

The Geotechnical Data Revolution: Opportunity on Life after gINT

by Bob Day

THE PREVIOUS INDUSTRY STANDARD FOR GEOTECHNICAL DATA SOFTWARE IS BEING RETIRED

Over the next two years, the geotechnical, geo-environmental, and environmental industries that have used gINT for decades will be forced to find a replacement. gINT is being retired at the end of 2026. While many organizations welcome the opportunity to improve/upgrade their geotechnical data management capabilities, many are concerned with the financial costs and disruption that a software system replacement will impose on their workflow, collection and reporting capabilities, efficiency, and overall profitability. Yes, money matters too. Rose-colored glasses are great until you are looking at your bottom line.

Geotechnical organizations will likely be making a substantial investment of time and money to implement new geotechnical data management systems in the next 24 months. This shift not only means purchasing software licenses, but will likely impact your overall workflow and standardized internal processes.

As we weigh our software options, it will be equally important to consider the company behind the software. On one hand, we have the industry behemoth that allowed the existing standard to become unrecoverable in today's technology space, basically forcing the investment and change that we are making right now and providing an underwhelming alternative software solution only through acquisition. The goal was to retain licensing and assure users are beholden to their array of other software products. On the other hand, one could look to the shiny new startups that are flashy and

aggressively priced, though their long-term viability, support engine, and ability to support a worldwide industry are dependent upon investors and an unproven track record.

EarthSoft leverages over 30 years of subsurface data management success, a worldwide presence, and a hyper-focused commitment to the long-term development and support of a single line of **EQUS™** data management products. EQUS workflows are used by many labs and consultants already, on some of the largest environmental projects in the world.

EarthSoft's dedicated team of implementation, training, and support specialists have a wealth of experience assisting our clients with such a shift, leveraging our staff of professionals to transition hundreds of clients in over 60 countries. EQUS Geotech provides an extensive array of geotechnical reports and dashboards for an out-of-the-box experience, though we also recognize how each organization does things a bit differently than the next. This is why EarthSoft offers the specialists and resources to guide any team through deployment, configuration, training, change management, and long-term support.

We recognize the investment our clients are making. Our goal is to deliver a system that leans on decades of experience, ensures a thoroughly tested triannual release cycle, and is supported by a proven company that will support our community for many years to come.



THE VALUE OF DATA IN A TRULY ENTERPRISE SOLUTION

My career has truly evolved over the past three decades. Working predominantly in both the geotechnical and environmental industries, I have served many data-centric roles in both the private and public sectors. I have executed Geographic Information System (GIS) services since the days of Arc/INFO and ArcView 1.0, written field data applications, programmed web-based enterprise information systems, managed geospatial services teams, managed database systems, started a drone program before Part 107, implemented Geotechnical Data Management Systems (GDMS), and launched consulting companies.

I consider myself logical and analytical, yet it has taken me 30 years to finally see the core pattern of this seemingly ambiguous path: Data, predominantly subsurface hydrological and geotechnical data. Each professional learning stage has layered my experience in how we gather, curate, analyze, and communicate subsurface data. For decades, the end product of our probing has typically been a static hard copy report, a spreadsheet, a PDF report, an image, or a map. However, with the age of the digital revolution, this data has become a living, breathing wealth of information, providing a more comprehensive and continually evolving understanding of how we can protect, predict, and preserve the foundation of the very soil that we stand upon. Our data, both old and new, can create new value in our new realm of analytics, machine learning, and artificial intelligence.

All the seemingly disparate events, encounters, and learning experiences in my career have now culminated in contributing to creating an EarthSoft product that we proudly call **EQUS Geotech**, an extension of the broader EQUS platform and the premier solution to the void that gINT's retirement has created. EQUS Geotech has been built specifically to answer that call, by enhancing our existing workflows while also extending the power of enterprise data and advanced software tools.



