



IDS

A **GRANITE** COMPANY
INTERNATIONAL DIRECTIONAL SERVICES





International Directional Services (IDS) is a premier provider of nonmagnetic downhole gyro deviation surveys, directional drilling services, geophysical logging services and rental downhole instrumentation to the minerals, energy, and civil construction markets.

ABOUT US

As a key partner to many of the world's largest clients, IDS is trusted to provide its services on surface and underground, across the globe.

- **PRECISE BOREHOLE STEERING**
- **ACCURATE BOREHOLE SURVEYS**
- **GEOLOGICAL INTERPRETATION**
- **SURFACE AND UNDERGROUND APPLICATIONS**

OUR STORY



1992

ADDING VALUE

Dedicated borehole surveys & directional division is formed



2010

INTERNATIONAL

IDS de Mexico is established. Chilean mine rescue (Plan B)



1979

TECHNOLOGY

Christensen Boyles pioneers Navidrill directional drilling



1999

GROWTH

IDS is incorporated by Layne Christensen



2018

GROWING STRONGER

IDS joins the Granite family

OUR SERVICES



IDS is a leading provider of services to the minerals, energy, and civil construction markets.

- **NONMAGNETIC DOWNHOLE GYRO DEVIATION SURVEYS**
- **DIRECTIONAL DRILLING SERVICES**
- **STEERED CORING SERVICES**
- **GEOPHYSICAL LOGGING SERVICES**
- **RENTAL DOWNHOLE INSTRUMENTATION**
- **DATA QUALITY CONTROL**





DIRECTIONAL

IDS pioneered the use of directional drilling in the U.S. hard rock mining industry several decades ago. Methodology enhancements and equipment development have led to a premier service across a wide range of applications in mining, geotechnical construction, municipal projects, and energy sectors. IDS provides services for directionally drilled core and rotary boreholes, including coretails and precollars, in surface and underground applications to depths limited only by rig and pump capacity. IDS utilizes the latest MWD technology when applicable to expedite drilling processes and provide the highest level of accuracy available.

IDS provides directional drilling services with full-hole mud motors from sizes N through 13+ inches, directional coring in size N (with produced B size core), and with measurement-while-drilling (MWD) steering technology where applicable. Applications include:

- **STRAIGHT PILOT HOLES**
- **SPECIFIC SUBSURFACE TARGETS**
- **MULTIPLE KICK-OFFS**
- **REACH INACCESSIBLE AREAS**
- **OVERCOME GEOLOGIC STRUCTURAL CONTROLS**



DEVIATION

Technologies used:

- NORTH-SEEKING GYRO
- SURFACE RECORDING GYRO
- MEMS GYRO
- MAGNETIC INSTRUMENTS
- CONTINUOUS DATA COLLECTION
- MEMORY DEPLOYABLE

