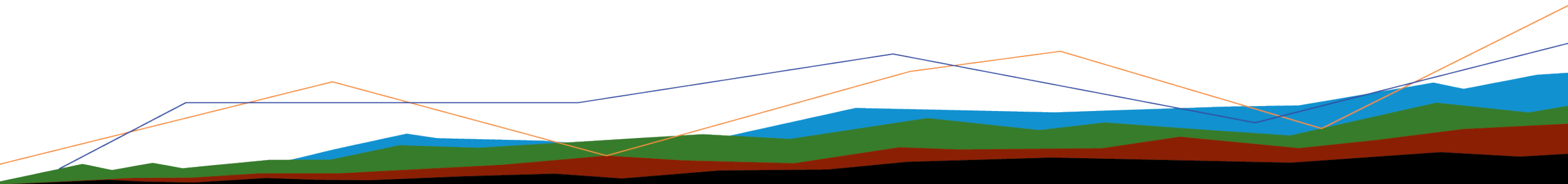


Scaling Up/Scaling Down: EQUIS for All

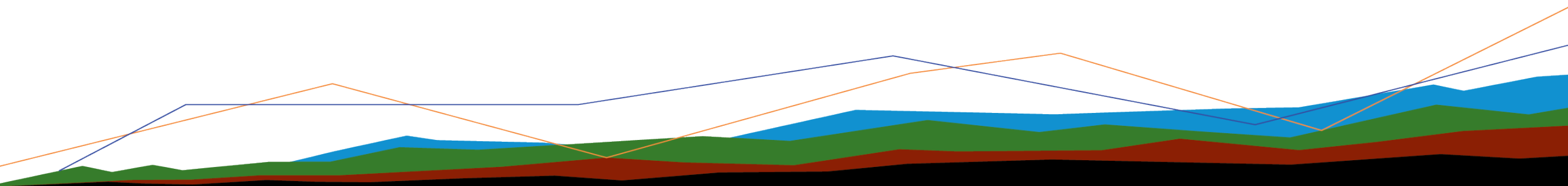


Lowering the Barrier to Entry

“We need a large project to justify the set-up cost for EQUIS”

Vs.

