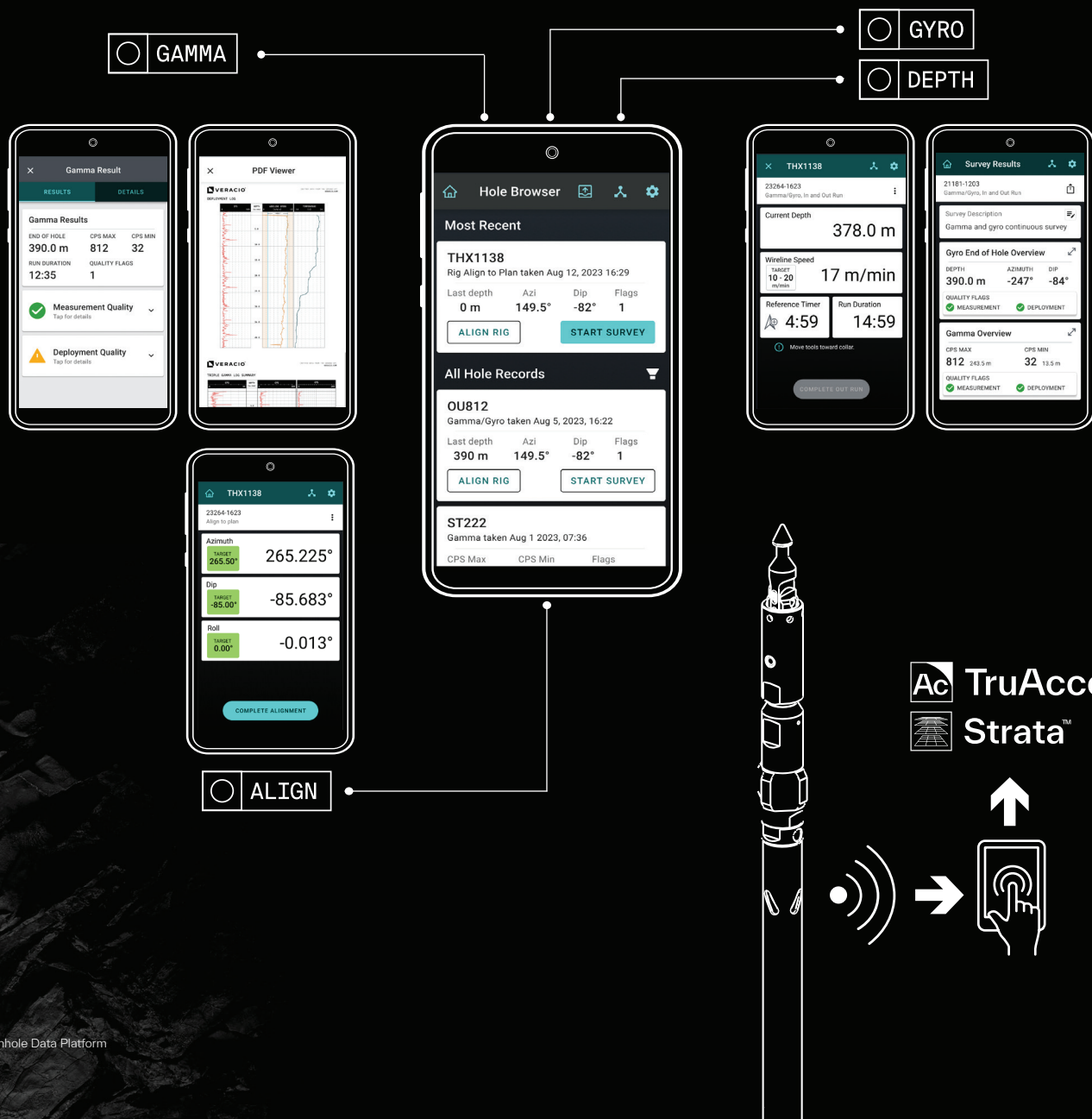
Wireless Bluetooth technology from app to all TruProbe devices enables seamless data transfer and system control; a distinct advantage in fast-paced drilling environments.

DIRECT DATA EXPORT OPTIONS

Empowering versatility, the app allows for direct export to email or USB, offering flexibility in data handling and accessibility and catering to various on-site requirements.

SECURE CLOUD INTEGRATION

With a secure connection to Veracio's Strata environment, the TruProbe app ensures data is not only safely stored but also easily retrievable and shareable across platforms.