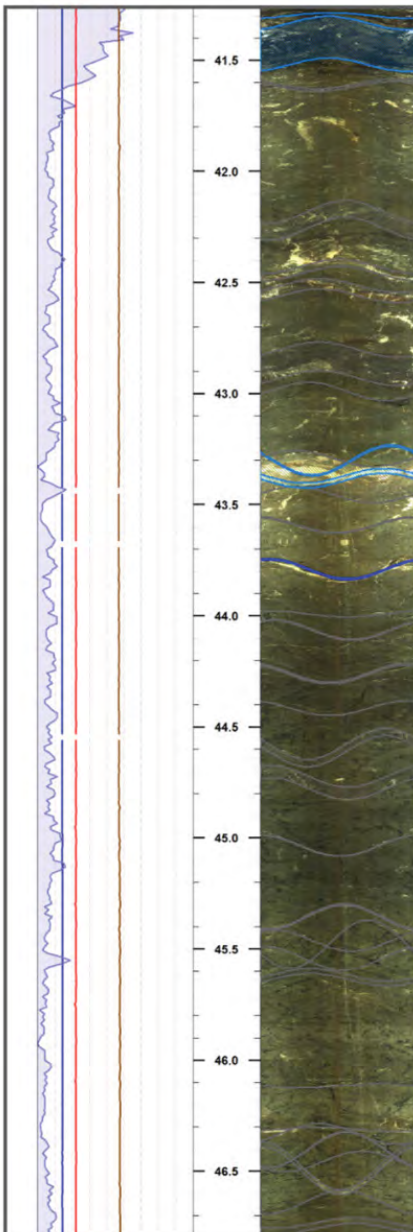


IDS maintains a large mobile surveying fleet with an extensive suite of the latest instrumentation to provide high quality deviation survey services for complex projects with strict accuracy requirements.





IDS is a key supplier of borehole geophysics services for mining, geotechnical, water infrastructure, and environmental markets. IDS provides geophysical logging services to collect lithological, structural, and hydrological data.



GEOPHYSICAL LOGGING

Instruments used:

- **ACOUSTIC MEASUREMENTS (ACOUSTIC TELEVIEWER)**
- **OPTICAL MEASUREMENTS (OPTICAL TELEVIEWER AND BOREHOLE VIDEO)**
- **ELECTRIC AND MAGNETIC MEASUREMENTS (NORMAL RESISTIVITY, SINGLE POINT RESISTANCE, SPONTANEOUS POTENTIAL, MAGNETIC SUSCEPTIBILITY)**
- **FLUID MEASUREMENTS (TEMPERATURE/DIFFERENTIAL TEMPERATURE, FLUID RESISTIVITY/ CONDUCTIVITY, FLOW)**
- **BOREHOLE MAGNETIC RESONANCE**
- **NATURAL GAMMA**
- **DEVIATION MEASUREMENTS (NON-MAGNETIC GYRO AND MAGNETIC)**
- **GEOPHYSICAL DATA INTERPRETATION**

APPLICATIONS



	Mineral Exploration	Operation Mine
Directional Drilling	Directionally Drilled Pre-Collars; Multiple kick-offs off of pilot hole; Difficult Drill Targets; Correcting Deviated Boreholes; Pinpoint Ore Targets	Pilot Hole for Raised Borehole Shafts; Controlled Drilling for Coal Degasification
Borehole Surveying	Borehole Deviation Surveys; Core Orientation Borehole Deviation Surveys for Exploration and Utility Boreholes; Core Orientation	Borehole Deviation Surveys for Exploration and Utility Boreholes; Core Orientation
Geophysical Logging	Coal Quality; Ore Structure; Formation Resistivity + Conductivity; Moisture-Content; Mine Feasibility Studies	Fracture-Orientation/Fracture-Density; Slope Stability Analysis; Dewatering Studies; Rock-Strength Properties; Fracture-Specific Permeabilities

	Environmental	Civil	Energy
Directional Drilling	Difficult Drill Targets; Reaching Inaccessible Targets	Utility Boreholes; Dam Rehabilitation; Freeze Ring Boreholes for Shaft Sinking	Multiple Kick-offs off of Pilot Hole; Controlled Drilling for Coal Degasification
Borehole Surveying	Borehole Deviation Surveys; Core Orientation	Borehole Deviation Surveys; Core Orientation	Borehole Deviation Surveys; Core Orientation
Geophysical Logging	Fracture Characterization; Fracture Flow; Moisture Monitoring; Porosity	Rock-Strength Properties; Video Inspections	Coal Seam Thickness/Quality; Lithologic Evaluation