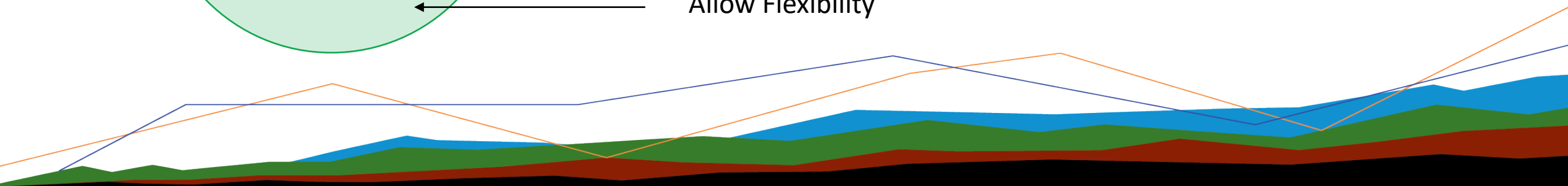
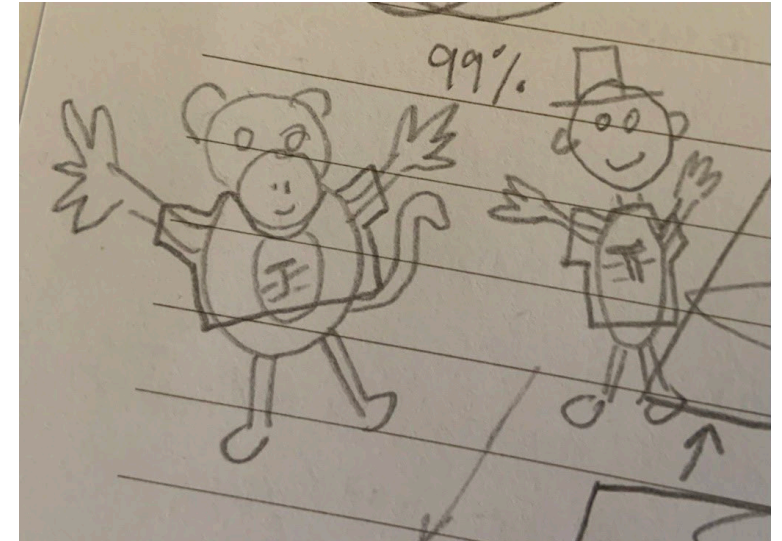
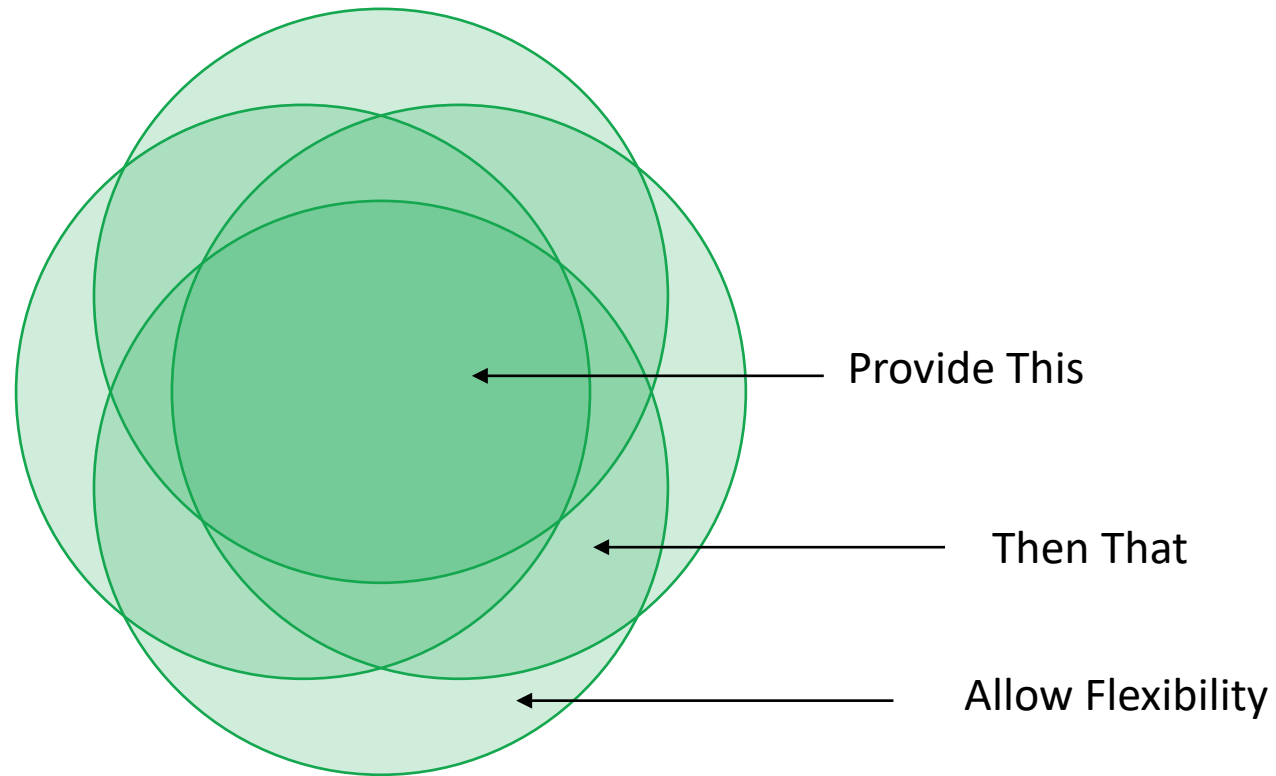
“EQUIS is already set up, go ahead and enter your data”