Strata™



TruAccess™

Secure Cloud Storage of Downhole Surveying Data

Providing users with access to their data in simple, browser-based environment, TruAccess gives TruProbe users the versatility and accessibility they need to access the data in ways that suit them.

VERSATILE FILE EXPORT

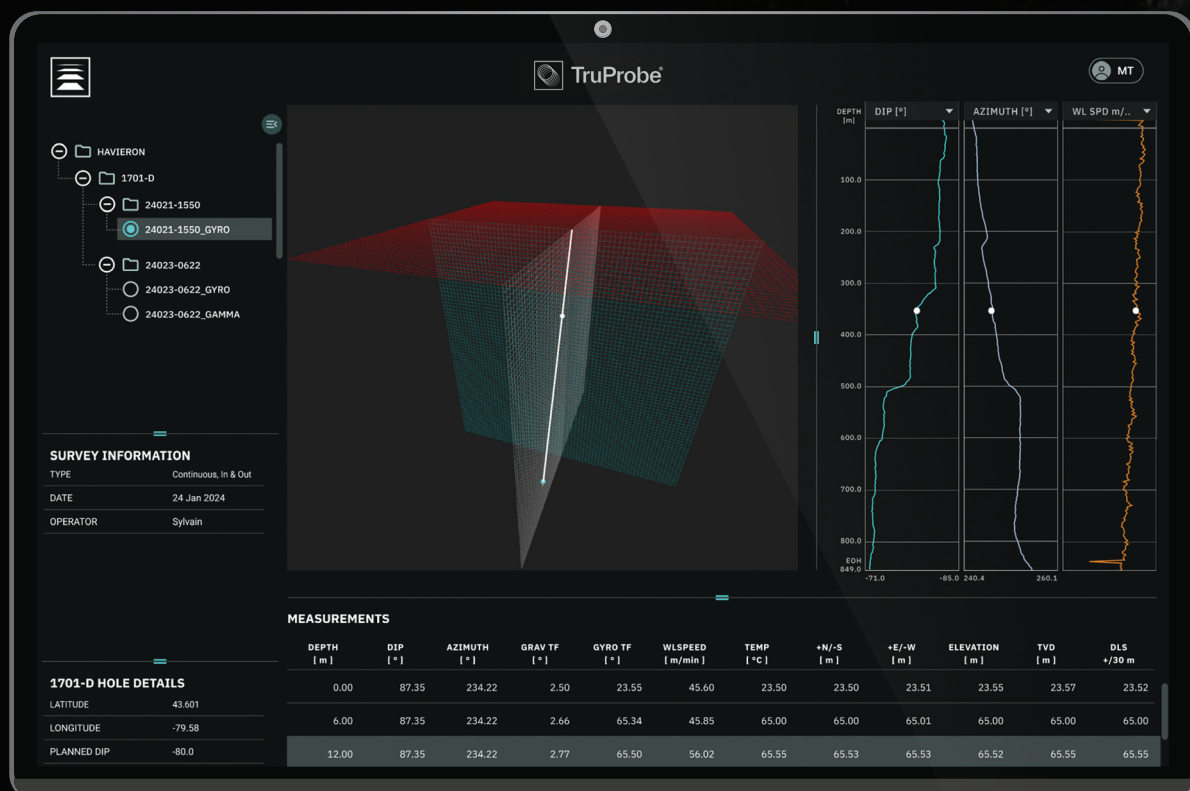
TruAccess stands out by enabling users to export processed data in multiple, appropriate file formats, accommodating diverse analytical needs.

COMPATIBLE DATA

The system's compatibility with standard LAS file formats make it easy to load data into software like WellCAD and GeoCAD.

USER-FRIENDLY INTERFACE

TruAccess is designed with a focus on user experience, ensuring ease of use when navigating to survey data.





Robust and Reliable

TruProbe Gamma offers proven technology optimized for efficiency, safety and durability at site. Pair with TruProbe's Align and Gyro tools for faster drill rig setup and end-of-hole gamma-gyro surveys. Ideally suited for sedimentary-hosted deposits where time-sensitive lithological boundary detection and borehole deviation results are critical.



UNRIVALLED DETECTION ACCURACY

An oversized NaI crystal provides exceptional sensitivity to natural gamma radiation. This enables clear identification of lithological boundaries in sedimentary-hosted deposits, vital for accurate resource estimation and detailed geological mapping.

