

Mud River Soil Sampling - 6/2/2021 and 6/3/2021

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6/2/2021

- **Site 1:** Sampling – Keith using bucket auger and Corey using soil sampler. This was the first site sampled; we sampled together before splitting into teams. Elevation data – Lori; note-taking and depth measuring – Whitney.
 - Center point
 - 20 in – mineral soil
 - 30 in – organic soil
 - 38 in – mineral soil
 - 45 in – mineral soil; color change (grayer soil); likely native soil layer
 - 55 in – soil would not stay in bucket
 - East edge point
 - 12 in – mineral soil
 - Next point, 5 ft from east edge
 - 12 in – mineral soil
 - Next point, 5 ft from previous
 - 11.5 in – mineral soil
 - Next point, 5 ft from previous
 - 51 in – mineral soil
 - Next point, 5 ft from previous
 - This is the “center point”, see above.
 - Next point, 5 ft from previous/center
 - 44 in – mineral layer
 - 51.5 – mineral soil
 - Next point, 5 ft from previous
 - 47.5 in – mineral soil
 - Next point, 5 ft from previous
 - 41.5 – mineral soil
 - Next point, 5 ft from previous
 - 39 in – mineral soil
 - Next point, 5 ft from previous
 - 37 in – mineral soil
 - Next point, 5 ft from previous

- 30 in – mineral soil
 - Next point, 5 ft from previous
 - 47.5 in – mineral soil
 - Next point, 5 ft from previous
 - 44 in – mineral soil
 - Next point, 5 ft from previous
 - 37.5 in – mineral soil
 - Next point, 5 ft from previous
 - 40 in – mineral soil
 - Next point, 5 ft from previous
 - 38 in – mineral soil
 - Next point, **10** ft from previous
 - 43 in – mineral soil
 - Next point, 10 ft from previous
 - 44 in – mineral soil
 - Next point, **5** ft from previous
 - 16 in – mineral soil
 - Next point, 5 ft from previous; West edge at the willow shrubs
 - 50 in – mineral soil
- **Site 2** (picture included): Sampling – Corey using soil sampler; elevation data – Lori; note-taking and depth measuring – Whitney.
 - North edge; cattail across this side of channel
 - 12 in – mineral soil, rock hard; could have been an ice layer encountered
 - Next point, **5** ft from previous
 - 24 in – mineral soil
 - Next point, **10** ft from previous
 - 25 in – mineral soil
 - Next point, 10 ft from previous
 - 21.5 in – mineral soil
 - Next point, 10 ft from previous
 - 23.5 in – mineral soil
 - Next point, 10 ft from previous; veg changed to phragmites
 - 32 in – mineral soil
 - Next point, 10 ft from previous
 - 35.5 in – mineral soil
 - Next point, 10 ft from previous
 - 40.5 in – mineral soil
 - Next point, 10 ft from previous; veg changed to reed canary grass
 - 10.5 in
 - Next point, 10 ft from previous
 - 10 in – mineral soil; encountered ice layer near surface
 - Next point, 10 ft from previous

- 5 in – mineral soil
- **Site 6:** Sampling – Keith using bucket auger; elevation data – Jason; note-taking – Katie.
 - 3005 – center
 - 20 in – organic → mineral SICL (Silty Clay Loam)
 - 25 in – grayish SICL
 - 48 in – sandy sand & orange sand
 - Stratified sandy loam
 - 55 in – water
 - 3006 – south of center
 - 7 in – organic material & SICL
 - 22 in – gray & heavy silty clay
 - 28 in – clay gravel
 - Gravel, shale, sand
 - 58 in – clayey till
 - 3007 – south of center
 - Organic material
 - 4 in – iron oxidation orange soil. Silt loam
 - 14 in – mineral mantle with organic material underneath
 - 20 in – mineral soil (SICL) & water
 - 30 in – dark gray clay
 - 34 in – hit rock
 - 3008 – north of center
 - 6 in – organic material & silt loam
 - 12 in – buried organic matter
 - 20 in – SICL & water
 - 31 in – dark gray clay (mixed with organic?)
 - 35 in – clayey till (parent material)
 - Calcareous material
 - 3009 – north of center
 - Organic material
 - 19 in – water
 - 26 in – organic material
 - 36 in – mineral soil
 - 45 in – sandy gravel
 - 50 in – sand, gravel, loam
 - 55 in – clay & calcareous till
 - 3010 – north of center
 - 10 in – buried organic material
 - 20 in – mineral soil → SICL
 - 25 in – grayish SICL
 - 38 in – shell fragments (picture included)
 - 48 in – sandy stream bottom?