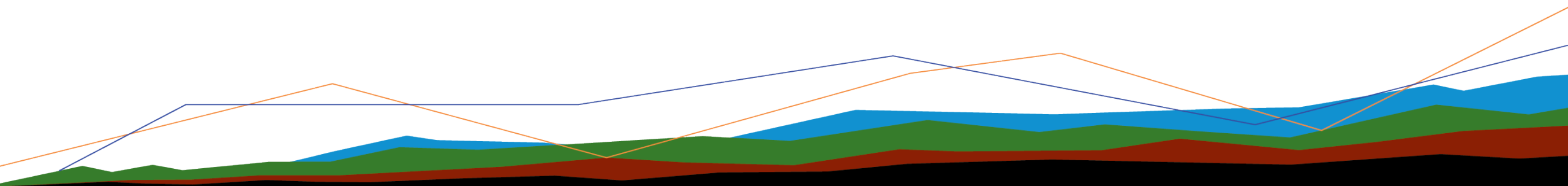
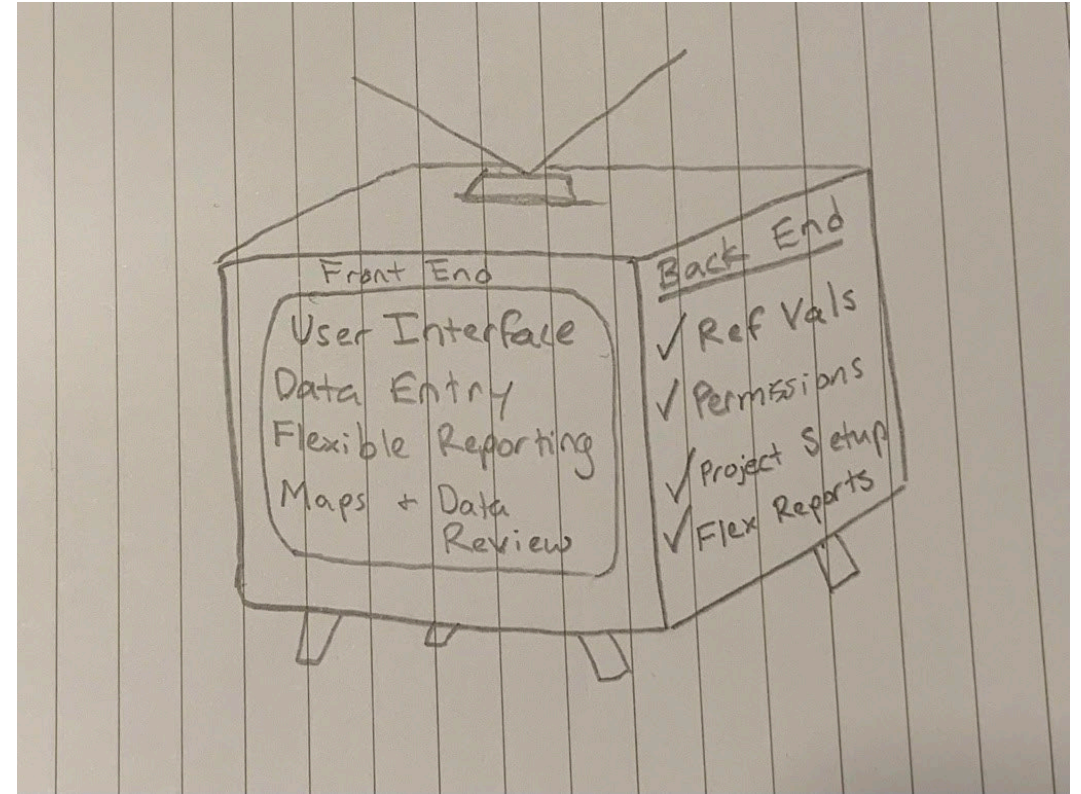
Initiatives

- Geotechnical gINT Replacement
 - Field and lab data entry web interface, standard boring log, fence diagram, and lab test reporting
 - ~12,000 small projects per year, ~1,200 users
 - EQuIS Geotech with Earthsoft
 - In pilot testing
- Environmental Project Workflow
 - Web interface for loading analytical and field data, screening tables, field data reporting, boring log, and cross section
 - ~4000 small projects per year, ~400 users
 - Adapted existing tools & Geotech
 - v1 in production (limited scale)
 - v2 working prototype

Finding the Commonalities

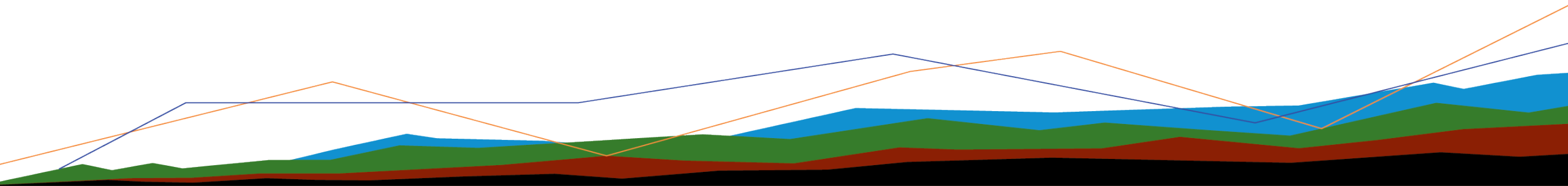


How do we take something that is designed for large scale projects and roll it out for small projects?



