

Capability Statement

ISC Geoscience LLC specializes in near-surface geophysics, based in Clear Creek County, Colorado. We apply innovative, non-invasive geophysical methods to real-world situations. ISC Geoscience is experienced in planning and performing geophysical services around the globe.

Applications

- Archaeology
- Airfield assessments – compass rose surveys, pavement condition index (PCI), void detection, rebar/dowel mapping, vegetation mapping
- Beach erosion
- Environmental assessments
- Geologic mapping – this can mean mapping layer interfaces, stratigraphy, geomorphology, structural geology, depth to bedrock, depth to water table
- Levee and dam characterization
- Military applications – detection/discrimination/classification of unexploded ordnance (UXO), landmines, improvised explosive devices (IED)
- Civil works applications – levees, dams, foundation assessment, depth to bedrock, depth to water table
- Civil Engineering applications
- Geohazards – sinkholes, voids, landslides
- Green Energy – wind farms, solar farms
- Leak detection from retention ponds, rivers, flat roofs
- Site Assessments
- Solar farms – depth to bedrock, depth to water table, grounding potential, corrosion potential, soil thermal properties, solar panel functionality
- Saltwater intrusion – map saltwater/freshwater interface
- Seismic site classification – Vs30 or Vs100
- Tunnel and void detection – old mine works, drug tunnels, tunnels into military facilities, escape tunnels from jails or prisons, sinkholes
- Wind Farms – depth to water table, depth to bedrock, seismic site classification, void detection, soil strength mapping along heavy equipment paths, grounding potential, thermal soil properties, utility detection
- Infrastructure projects – roads, bridges, tunnels,
- Railroad assessment – ballast fouling, tie quality, rail quality
- Subsurface Utility Engineering (SUE) is also known as utility locating or one-call services. Follow ASCE 38-22 and ASCE 75-22

Methods

Electrical methods

- Electrical resistivity tomography (ERT)
- Electrical Resistivity Imaging (ERI)
- Fall of potential
- Leak detection
- Misse-a-la-masse (MALM)
- Vertical Electrical Sounding (VES)
- Spontaneous Potential or Self Potential (SP), also called half-cell potential

Electromagnetic Methods

- Ground Penetrating Radar (GPR)
- Frequency Domain Electromagnetic Induction (FDEM)
- Time Domain Electromagnetic Induction (TDEM)
- Metal Detecting
- Very Low Frequency (VLF)
- Magnetotelluric (MT) method
- Audio Magnetotelluric (AMT)
- Controlled Source Audio Magnetotelluric (CSAMT)

Potential field methods

- Gravity method
- Magnetic method
- Spontaneous Potential or Self Potential (SP)

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Seismic Methods

- Multichannel Analysis of Surface Waves (MASW)
- Spectral Analysis of Surface Waves (SASW)
- Refraction Microtremor (ReMi)
- Passive seismic methods
- Enhanced Spatial Auto-Correlation (ESPAC)
- Spatial Auto-Correlation (SPAC)
- Horizontal to Vertical Spectral Ratio (HVSAR)
- Seismic Reflection
- Seismic Refraction Tomography (SRT)

Non-Destructive Testing and Engineering Measurement Methods (NDT&E)

- Spectral Analysis of Surface Waves (SASW)
- Impact Echo (IE) method

Company Snapshot

Business Name: ISC Geoscience LLC

Business Address: 2420 Colorado Blvd. #597
Idaho Springs, CO 80452

Phone Number: 720-507-7965

Email: ryan.e.north@iscgeoscience.com

Web: www.iscgeoscience.com

CAGE Code: 8EWZ6

Unique Identity ID: GRUUNKQFYDC2

NAICS Codes

- 541360-Geophysical Surveying and Mapping Services
- 541370- Surveying and Mapping (except geo-services)
- 541990- Professional, Scientific, and Technical Services
- 541715- R&D in the Physical Sciences
- 541330-Engineering Services
- 541380-Testing Laboratories
- 541620-Environmental Consulting Services