“Look beneath the surface; let not the several qualities of a thing nor its worth escape thee.”
— Marcus Aurelius, *Meditations*



EQUIS GEOTECH, DATA BEYOND THE LOG



The industry is now looking for alternatives to their legacy geotechnical data management system. EarthSoft leveraged its 30 years of data management solutions and its worldwide leading EQUIS software to support an immense breadth of geotechnical data requirements. EQUIS Geotech includes boring logs, a robust GDMS, mapping, workflow, lab data, technical reports, field data collection, and a whole lot more.

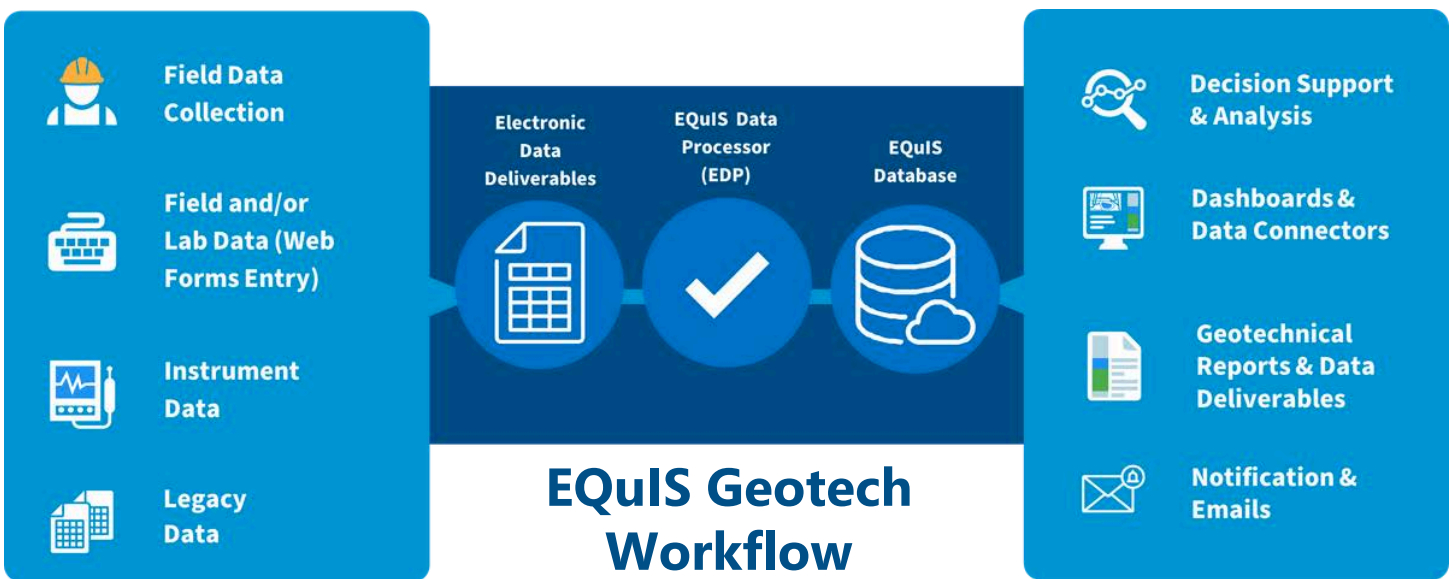
EQUIS Geotech is not only the result of the industry's need to replace gINT, but it is also a direct response to the numerous gaps apparent in that vendor's proposed enterprise gINT replacement. A large geotechnical consulting firm recently asked me to help them migrate to OpenGround Cloud, much like the implementation I led for another geotechnical firm. Based on that previous experience, I suggested we consider alternatives, as there were some significant deficiencies in the platform.

That's where EarthSoft entered the picture. The collaborative efforts of a proven worldwide leader in data management and a brilliant team of subject matter expertise at the largest Geotechnical Consulting firm in the U.S. gave creation to EQUIS Geotech, a solution not simply **for the industry, but by the industry.**

What is EQUIS Geotech?