Challenges...

And Successes!



User Permissions at Scale

- Permissions can easily become a huge complicated mess
 - Complex relationships
 - Easy to give too many or too few permissions

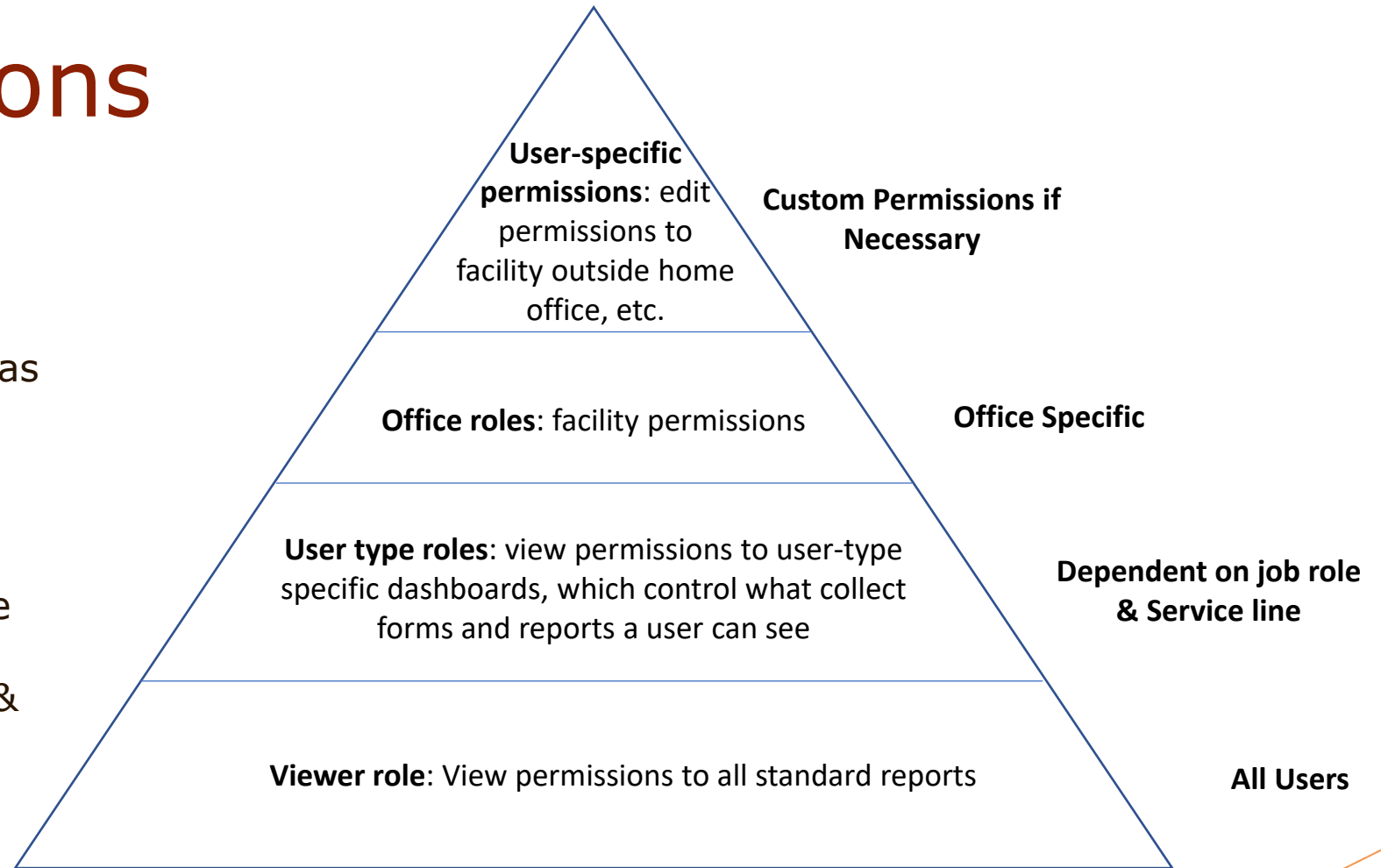
View/set permissions on:
(Object Types/Creator) DOWNLOAD

