# EXPLORATION LICENSE
# Gogebic Taconite, LLC
# GTAC Exploration No. 2
# December 31, 2013

GTAC
GOGEBIC TACONITE

December 31, 2013

Wisconsin Department of Natural Resources
ATTN: Mr. Larry Lynch – WA/5
101 South Webster Street
PO Box 7921
Madison, WI 53707-7921

Dear Mr. Lynch:

Re: Exploration License
Wisconsin Statutes 295.44

Gogebic Taconite, LLC submits to your agency an Application for Exploration License per the requirements of the above standard for the period starting January 1 to June 30, 2014. A renewal application will be provided for the period of July 1, 2014 to June 30, 2015.

This Exploration Activity involves the drilling of 15 drillholes. The proposed exploration drilling compliments that 2013 drilling campaign. Access Road issues from the wet summer prohibited access to downslope areas of the ore body. This Exploration Plan addresses winter time road maintenance activities for wet areas as well as proposing additional holes to further define the geologic conditions.

No wetland or drainage impacts are proposed with this plan.

Included in this submittal, you will find:

- A Site Location Map
- A Property Owner Map
- An Exploration Plan
- A Reclamation Plan
- A Certificate of Insurance
- An Exploration License Fee in the amount of $300.00
- A Reclamation Cost Estimate
- A Reclamation Surety Bond

Any questions should be directed to our Hurley office at (715) 561-2601. Our mailing address is:

Gogebic Taconite, LLC
402 Silver Street
Hurley, WI 54534

Sincerely,

Timothy J Myers
Engineer

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# 295.44 (2) EXPLORATION LICENSE

December 31, 2013

## OVERVIEW

Gogebic Taconite, LLC is hereby applying for an Exploration License as described in Wisconsin Statutes 295.44 for the current period ending June 30, 2014. This project is identified as Gtac Exploration No. 2. The proposed project includes locations first proposed in May 2013 that were not drilled during the 2013 drilling campaign as well as new locations that provide additional geologic confirmation. The following pages address the requirements of the statute.

Gtac Exploration No. 2 project will occur in an area of previous exploration and prospecting. Activity in the area dates back to the 1850's with core drilling occurring as early as the 1920's with as many as 240 recorded sites.

Gtac Exploration No. 2 project proposes 12 new locations and reuse of an existing location (674-2) from Exploration License 43001. Also, Drillsites 655-3 and 646-2 will have each have two drillholes which will include an angled hole and a vertical hole. The total number of drillholes in this project will be 15 drillholes.

The drilling method will use hollow center wireline corehole techniques. The drilling method will use BTW size coring tools which will drill a 2.36 inch diameter hole. The rock sample will be 1.654 inch diameter. The rock samples will be collected and analyses will be performed offsite.

The target geologic formation for the drilling is the Ironwood Iron Formation. This formation is a sedimentary rock formation of Paleoproterozoic age.

Most of the drillholes will be drilled on an approximate 45 degree angle from horizontal to penetrate the ore body at near perpendicular to the bedding. Three drillholes are proposed to be drilled at near vertical in this program. The formation dips at 60 to 70 degrees from the horizontal in a north by northwest direction.

Wisconsin Statutes 295.44 requires that a person seeking an exploration license shall file an application that includes all of the following:

Statute 295.44 (2)(a) An Exploration Plan – See Page 2
Statute 295.44 (2)(b) A Reclamation Plan – See Page 13
Statute 295.44 (2)(c) an Exploration License Fee – See Page 15
Statute 295.44 (2)(d) A Bond – See Page 15
Statute 295.44 (2)(e) A Certificate of Insurance – See Page 15

Statute 295.44 (2)(f) Financial Assurance – See Page 15
Statute 295.44 (2m) Confidentiality – See Page 16
Statute 295.44 (3) Surety Bond Requirements – See Page 16

## 295.44 (2)(a) Exploration Plan

***295.44 (2)(a)(1)***

***A description of the site where the exploration will take place and a map of that area showing the locations of the exploration.***

The project site is located in Ashland and Iron Counties of Wisconsin on privately owned lands. The project area has been commercially forested and existing roads will be used to access the drilling sites as well as serving as locations for the drilling sites.

| Drillhole | Legal Description | Easting (Feet) | Northing (Feet) | Elevation (Ft) | Target Depth |
|---|---|---|---|---|---|
| 566-1 | T44N R2W S01 NW SW | 1856745 | 420645 | 1512 | 1429 |
| 566-2 | T44N R2W S01 SW SW | 1856562 | 419263 | 1582 | 330 |
| 584-2 | T44N R2W S01 NE SW | 1858350 | 420290 | 1712 | 500 |
| 594-2 | T44N R2W S01 NW SE | 1859367 | 420363 | 1759 | 1300 |
| 608-1 | T44N R2W S01 SE NE | 1860895 | 422302 | 1586 | 1465 |
| 646-1 | T45N R1W S31 SW SE | 1864699 | 423911 | 1568 | 800 |
| 646-2 | T44N R1W S06 NW NE | 1864704 | 422632 | 1738 | 700 |
| 646-2V | T44N R1W S06 NW NE | 1864681 | 422632 | 1738 | 600 |
| 655-1 | T45N R1W S31 SE SE | 1865570 | 423836 | 1582 | 1000 |
| 655-3V | T44N R1W S06 SE NE | 1865571 | 422268 | 1855 | 280 |
| 655-3 | T44N R1W S06 SE NE | 1865576 | 422268 | 1855 | 350 |
| 666-1 | T45N R1W S32 SW SW | 1866665 | 424130 | 1620 | 1000 |
| 674-1 | T45N R1W S32 SW SW | 1867368 | 424096 | 1654 | 920 |
| 674-2V | T45N R1W S32 NW NW | 1867588 | 423444 | 1758 | 700 |
| 686-2 | T45N R1W S32 SE SW | 1868723 | 423850 | 1734 | 600 |

Refer to Map 1 – Site Location Map for a map of the area showing locations of the exploration activity.

