

Lambda Energy Flowline Spill

- Pigeon River Country State Forest 4/16/2025 -

Michael Shelton

Senior Geologist

EGLE-GRMD

6/10/2026

Lambda Energy Flowline Spill

- What happened?
- How'd we get here?
- Location, location, location...
- #@*&%^*#\$!
- Teamwork makes the dream work
- Ready, set.... Go?
- Inspectors Gadgets
- New data as of 6/9/26
- To the future



What happened...

- April 16th, 2025
 - Lambda Personnel and Contractors pigging an 8188' flowline
 - Lambda Personnel notice no returns to the facility
 - Stopped pigging operation
 - call line locators...



What happened...

- April 16th, 2025
 - Lambda H&S,E official contacted
 - Onsite assessment estimated at 50bbls crude



- 100 bbls of condensate, 110 bbls brine, 10 bbls crude spewed into the PRC (calculated and received 9 days later)

How'd we get here???

- Ice-mageddon 2025



How'd we get here???

- Pigeon River Country = “Big Wild”
 - Remote, natural, public and protected
- Multitude of ecological settings
- Glaciation and time
- WETLANDS



Location, Location, Location...

- Rich conifer wetland
 - Pristine and dynamic
- Roads and a “Highway”
- Surface contaminants
 - Wetlands and Uplands
 - Observable/detectable
- Subsurface
 - a great unknown



#@*&%^*#\$!

- Delayed information on *True* volumes and what they were
- Multiple densities/parameters/variables
- Setting is a nightmare to work in
- ½ acre hydrocarbon and chloride wetland soils left in place (Fall 2025)
 - Initial access routes and check dam in 4 days
 - Field screening (swamp hikes) chlorides and HIPs
 - Shallow MW installation and deep
 - Sump collection system (initial) in a little under a month (upland)

Teamwork Makes the Dream work

Contractors

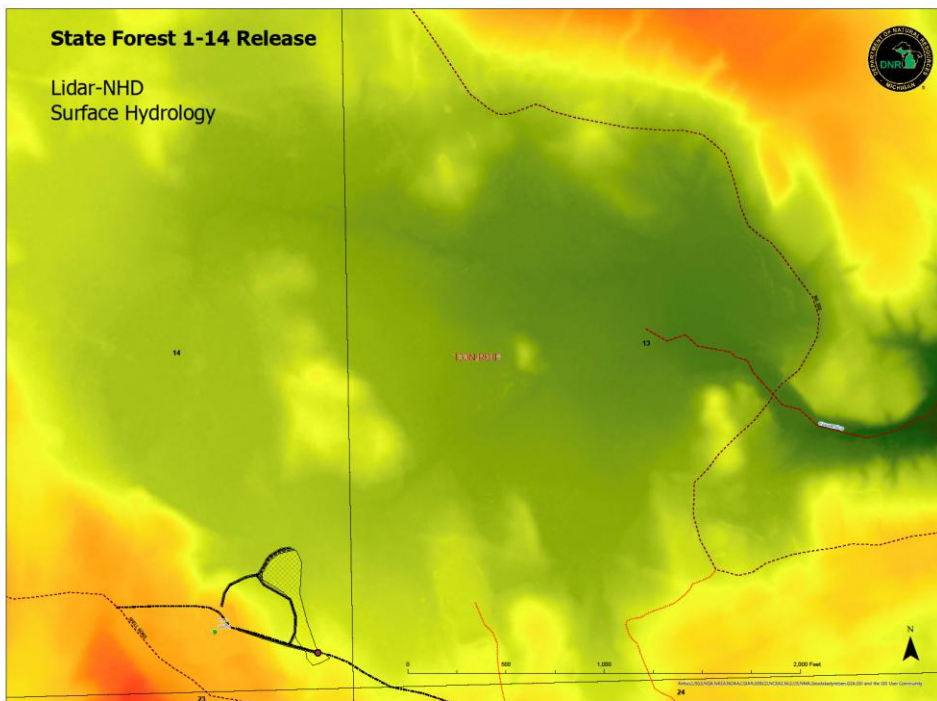
- **Excel Site Rentals**
- **K.E.O. rental and service**
- **Wcisel Excavation**
- **Gosling Czubak**
- **Shepler's Well Drilling**
- **Grand Traverse Analytical**
- **GFL**

Governmental Entities

- **EGLE**
- **GRMD**
- **DNR PRC staff & specialists**
- **WRD – Gaylord**
- **Cheboygan County**
- **LTBBOdawa**
- **EPA region 5**

Teamwork Makes the Dream work

DNR – Lidar



DNR – Drone flights

- [4 24 25 State Forest 1 14 Map1 - PIX4Dcloud](#)
- [7 24 25 State Forest 1-14 July - PIX4Dcloud](#)
- [5 7 26 State Forest 1 14 UAS 05 2026 - PIX4Dcloud](#)

Ready, Set.... Go?