Name	👤	🛡️	🔪	⚙️	⚙️	👤	🔪	+	✖️	
<input type="text"/>										
📊 Dashboards	👤					👤				🗑️
📅 EDDs	♀️	🛡️	🛡️	🛡️		👤		+		🗑️
👤 Facilities	+	???	???	???				+		🗑️
📄 Files	♀️	???	???	???		👤		+		🗑️
📁 Groups and Folders	👤					👤				🗑️
📁 Modules	👤					👤				🗑️
📄 Reports	♀️			⚙️		👤		+		🗑️
📊 Widget Types	👤	🛡️	🛡️	🛡️		👤				🗑️

1 10 1 of 1 pages (8 items)

User Permissions (cont'd)

- Some guidelines
 - Give users as few permissions as possible
 - Isolate each variable, make changes one by one
 - Impersonate users
 - Keep manual changes to a bare minimum
 - Manage permissions by folder & user roles



Automating Project Setup

- With so many projects, it is impractical to set up all projects and users manually
- Automated facility creation
 - Each time a new project is registered in project management system, an EDD is generated
 - EDD is loaded automatically via EQuIS Link script & API
 - Automatically added to appropriate permission folders
 - Closed projects get inactivated
- Enables users to immediately access their projects and begin adding data

User Interface

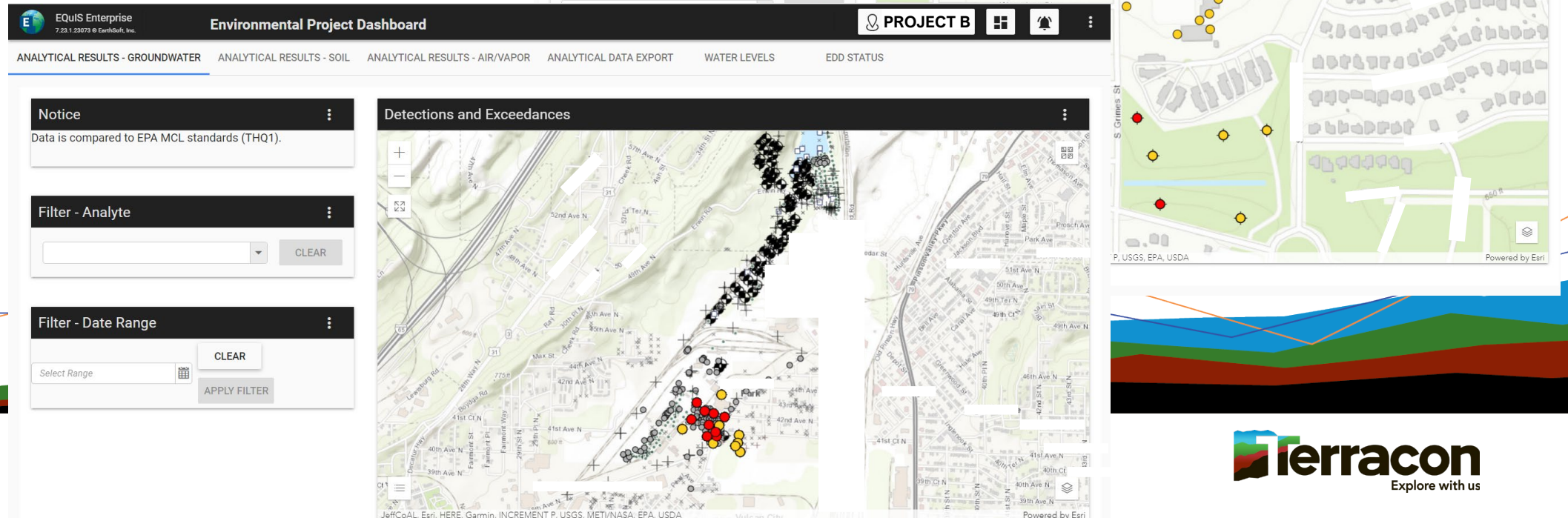
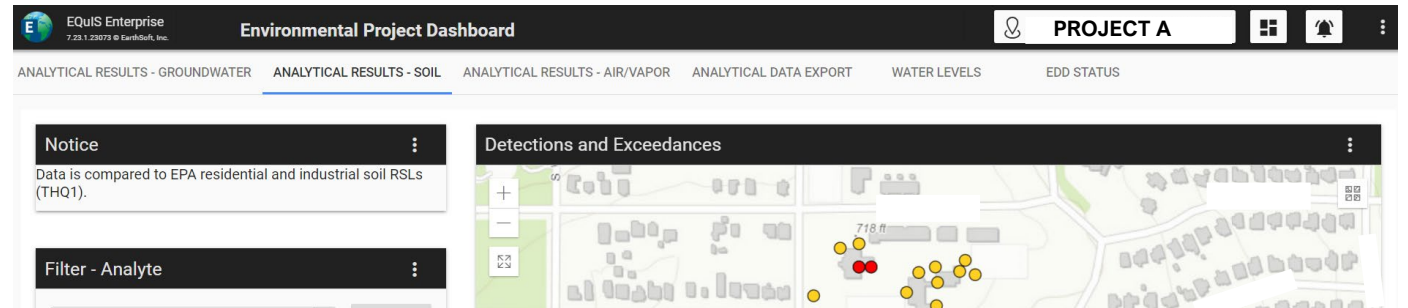
- Platform considerations
 - Many of Earthsoft's tools are very facility-driven
 - EQuIS API, Many Dashboard Widgets, Power BI connector, EQuIS Professional, ArcEQuIS, etc.
 - This limits what we can use for our user interface & workflow
 - Must provide adequate data access through Enterprise
 - NO USERS will have EQuIS Professional other than admins