ENHANCED SURVEY SAFETY AND EFFICIENCY

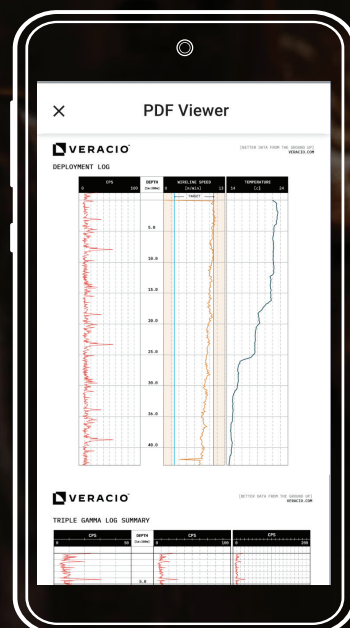
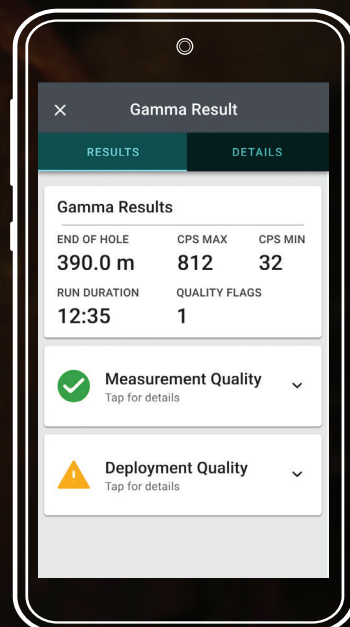
Combine natural gamma and gyro surveys in a single deployment using the safest modular running gear in the industry, ensuring safe operations and minimal rig downtime at end-of-hole.

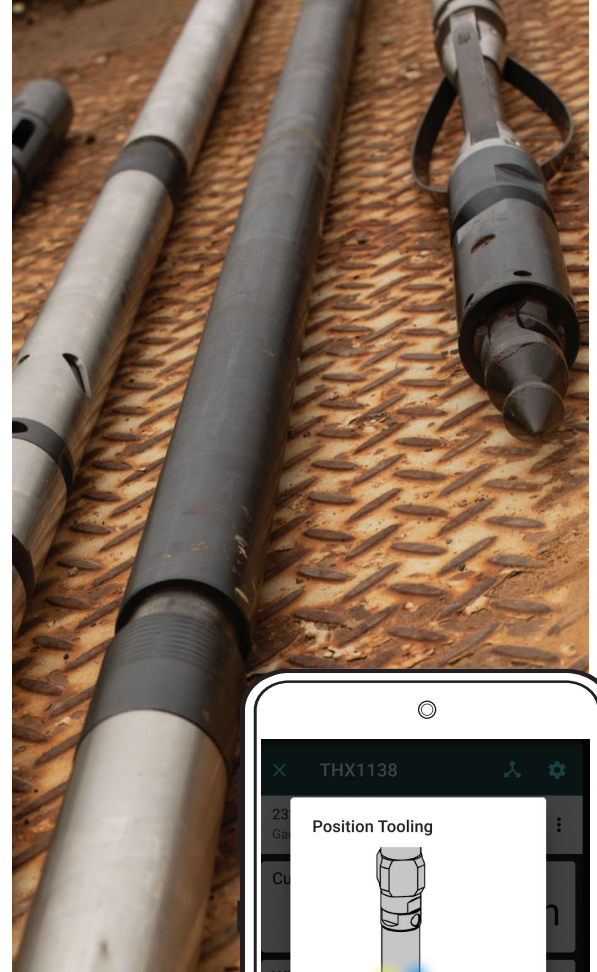
ROBUST AND RELIABLE

Experience consistent performance and longevity, even in the harsh and extreme conditions of mineral exploration.

COMPREHENSIVE INSIGHTS

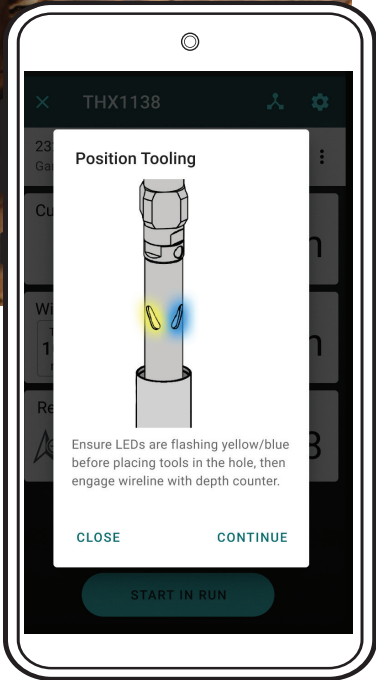
Provides accurate, depth-correlated natural gamma reports immediately after logging, crucial for informed decision-making.