EQUIS Geotech is a scalable Geotechnical Data Management System and web-based software solution that emphasizes the continuity of today's standard industry workflow with a nod toward its evolving processes. We didn't reinvent the wheel based solely on what our expert developers believed it should be; we partnered with industry expertise and worked to bring today's existing workflow into a standardized data schema and modern web interface.

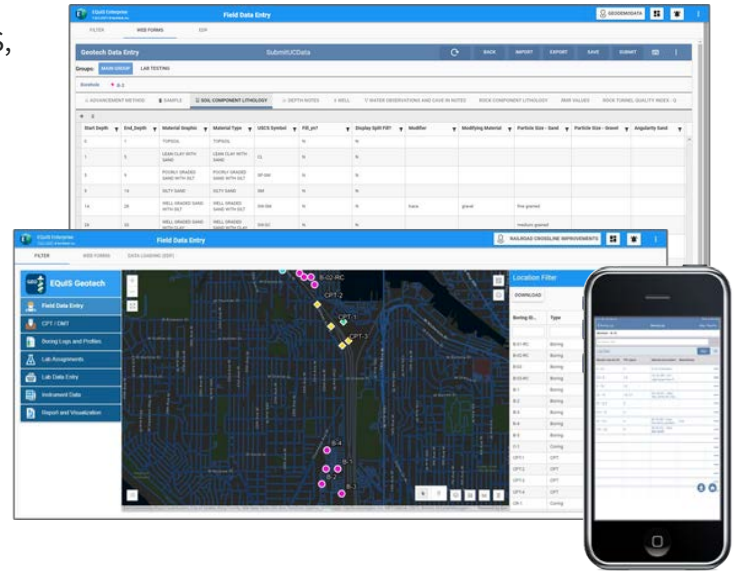
The EQUIS Geotech solution not only provides our clients with an opportunity to modernize their data practices, but it also offers a less onerous transition, saving our clients time and money. The move to a new GDMS is a significant undertaking, and we want to ensure that no one is saddled with another shift anytime in the foreseeable future. EarthSoft will assist clients in their transition as they move to our trusted and long-standing industry standard software platform, EQUIS. We intend to remain nimble enough to adapt to industry shifts and client needs as we support the community during implementation and for the long-term.









Efficient Data Collection Workflows

Data collection approaches vary greatly throughout the industry as we weigh the balance between electronic field data collection devices versus pen and paper. Considerations include equipment management, adverse field and weather conditions, data recording speed, and field personnel costs. EQUS Geotech provides a full array of data collection options to suit your specific approach and process.

- ◆ EQUS Collect for electronic data capture in the field on iOS, Android, and Windows devices
- ◆ Web Forms for pen and paper continuity and efficient data transcription
- ◆ Electronic Data Deliverables (EDDs) for direct import of custom electronic field forms or data spreadsheets
- ◆ Comprehensive Data Governance and robust Data Schema
- ◆ Data exchange formats (AGS4, DIGGS, gINT, and EDD adaptability)
- ◆ EQUS Link tools to simplify migration of historic geotechnical data formats