- Layered alluvial soil
 - 60 in – sloppy, almost reached water
 - 3022 – north of center
 - 1147.56 elevation
 - Ditch elevation 1142.1
 - Organic material
 - 24 in – mineral soil
 - 40 in – woody fragments & heavy SICL & water
 - 50 in – shells
 - 55 in – SICL

Soil Sampling - 6/3/2021

- **Site 16:** Sampling – Corey using soil sampler; elevation data – Jason; note-taking – Katie.
 - 3030 – center
 - Clear stream channel
 - 1 ft standing water
 - 4.5 ft – plant material
 - > 5 ft hard soil
 - 3036 – north of center
 - 4.1 ft - SICL
 - 3041
 - .85 ft organic material & frost
 - 3043 – channel edge
 - .5 ft frost
 - 3044 – standing water
 - > 4.5 ft organic material
 - 3047 – standing water
 - > 4.5 ft organic material
 - 3050
 - 1 ft frost
 - 3053
 - > 4.5 ft plant & woody material
 - 5 ft organic material (peat?)
 - 3055 – south of center
 - 3.9 ft – clay
 - 4.37 ft – sand
- **Site 15:** Sampling – Corey using soil sampler; elevation data – Jason; note-taking – Katie.
 - 3060 – center
 - 2 ft standing water

- 3090 – south of center
 - Grass & phragmites vegetation
 - 1 ft – frost
- 3100 – south of center
 - Sedge & cattails = wet ground
- 3075 – north of center
 - Sedge → grass
- 3077 – north of center
 - Frost
- 3078 – north of center
 - Frost
- 3101 – frost elevation
- **Site 14** (picture included): Sampling – Corey using soil sampler; elevation data – Jason; note-taking – Katie.
 - No defined channel & pockets of water with sedge islands
 - 3102 – center
 - Standing water
 - >4.5 ft organic material – no frost
 - 3103 – south of center
 - Vegetation cover - grass
 - 1 ft frost
 - >4.5 ft organic material
 - 3112 – south of center
 - .5 ft frost
 - 3113 – south of center
 - Top of frost elevation
 - 3118 – south of center
 - Top of frost elevation
 - 3119 – south of center
 - Past frost line
 - In a pocket of water
 - 3124 – south of center
 - Top of frost elevation
- **Site 13**: Sampling – Keith using bucket auger; elevation data – Lori; note-taking – Whitney.
 - East edge point; no. 163; frozen soil near surface
 - 29 in – layer of mostly non-decomposed material (pictures included)
 - 42 in – mineral soil
 - 50 in – thin layer of non-decomposed plant material (see pictures)
 - 55 in – water table
 - 53 in – estimated native bed material; mineral soil
 - Next point, **10** ft from previous; no. 164; frozen soil near surface

- 54 in – organic soil
 - 55 in – mucky mineral layer
 - Next point, 10 ft from previous; no. 170; this point is on a small island/ridge within the channel; frozen soil near surface
 - 35 in – layer of mostly non-decomposed plant material
 - >60 in – still organic; did not reach a mineral layer.
 - Next point, 10 ft from previous; no. 165; frozen soil near surface; water level is at the surface
 - 20 in – non-decomposed plant material layer
 - 60 in – mucky mineral soil
 - Next point, 10 ft from previous; no. 166; no frost here; water level is at the surface
 - 24 in – non-decomposed plant material layer
 - 55 in – mucky silt – some grit in soil, possibly sandy layer but difficult to tell.
 - Next point, 10 ft from previous; no. 167; frozen soil near surface
 - 12 in – non-decomposed plant material layer
 - 55 in – some mineral soil
 - Next point, 10 ft from previous; no. 168; frozen soil near surface
 - 20 in – non-decomposed plant material layer
 - 45 in – mucky mineral soil
 - Next point, 10 ft from previous; no. 169; no frost here
 - 8 in – very thin non-decomposed plant material layer
 - 38 in – clear non-decomposed plant material layer
 - 46 in – mineral soil
 - West edge, 10 ft from previous; no. 171
 - 35 in – non-decomposed plant material layer
 - 48 in – mineral soil; this was the most convincing layer of mineral soil encountered at this site.
- **Site 12** (picture included): Sampling – Keith using bucket auger; elevation data – Lori; note-taking – Whitney.
 - East edge; no. 174; frozen soil near surface
 - 30 in – non-decomposed plant material layer
 - >60 in – still organic; did not reach mineral layer
 - Next point, **10** ft from previous; no. 176; water level at surface
 - 18 in – non-decomposed plant material layer
 - 50 in – soil would not stay in bucket
 - Next point, 10 ft from previous; no. 175
 - 17 in – non-decomposed plant material layer
 - 30 in – another layer of non-decomposed plant material
 - 50 in – mucky silty loam
 - 55 in – estimated water table
 - Next point, **15** ft from previous; no. 177; frozen soil near surface

- Frost layer aligns with some non-decomposed material
- 20 in – very clear non-decomposed planter material layer
- 58 in – “mineraly” layer
- Next point, 15 ft from previous; no. 178
 - Very hard, thick frost layer near surface
 - 27 in – non-decomposed plant material layer
 - >50 in – still organic soil; did not reach mineral layer
- Next point, 15 ft from previous; no. 179
 - Could not get below frost layer, which was at least 16 in thick
- Next point, 15 ft from previous; no. 180
 - Similar to prior point; very thick frost layer we could not get through
- Next point, 15 ft from previous; no. 181
 - Hard frost at 15 inches, could not get through
- West edge, 15 ft from previous; no. 182
 - 23 in – mineral soil layer
 - 50 in – mineral soil layer
 - Vegetation changed from cattail to phragmites