The Most Accurate And Compact North Seeking Gyro In Drilling

Veracio's gyro sets a new standard in driller-operated downhole survey tools, delivering unmatched speed, accuracy, and precision. Our technology offers a significant advancement in performance, combining user-friendly operation in a compact and robust package.



ADVANCED NORTH SEEKING ACCURACY

Provides verified 1σ (99.9%) confidence on north seeking azimuth measurements with up to $\pm 0.1^\circ$ accuracy in most attitudes ranging from horizontal to vertical. With verified, independent high-confidence measurements, the gyro tool is excellent in deep drilling operations and various attitudes, setting it apart from its competitors.

EXCEPTIONAL DEPTH PRECISION

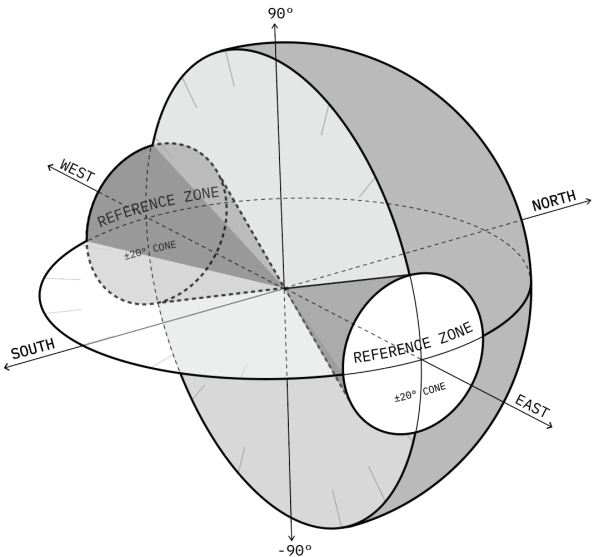
With verified high-confidence measurements, the gyro tool is excellent in deep drilling operations and various attitudes, setting it apart from its competitors.

USER-FRIENDLY OPERATION

Built-in workflow guidance and tooltips, offering a safer, more intuitive user experience.

COMPREHENSIVE DATA INTEGRATION

TruProbe provides a cohesive and streamlined approach to data integration with Veracio's cloud platforms, offering enhanced decision-making capabilities for gyro surveys.



THE REFERENCE ZONE ADVANTAGE

The reference zone in TruProbe's gyro tool is smaller than typical gyros, delivering more statistically accurate measurements at both horizontal and vertical hole attitudes.



The Most Advanced Fiber-Optic Gyro In A Simple, Ultra-Portable Rig Alignment Package

TruProbe Align streamlines the drill rig setup process, making it simpler and faster to align to driller targets than ever before.



REAL-TIME PRECISION

Set up faster with real-time measurement feedback and results. Benefit from the assurance of precise, accurate readings even during dynamic operations.

INTUITIVE OPERATION

The intuitive app guided workflow makes aligning to hole plans easy and precise. Transform complex measurements into a user-friendly experience, even for those with minimal technical expertise.

ENHANCED OPERATIONAL EFFICIENCY

Rapid warm-up times and a quick mounting magnetic attachment system minimizes set up duration, enabling operators to drill more in less time.

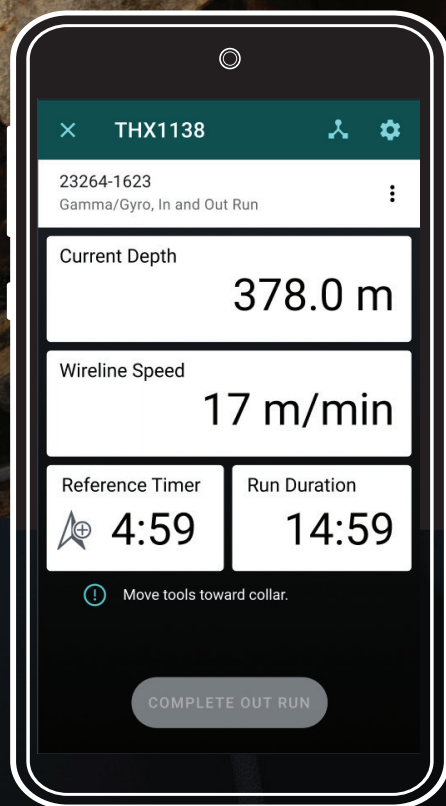
UNWAVERING RELIABILITY IN HARSH CONDITIONS

TruProbe Align is built for rugged environments with robust calibration and environmental protection providing reliable, consistent performance.