Geotech Data Sources

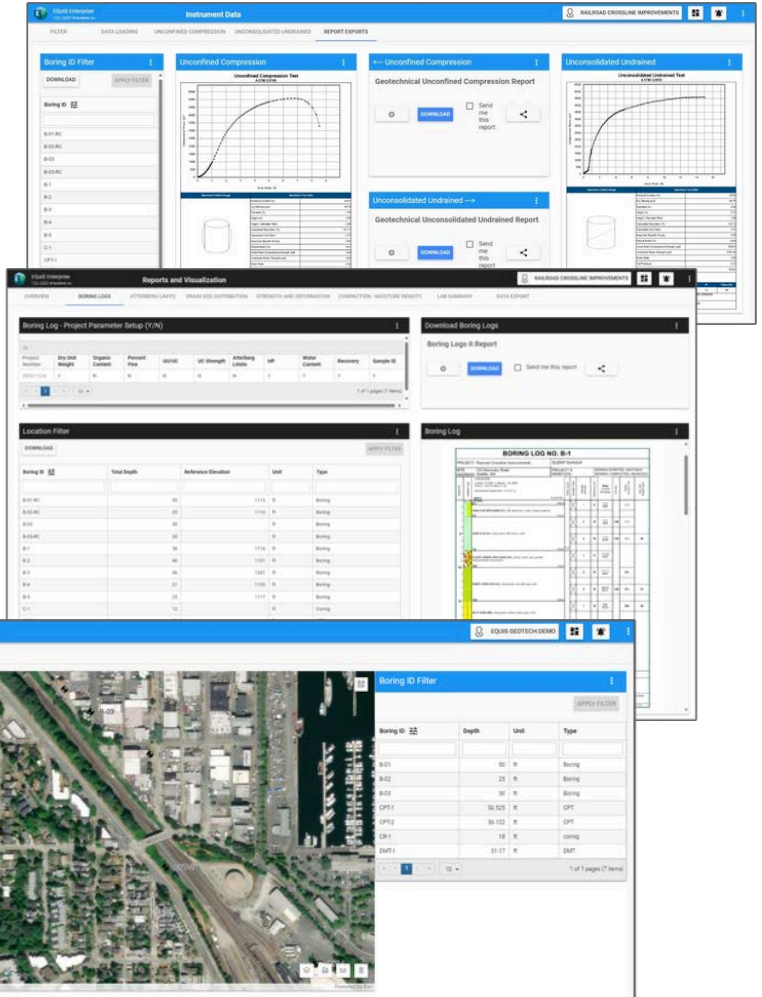
 Facility & Location	 Boring & Drilling	 Insitu Characterization	 Well Data	 Geological Descriptions	 Lab Testing
<ul style="list-style-type: none"> • Facility Data • Facility Parameters • Location Data • Location Parameters 	<ul style="list-style-type: none"> • Activity • Drilling Activity / Parameters • Test Pit • Coring • Coordinates / Geography • Backfill 	<ul style="list-style-type: none"> • CPT – Cone Resistance • CPT – Friction • CPT – Porewater & Sleeve Pressure • Dynamic CPT • Measurement While Drilling (MWD) • Pumping Test • Hand Penetrometer • Vane Test • Environmental Data 	<ul style="list-style-type: none"> • Well Installation • Casing Info • Well Construction • Water Table 	<ul style="list-style-type: none"> • Sample Info • Lithology • Stratigraphy • Discontinuity • Fracture Spacing 	<ul style="list-style-type: none"> • Water Content • Atterberg • Sieve • Hydrometer • Specific Gravity • Compaction • Unconfined Compression • Consolidation • Direct Shear • Triaxial • Permeability

Project Collaboration and Workflow Management

An exciting and unique enhancement to EQUIS Geotech is the provisioning of standard out-of-the-box dashboards simplifying standard geotechnical project management workflows.

The EQUIS Geotech dashboards and menus simplify change management and allow clients to configure EQUIS to their specific needs. All the EQUIS tools fit into a cohesive and comprehensive workflow.

- ◆ Dashboards with maps, data grids, live reports, workflow navigation menus
- ◆ Simple query and filter capabilities
- ◆ Quickly access thousands of projects
- ◆ Flexible and configurable
- ◆ Call and republish from Envirolnsite and other EQUIS tools