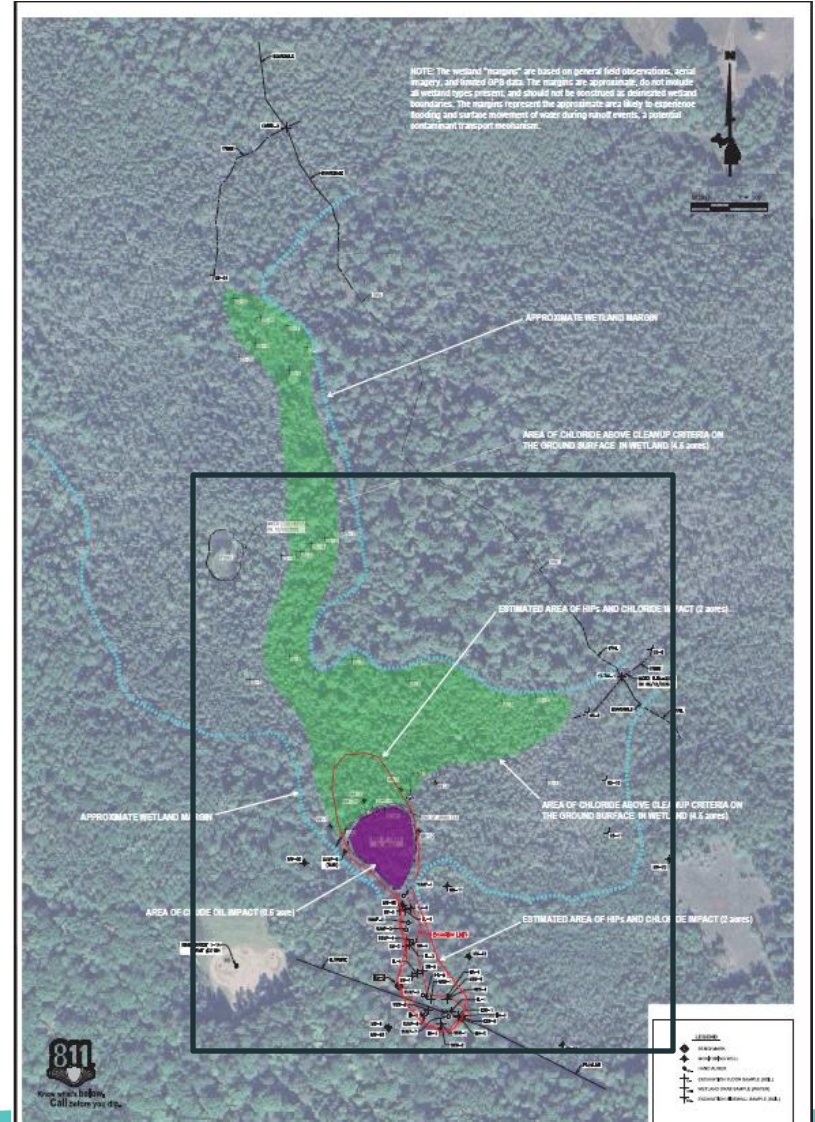
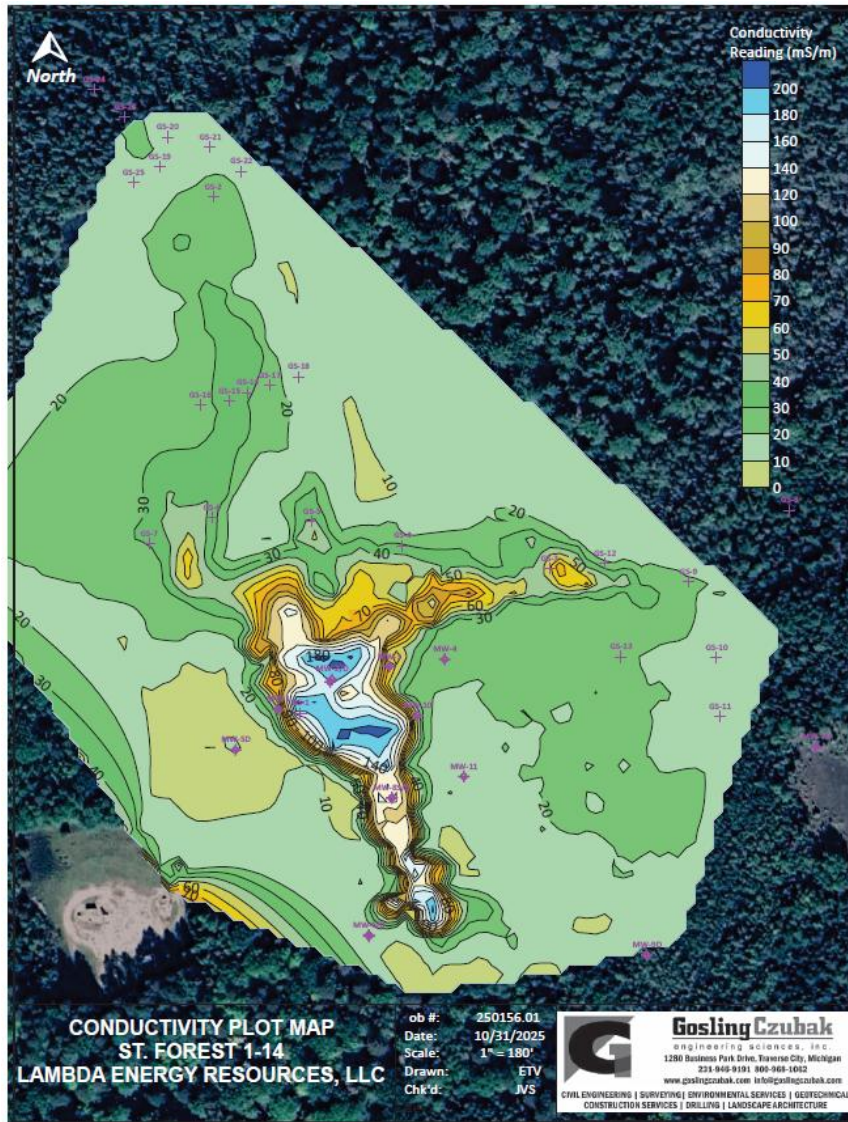
Clean up process