SUSTAINABLE OPERATION

Equipped with replaceable and rechargeable batteries, TruProbe Align is always ready for alignment tasks.

DEPTH



Wireless Depth Counter

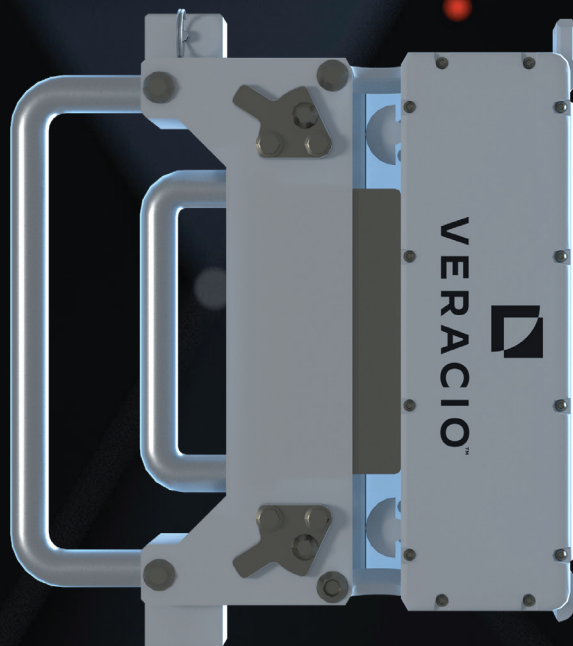
Accurate depth correlation for all TruProbe downhole data with real-time wireline depth measurement and robust Bluetooth communication.

SAFE AND RELIABLE

Safe by design with no exposed rotating parts or pinch points. Wireless communications eliminate cumbersome cables that can become damaged or create tripping hazards.

EFFICIENT AND ACCURATE

Multiple mounting options suited for surface and underground drilling makes setup quick and easy. A secure wireline retention mechanism ensures consistent wireline contact for reduced slippage and accurate depth measurement.



Understanding Accuracy

Veracio's North Seeking Technology Provides Confidence in Hole Path Position

When targeting difficult to intersect orebodies, confidence in underlying measurements is critically important to both exploration and mining phases.

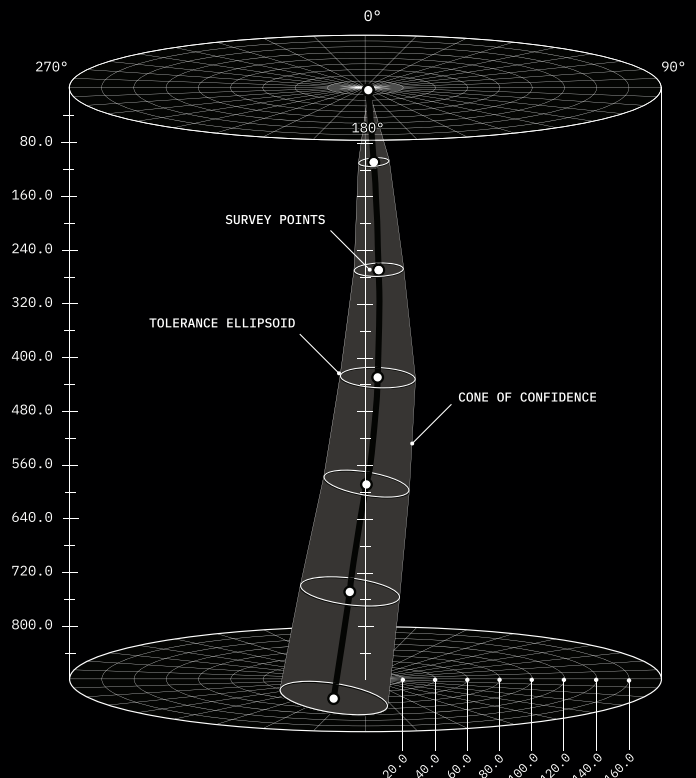
TruProbe's Gyro provides verified 1 σ (99.9%) confidence on north-seeking azimuth measurements with $\pm 0.1^\circ$ accuracy in most attitudes ranging from horizontal to vertical*.