EQUIS Geotech Workflow



Project Planning



Field Activities & Data Collection



Boring Log Data Review



Lab Assignments & Testing



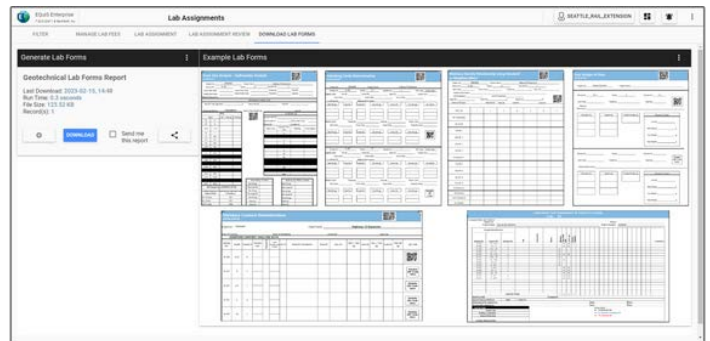
Instrument Data



Analyze Visualize & Report

Lab Assignments and Raw Lab Data Storage

While we do not claim that EQUS Geotech is a Laboratory Information Management System (LIMS), the EQUS Schema and reporting functions allow for storage of raw lab data and report calculations are performed “on the fly” for many of the ASTM and AASHTO test methods. Our clients have the ability to deliver data entry forms to lab partners, so the lab data can be entered directly into EQUS Geotech.



Integrations and Configurability

Numerous native EQUS workflows and data operations are integrated, including migration capabilities and visualization tools.

- ◆ EQUS Geotech Data Schema
- ◆ EQUS Enterprise
- ◆ EQUS EnviroInsite
- ◆ EQUS Collect
- ◆ EQUS REST API
- ◆ EQUS Link

Security

EarthSoft hosts numerous highly sensitive EQUS databases for global clients with Microsoft Azure, which includes multiple security measures and frequent audits. EQUS applications include additional security layers for data and electronic data transactions. System-level security of data is provided by limiting access to EQUS databases using firewall rules. Application-level security of data is provided by authentication mechanisms requiring users to prove their identity, and authorization to data through role-based memberships and permissions.

In addition to application level security authentication, EQUS Enterprise includes a powerful and flexible

EarthSoft has an open systems business model supporting interoperability with third party software via the EQUS REST API or other mechanisms. This can connect EQUS data and workflows to in-house applications to further enhance data quality, visibility, and workflow efficiency.

EarthSoft is a long-standing business partner of Microsoft, Esri, and Autodesk, facilitating advanced mapping and CAD integrations with their software. EQUS products also provide export formats to numerous third-party applications for advanced analytics and data visualization.

permission system allowing administrators to configure system security according to specific needs.

User roles can be created and are configurable, allowing different levels of access to EQUS applications as well as the data maintained in EQUS databases.

EarthSoft is an ISO/IEC 27001:2022 (ISO 27001) certified provider whose Information Security Management System (ISMS) has received third-party accreditation from the International Standards Organization. EarthSoft and its clients take seriously threats to the availability, integrity, and confidentiality of our clients' information.



EQUIS GEOTECH—THE NEW STANDARD FOR GEOTECHNICAL DATA MANAGEMENT

Geotechnical and Environmental Data Under One Roof

EQuIS is the worldwide leading Environmental Data Management System (EDMS) for hundreds of industry and government organizations around the globe. EarthSoft brings its environmental and geo-environmental software experience to the geotechnical industry with 30 years of experience in data management system design.

We are extremely proud to bring this world-class EQuIS Geotech solution to the Geotechnical Industry and would be honored to show you how we can help with this critical transition.

Conclusion

The Geotechnical Industry is being forced to shift the way we manage, curate, analyze, visualize, and exchange our data. **EQuIS Geotech** has been developed *with* the industry specifically for that purpose, and **EarthSoft** has the established infrastructure to guide our clients through this transition and beyond.

EarthSoft Benefits

- ◆ EDMS and GDMS are all we do. We are not distracted by other software development.
- ◆ We are a proven company, with a long-term track record and industry support of our global Business Partners.
- ◆ ISO 27001 compliant.
- ◆ Large, dedicated support teams.
- ◆ 30 years of innovation, financial success, and corporate stability.



Efficiencies



Quality

**Own the Workflow,
Make Better Decisions**

To learn more about how EQuIS Geotech solutions can support your geotechnical needs, contact one of our representatives today. Please write sales@earthsoft.com or visit www.earthsoft.com for further information.