- Excavation/removal
- Impacted water recovery
- Disposal issues
- Field work
- Surface investigations
- Subsurface investigations
- Mobilizations
- Mapping
- 500/100 year floods





Inspectors Gadgets





Water Well And Pump Record



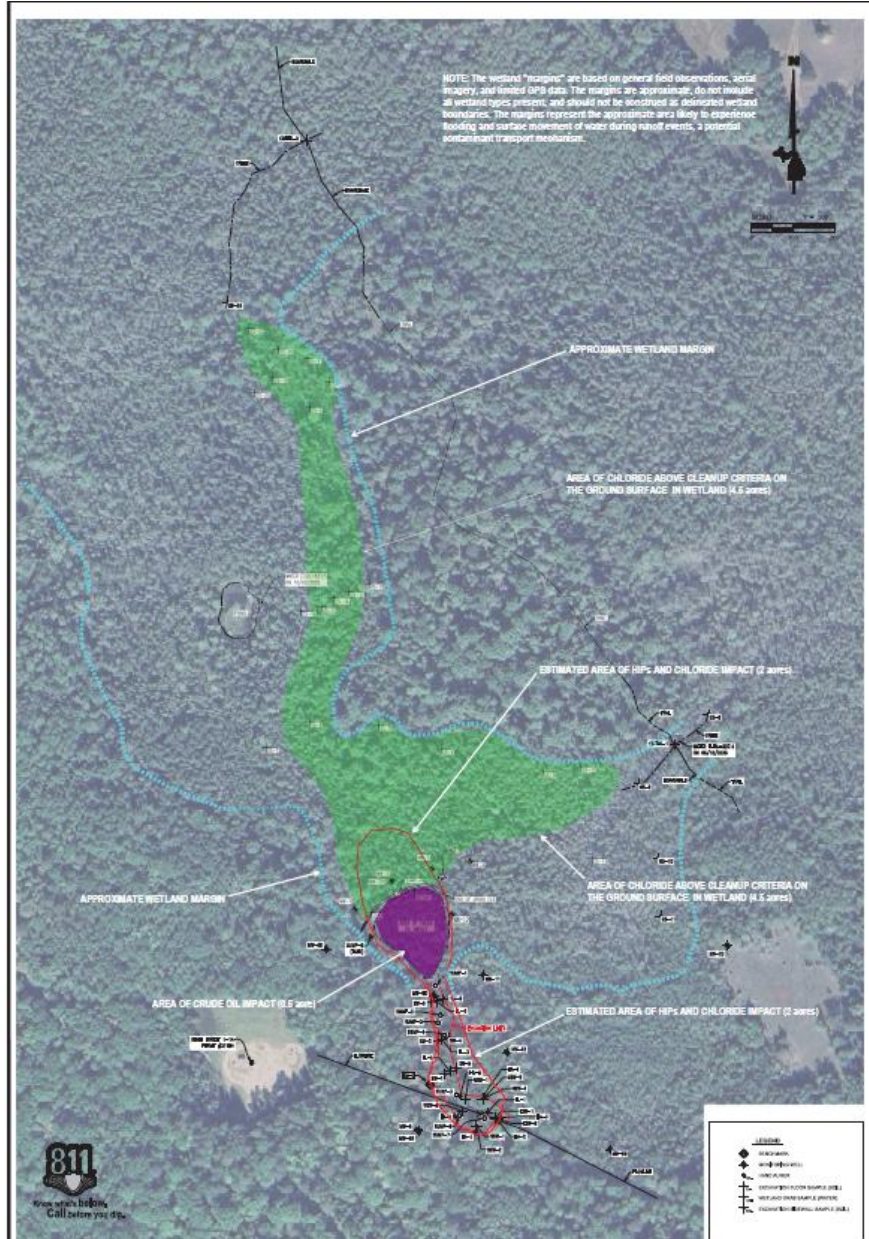
Completion is required under authority of Part 127 Act 368 PA 1978.