What is the implication for your orebody?

Using a 2000m hole with a dip of -30° and target azi of 135° , that could mean a difference of up to 46m in the calculated hole path with an additional 51m of potential uncertainty when compared to the other commonly used gyro technologies**.

*Does not apply to reference zone within $\pm 20^\circ$ dip and $\pm 20^\circ$ from east/west.

**Does not include continuous measurements which do not have validated error models.

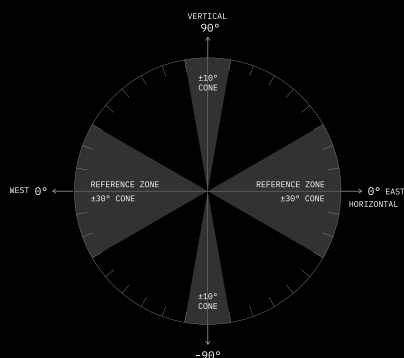


Reference Zone Measurement Comparison

VERACIO'S NORTH SEEKING TECHNOLOGY DELIVERS ACCURATE, STATISTICALLY BACKED MEASUREMENTS AT HORIZONTAL AND VERTICAL.

COMPETITION

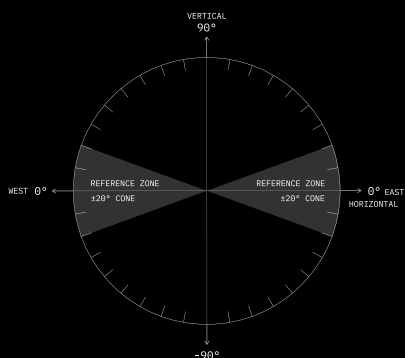
NORTH SEEKING **NOT POSSIBLE**
NEAR VERTICAL AND HORIZONTAL



Other gyros have very large 360° reference zones where they are unable to north seek.

VERACIO

ACCURATE NORTH SEEKING NEAR
VERTICAL FOR ALL AZIMUTH HEADINGS



Veracio's reference zone when viewed from the north/south and the east/west direction.



Specifications

GYRO

	Value
North Seeking Accuracy	$\pm 0.1^{\circ}$ (1 σ)
Continuous Survey Accuracy	$\pm 1^{\circ}$ per 10 minute NS interval
Dimensions	Ø42 mm OD with pressure barrel 2.6 m overall length with running gear and overshoot
Weight	With solid steel centralizers and running gear: 23.1 kg MAX With bowspring centralizers and running gear: 27.5 kg Tool only with control unit: 12.5 kg
Ambient Operating Environment	-5°C to +60°C
Battery Life	14 hours
Tool Communication	Bluetooth Low Energy (BLE) 15 m range line of sight

GAMMA

	Value
Crystal Size	Ø25 mm x 150 mm NaI (TI)
Dimensions	Ø42 mm OD with pressure barrel 5.36 m overall length with running gear and gyro 1.23 m tool only with control unit
Weight	47.3 kg with running gear and gyro 10.3 kg tool only with control unit
Ambient Operating Environment	-5°C to +60°C

ALIGN

	Typical Value	Value
Heading Accuracy (1 σ)	$\leq 0.25^{\circ}$ secant latitude	$\leq 0.35^{\circ}$ secant latitude
Alignment Time	5 mins	
Pitch & Roll Accuracy (1 σ)	$\leq 0.02^{\circ}$	$\leq 0.05^{\circ}$
Setup Time		< 5 minutes
Drift Heading (1 σ)	$\leq 0.025^{\circ}/h$	$\leq 0.1^{\circ}/h$
Pitch & Roll (1 σ)	$\leq 0.025^{\circ}/h$	$\leq 0.1^{\circ}/h$
Size (HxWxD)	215 mm x 325 mm x 143 mm [8-1/2" x 12-3/4" x 5-5/8"]	
Weight	4.6 kg (including battery) 7.6 kg (including battery and mounting plate)	
Battery Runtime	6 hours minimum	
Environmental	Water, sand and dust proof rating IP 64 Shockproof 20 g / 20 ms	
Operating Temperature	-20°C to +60°C	

DEPTH

	Value
Mounting	Flexible mounting (rig or rod)
Accuracy	1%
Wireless Link	Bluetooth LE
Wireless Range	>15 m line of sight
Battery Life	24 hrs

+



+



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geophysical surveys