icon	SYS_LOC...	TOTAL_D...	DEPTH_U...	X_COORD	Y_COORD
	B-1	36	ft	-122.3827817	47.63981884
	B-2	40	ft	-122.3992207	47.64763163
	B-3	36	ft	-122.3844837	47.6575748
	B-4	31	ft	-122.3442322	47.66162150

Boring ID	Termination Depth	Borehole Status	Refusal	Refusal Type	Boring Type	Start Date	Start Time	End Date	End Time	Drill Rig	Hammer Type	Abandon Method
1	15	draf				04/10/2023	20:00	04/10/2023	20:00	CR643	Automatic	Boring ba cuttings u
2	15	draf				04/10/2023	20:00	04/10/2023	20:00	CR643	Automatic	Boring ba cuttings u
3	10	draf				04/10/2023	20:00	04/10/2023	20:00	CR643	Automatic	Boring ba cuttings u
4	10	draf				04/10/2023	20:00	04/10/2023	20:00	CR643	Automatic	Boring ba cuttings u
5	10	draf				04/10/2023	20:00	04/10/2023	20:00	CR643	Automatic	Boring ba cuttings u

User Interface (cont'd)

- Single web interface for all projects
 - Accommodate multiple workflows
 - Create “user stories”
 - Design with user experience in mind