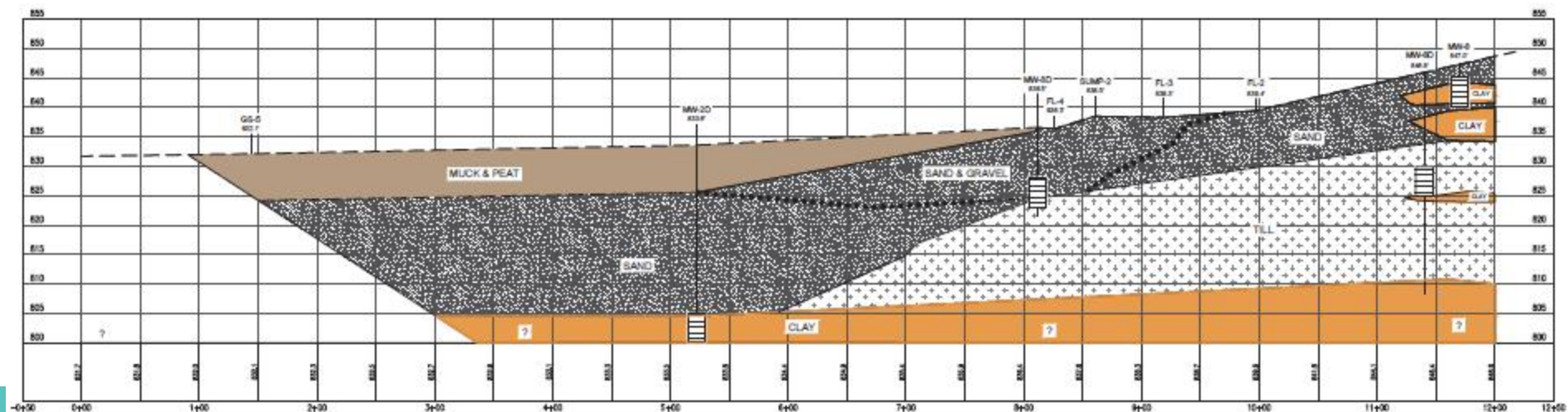
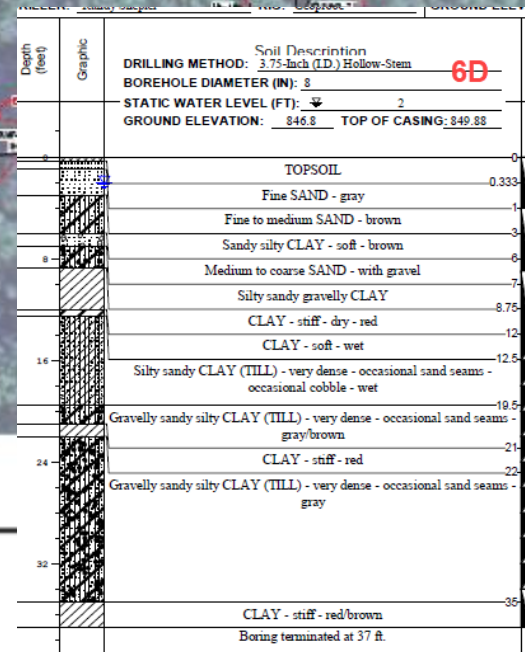
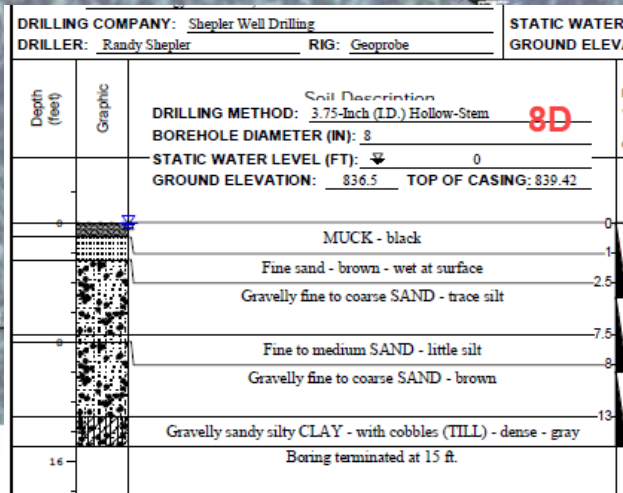
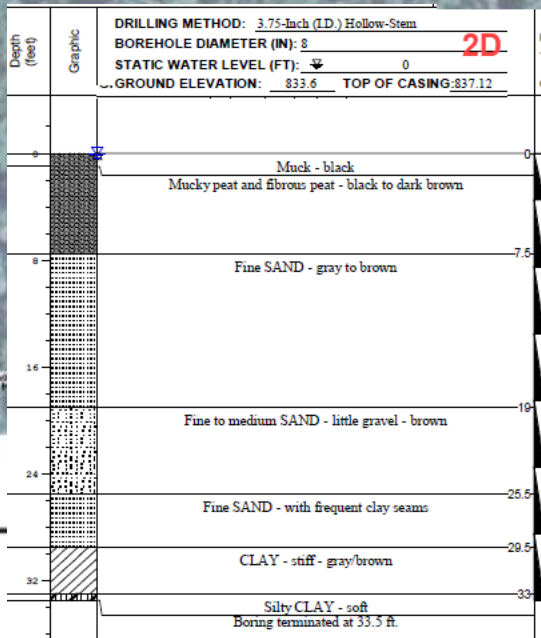
Failure to comply is a misdemeanor.

Import ID:

Tax No: 16-232-023-200-001-0	Permit No: 8455	County: Cheboygan		Township: Forest	
Well ID: 16000002571		Town/Range: 33N 01E	Section: 23	Well Status: Active	WSSN:
		Source ID/Well No:			
		Distance and Direction from Road Intersection: 27 to 33, south on Black River Rd, North of Canada Creek Rd			
		Well Owner: David Papenhagen			
Elevation:		Well Address: 15075 S Black River Rd Cheboygan, MI 49721		Owner Address: 8263 Sarah Grosse Isle, MI 48138	
Latitude: 45.241555					
Longitude: -84.274729					
Method of Collection: Interpolation-Map					