Certifications

- OSHA 10, 30, 40 (HAZWOPER)
- First Aid & CPR

Insurance Coverages

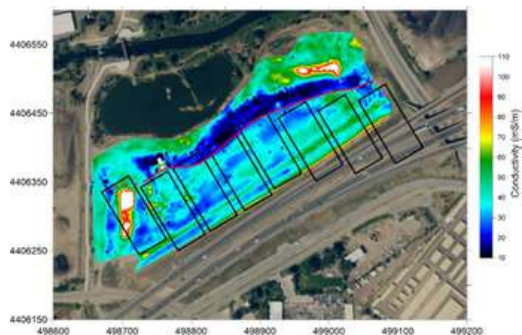
- Professional Liability- \$1 Million
- General Liability - \$2 Million
- Automobile- \$1 Million
- Workers Compensation
- Umbrella- \$1 Million

Licenses and Registrations

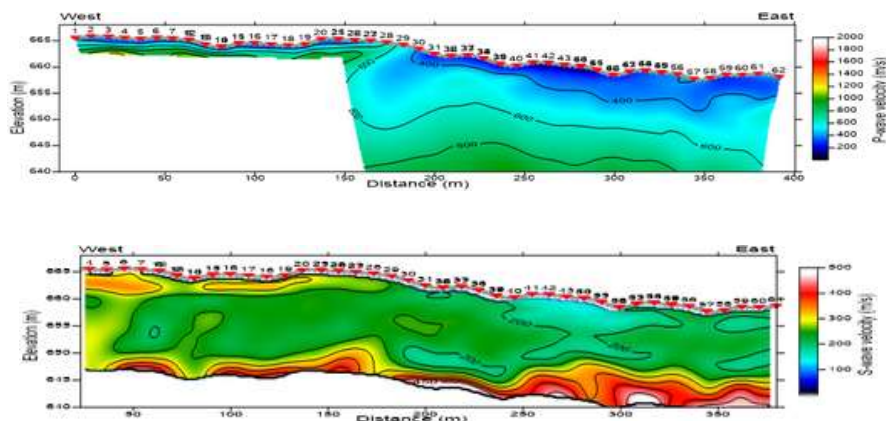
- FAA Part 107 UAS Certificate
- California Professional Geophysicist (PgP)
- Louisiana Professional Geologist (PG)
- Texas Registered Professional Geoscientist RPG)
- Mississippi Registered Professional Geologist RPG)
- Geographic Information System Professional (GISP)
- eRailSafe
- Transportation Worker Identification Card (TWIC)



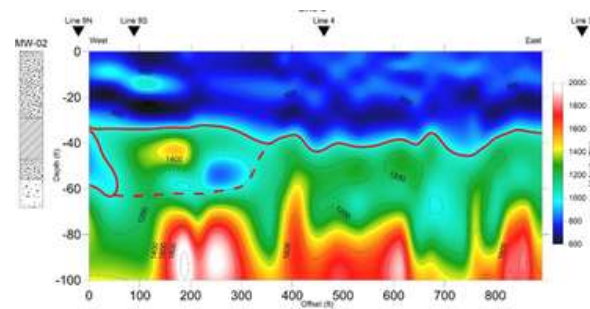
Drone-mounted magnetometers allow us to access spaces that used to be difficult to navigate. One drone pilot can cover a square acre field in two hours. Exchanging batteries and recharging them in the field are the biggest current limitations



Vehicle towed surveys to map the boundaries of old waste disposal cells using a Geosensors R6 EM instrument and Impulse Radar Raptor-45 real-time sampling GPR array. By using vehicle-mounted instruments we were able to acquire data about 5 times faster than if we were to do the survey of foot.



Seismic refraction tomography (SRT) & multi channel analysis of surface waves (MASW) surveys to map bedrock depth and flow paths.



Seismic refraction tomography (SRT) & multichannel analysis of surface waves (MASW) surveys to detect a fault under a caliche layer.



Photogrammetry results from both ground-based and unmanned aerial system (UAS) platforms to create orthomosaics, digital elevation models, volume calculations, and 3D models of structures to improve interpretation of defects.