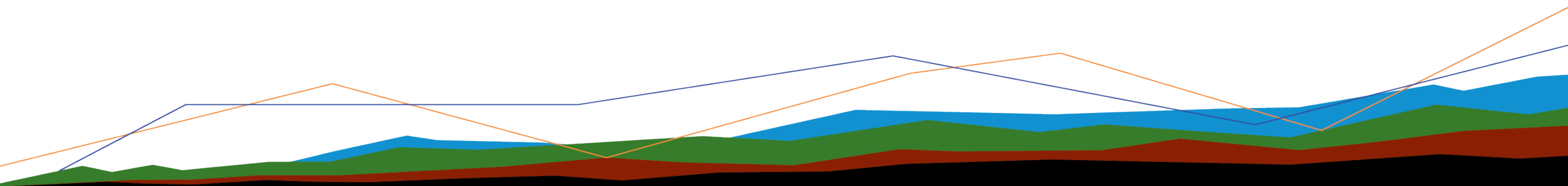
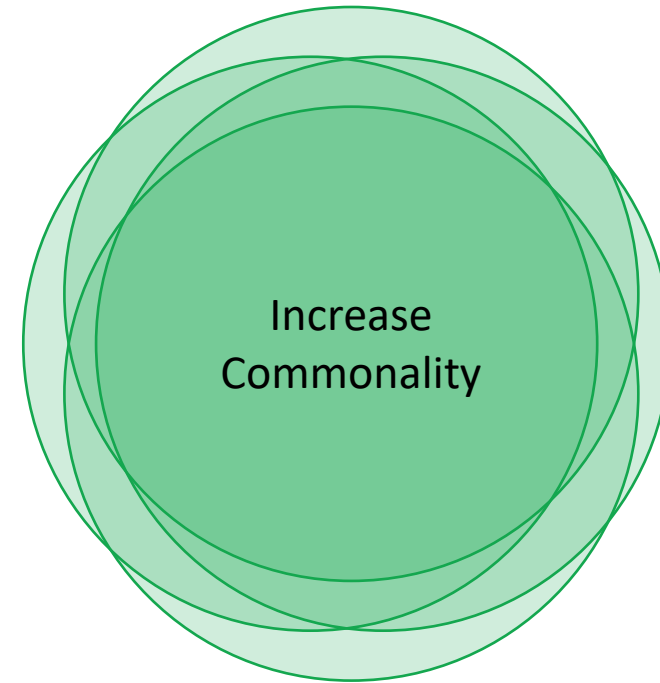
Education and Understanding

HOW TO...

- set users up for success?
- get users to understand the value of their data and owning the data?
- provide support without taking on the traditional data manager role?
- sell the story to users?
- make system accessible for many with limited data training?
- educate users and enforce data standards?
- Capture user feedback to drive workflow improvements?

Standardized/Flexible Reporting

- Standardized reporting products allow us to increase the commonality between projects
- Standard reports needs to allow flexibility



Flexible Crosstab

- Problem: Fixed Number of Action Levels
- Different sites need different numbers of action levels
- “Action Levels II with Parameters” report allows for flexible action levels – but number of action levels must be the same for a given crosstab template
- Solution: Custom FLEX Report
- Changes the way action levels are pulled, allows the crosstab report to run successfully with 0-4 action levels
- Uses the same crosstab template regardless of how many action levels selected
- Can save default action levels for a facility

EZView

Action Level Exceedance II with Parameters_FLEX Crosstab

Last Download: 2023-09-12, 09:42
 Run Time: 208.4 seconds
 File Size: 124.74 KB
 Record(s): 1

DOWNLOAD Send me this report

Report Title | Description | Revision 1.0
 Project Name | Project Location
 Report Date | Terracon Report No. Report Number

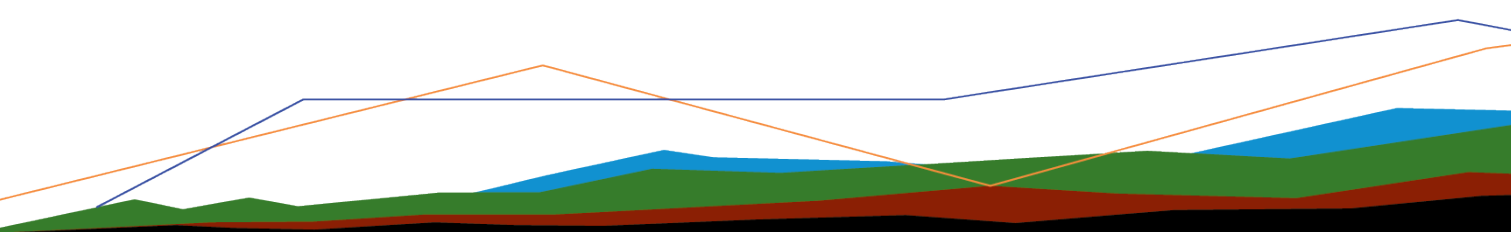
	DEQ1	DEQ1	DEQ2	DEQ2	DEQ3
Location:	DEQ1	DEQ1A	DEQ2	DEQ2A	DEQ3
Sample Name:	DEQ1	DEQ1A	DEQ2	DEQ2A	DEQ3
Date:	3/18/2020	1/12/2020	3/17/2020	1/19/2020	3/18/2020
Depth:					
Analyte					
1,1,1-Trichloroethan	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,1,2,2-Tetrachloroe	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,1,2-Trichloro-1,2,2	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,1,2-Trichloroethar	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,1-Dichloroethane	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,1-Dichloroethene	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,2,4-Trichlorobenz	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,2-Dibromo-3-chlo	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,2-Dibromoethane	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
1,2-Dichlorobenz	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U