Drilling Method: Rotary		Well Use: Household		Pump Installed: Yes		Pump Installation Only: No	
Well Depth: 141.00 ft.		Date Completed: 5/16/2006		Pump Installation Date: 5/16/2006		HP: 0.50	
Well Type: Replacement				Manufacturer: Sta-Rite		Pump Type: Submersible	
Casing Type: PVC plastic		Height: 1.00 ft. above grade		Model Number: 10SP		Pump Capacity: 10 GPM	
Casing Joint: Solvent welded/glued				Drop Pipe Length: 65.00 ft.		Pump Voltage:	
Casing Fitting: Drive shoe				Drop Pipe Diameter: 1.00 in.		Drilling Record ID:	
Diameter: 5.00 in. to 136.00 ft. depth				Draw Down Seal Used: No			
Borehole: 7.88 in. to 141.00 ft. depth				Pressure Tank Installed: Yes			
				Pressure Tank Type: Diaphragm/bladder			
				Manufacturer: Well-Mate			
				Model Number: WM6		Tank Capacity: 20.0 Gallons	
				Pressure Relief Valve Installed: Yes			
Static Water Level: 17.00 ft. Below Grade				Formation Description		Thickness	Depth to Bottom
Well Yield Test:							
Yield Test Method: Air							
Pumping level 141.00 ft. after 1.00 hrs. at 50 GPM				Sand		7.00	7.00
				Hardpan		12.00	19.00
				Boulders		2.00	21.00
Screen Installed: Yes				Hardpan		11.00	32.00
Filter Packed: Yes				Gravel Medium		3.00	35.00
Screen Diameter: 3.00 in.				Hardpan		25.00	60.00
Blank: 2.00 ft. Above				Gravel Medium		81.00	141.00
Screen Material Type: PVC-wire wrapped							
Screen Installation Type: Telescoped							
Slot							
Length							
Set Between							
12.00							
5.00 ft.							
136.00 ft. and 141.00 ft.							
Fittings: None							
Well Grouted: Yes				Geology Remarks:			
Grouting Method: Grout pipe outside casing							
Grouting Material							
Bags							
Additives							
Depth							
Bentonite slurry							
6.00							
None							
0.00 ft. to 126.00 ft.							