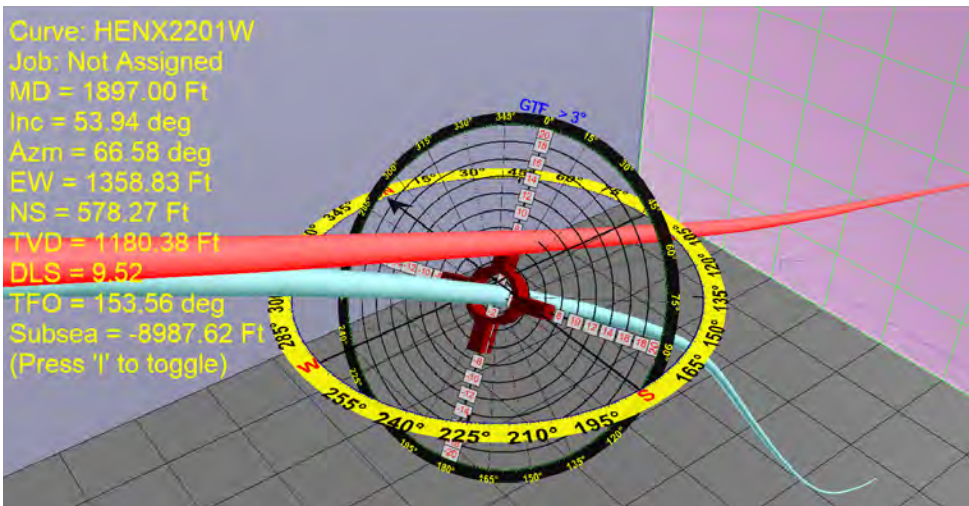




IDS maintains a rigorous QA/QC program for delivered data quality which includes comprehensive employee training programs, routine data reviews, and inhouse instrument calibration facilities.

IDS can design and implement a custom-tailored QA/QC program for even the most challenging projects.

DATA QUALITY CONTROL



EQUIPMENT SALES+RENTALS



Instrumentation product lines for sale and rent:

- GYRO DEVIATION SURVEY INSTRUMENTS
- MAGNETIC DEVIATION SURVEY TOOLS
- GYRO AZIMUTH ALIGNERS
- CORE ORIENTATION INSTRUMENTS





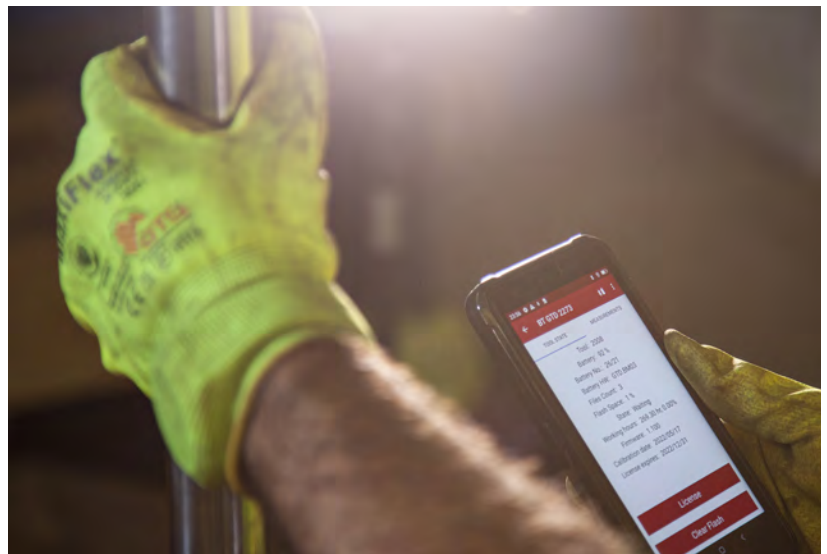
TOUGH CHALLENGES. COMPREHENSIVE SOLUTIONS.

IDS has the expertise and resources to collaborate globally on the world's most demanding projects: innovative, real solutions to complex situations.



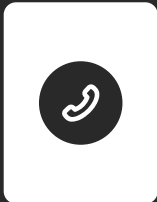
MANY PARTNERS ACROSS NUMEROUS DISCIPLINES

IDS works with a large number of wide ranging clients from small one-project operators to global entities across the mining and infrastructure industries.





CONTACT US



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