Report Title | Description | Revision 1.0
 Project Name | Project Location
 Report Date | Terracon Report No. Report Number

	DEQ1	DEQ1	DEQ2	DEQ2
Location:	DEQ1	DEQ1A	DEQ2	DEQ2A
Sample Name:	DEQ1	DEQ1A	DEQ2	DEQ2A
Date:	3/18/2020	1/12/2020	3/17/2020	1/19/2020
Depth:				
Analyte	GW RSL	GW MCL	GW Tapwater	
1,1,1-Trichloroethan	200	800	8000	< 1.00 U
1,1,2,2-Tetrachloroethane	0.075	0.075		< 1.00 U
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	10000		< 1.00 U
1,1,2-Trichloroethar	5	0.041	0.28	< 1.00 U
1,1-Dichloroethane		2.8	2.8	< 1.00 U
1,1-Dichloroethene	7	28	280	< 1.00 U
1,2,4-Trichlorobenz	70	0.4	1.2	< 1.00 U
1,2-Dibromo-3-chlo	0.2	0.0033	0.0033	< 1.00 U
1,2-Dibromoethane	0.05	0.0075	0.0075	< 1.00 U
1,2-Dichlorobenz	600	30	300	< 1.00 U
1,2-Dichloroethane	5	0.17	0.17	< 1.00 U

Flexible Boring Log

- Problem: Do not want to maintain hundreds of templates for every boring log configuration
- Solution: Flexible crosstab
 - Users can choose columns to show or hide
 - Headers accommodate different units



Boring Log No. B-1

Model Layer	Graphic Log	Location:	Depth (ft)	Water Level Observations	Sample Type	Recovery (in)	Field Test Results	Organic Content (%)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	Percent Fines
		See Exploration Plan									LL-PL-PI	
		Latitude: 47.6398° Longitude: -122.3828°										
		Approximate Surface Elev: 1113 (FT) ± Elevation (FL)										
		Depth (FL)										
		TOPSOIL	0.5									
		LEAN CLAY WITH SAND (CL) , stiff, dark brown, moist, contains organics	1112.7			8	3-4-5 N=9		25.9			
			2.5			18	3-4-5 N=9		27.9		47-17-30	39.7
		LEAN CLAY (CL) , trace gravel, stiff, brown, moist	1110.5			18	3-5-5 N=10		28.3	92		
			7.5			12	3-13-28 N=41					
		CLAYEY GRAVEL WITH SAND (GC) , dense, brown, wet, possible cobbles/boulder encountered	1105.5			18	5-10-11 N=21		16.7			
		SANDY LEAN CLAY (CL) , trace gravel, very stiff, gray, moist	1103.0			18	4-5-12 N=17		27.1	87		48.7
			15.0			18	7-8-7 N=15		26.4	94		32-16-16
		SILTY SAND (SM) , trace gravel, medium dense, gray, moist	1098.0			18	6-9-13 N=22		8.7			92-15-77
			18.5			12	4-5-7 N=12		8.6			
		SANDY LEAN CLAY (CL) , trace gravel, stiff to very stiff, gray, moist	1094.5									

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:
Changes in layers occurred between samples.

Elevations were interpolated from site plan.

Water Level Observations
 Water observed at 7.5 ft.
 Water encountered at 18 ft.
 Cave in at 35 ft.

Advancement Method:
Hollow Stem Auger

Abandonment Method:
Boring backfilled with Auger Cuttings and/or Bentonite

Drill Rig:
Hammer Type:
GPR
Driller:
CGR
Logged By:
JD

Boring Started:
06/27/2022
Boring Completed:
06/29/2022

Questions?

Thanks also to the contributions from
our whole team:

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