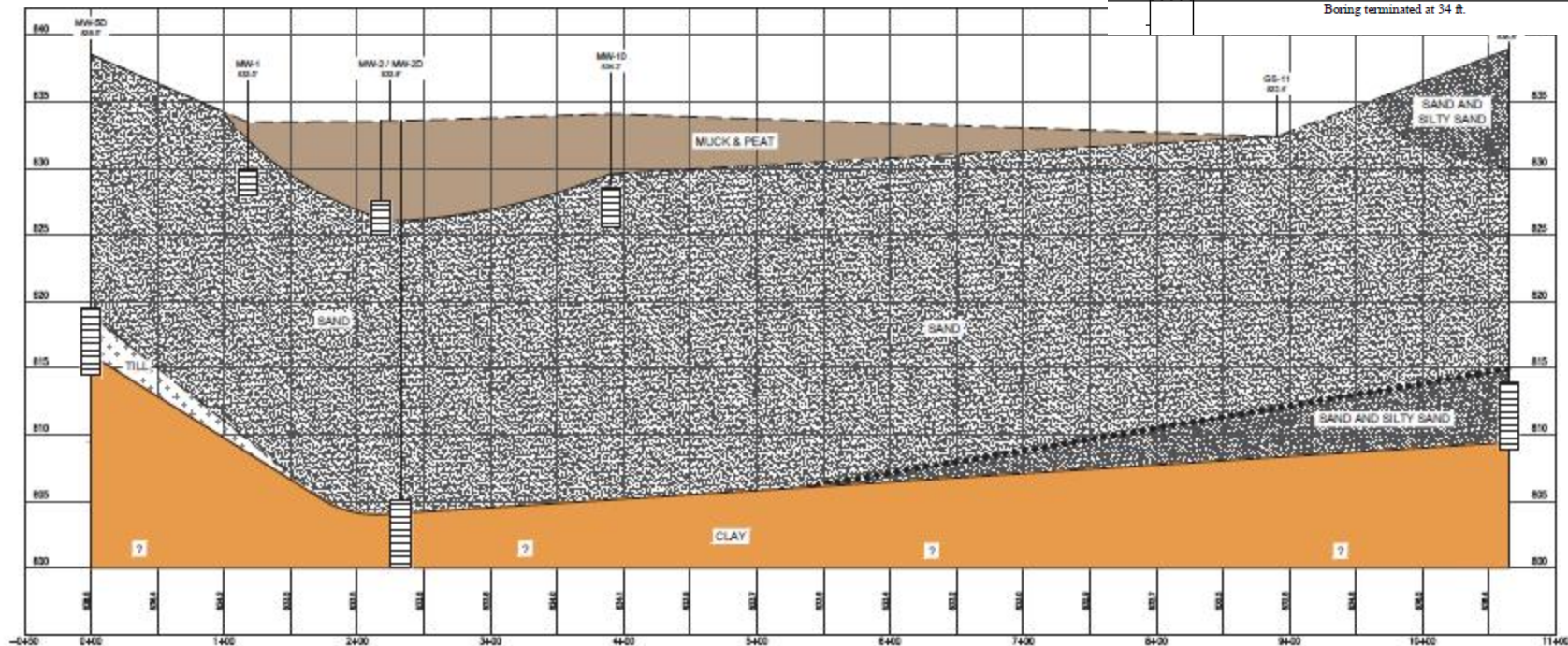
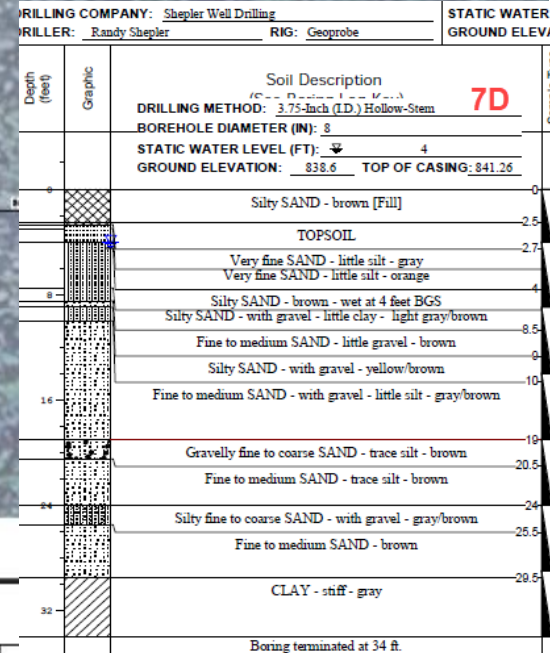
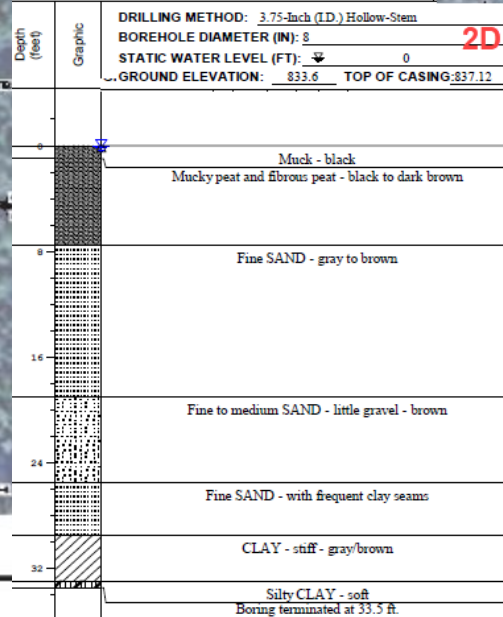
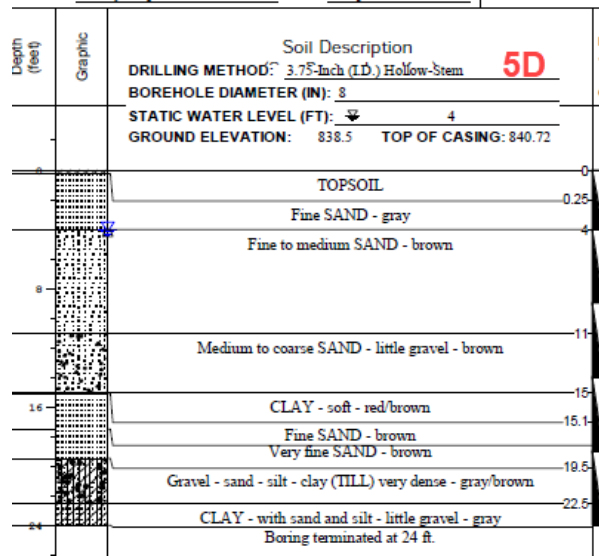


PROFILE VIEW A-A'

SCALE HORIZ. 1" = 50'
 VERT. 1" = 5'

A'

DRILLING COMPANY: Shepler Well Drilling
 DRILLER: Randy Shepler RIG: Geoprobe
 STATIC WATER GROUND ELEV.



PROFILE VIEW B-B'

SCALE HORIZ. 1" = 50'
 VERT. 1" = 5'

New info 6/9/26



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