Land Owner letters are provided to document the legal right of entry for Gogebic Taconite, LLC to perform exploration activities on the privately owned lands.

***295.44 (2)(a)(2)***
***A description of the means and method that will be used for the exploration.***

METHOD

The drilling rig employs a diamond-impregnated hollow drill bit to bore into bedrock strata which produces a cylindrical rock sample. The rock sample provides an indication of strata conditions and provides materials for rock mechanics and geochemical testing.

The surface soils will be drilled to the top of bedrock. A steel pipe casing will be installed into the bedrock to serve as a surface casing. Once the steel casing has been seated into the bedrock, cement grout will be pumped through the interior of the casing under pressure. The cement grout will fill the void between the casing and the hole wall to form a seal. This steel casing serves to isolate the bedrock from the surface strata and to prevent groundwater cross contamination. At the end of drilling, the steel casing will remain open to allow additional studies from the exploration hole such as video scoping, static water elevation and hydrologic testing. The casing will be welded closed or provided with a locking device to prevent interference from the surface.

The hollow center drill bit and drill steel is inserted through the larger diameter surface casing to access the bedrock. Drill water is pumped through the center of the drill steel to cool and lubricate the drill bit. Only the use of DNR Bureau of Drinking Water and Groundwater approved additives will be used for lubricants. The proposed drilling lubricants to be used will be the NSF-approved Baroid products: EZ Mud Drilling Polymer, EZ Mud DP and EZ Mud Gold.

Twelve drill holes will be drilled at 45 degrees from horizontal to intercept the steeply dipping ore body. Three holes have been proposed for vertical drilling and they are designated by the letter V at the end of the hole name.

Rock cuttings are flushed out between the outside of the drill steel and the bedrock. A rock core sample remains in the interior of the drill steel and is removed by wireline methods. The BTW sized drilling tools create a 2.36-inch diameter hole and produce a 1.654-inch diameter rock sample.

A drill sump equipped with a solids pump will be located at the drillhole collar to pump the drill water and rock cuttings into a mobile collection tank. The drill cuttings will consist of surface sands and gravels, pulverized bedrock and drilling polymers. The

overflow water will be reused by discharging the overflow water into the drill rig tank located on the drill rig. The drill cuttings will be retained in the mobile collection tank. The drill cuttings will be removed from the drill site by means of the mobile collection tank. Refer to the Typical Site Plan for a piping arrangement.

The mobile collection tank will be used to transport the cuttings material to the Collection Tank Central Location within the project area. The Collection Tank Central Location (located at Drillsite 674-2) contains two temporary steel storage tanks. The temporary cuttings tank may be used, but due to the cold weather, an alternative cuttings storage method is proposed for a cuttings sump located near Site 674-2.

The cuttings sump will be constructed by excavating a hole to temporarily store drill cuttings until they can be transported off site. The cuttings sump will be excavated by heavy equipment to a dimension to contain a minimum 26 cubic yards. The expected volume of drill cuttings is approximately 6.4 cubic yards. The extra sump volume allows for drill water contained within the collection tank.

BTW size coring produces approximately 1.55 cubic feet of drill cutting per 100 feet of depth. The drill program is proposing 11,094 feet of drilling activity.

The cuttings sump will be lined with a non-woven geotextile to provide separation between the original ground and the drill cuttings. The geotextile also allows the drill water to disperse while retaining the drill cuttings. At the time that the cuttings are removed, the geotextile will be removed and disposed of with the drill cuttings at a licensed solid waste facility.

The drill cuttings will be disposed of off-site in approved licensed landfills in accordance with applicable regulations. Documentation from the landfill accepting the drill cuttings will be provided to DNR.

The drill cuttings may also be used for larger scale studies for permitting requirements including waste storage strength of material characterization. The studies would be performed offsite at a mineral processing laboratory.

The exploration holes and the drill sites may be temporarily abandoned upon completion of the drilling. Groundwater and geophysical tests may require that select exploration holes be left open for data gathering. Each exploration hole will have a welded or locking cap installed to prevent contamination from the surface.

If an exploration hole is found to create an artesian effect, the hole will be temporarily plugged with a mechanical packer assembly. The packer will be removed for testing and will be removed for permanent abandonment of the hole.

For permanent abandonment of the exploration holes, a drill rig will be mobilized to reenter the hole to provide grouting as required by the regulations. The bond amount has included the cost of grouting mobilization in the anticipation that a drill rig would be remobilized to perform the grouting activity.

Rock samples collected from the drilling will be removed from the site for further processing.

The drill project is located on private lands enrolled under the Managed Forestland regulations (Wisconsin Statutes 77.83 (2)). These company lands are open to the public for hunting, fishing, hiking, sight-seeing and cross-country skiing. Any other activities on these lands, including camping and operation of unauthorized engine driven vehicles are prohibited.

2013 Wisconsin Act 81 restricts the public from within 600 feet of fixed sampling equipment or within 600 feet of either side of a road that is used for purposes associated with ferrous mining. Statute 77.81(1m) defines "Fixed sampling equipment" as physical equipment that will be in the same location for more than 24 hours and that is used for the evaluation of a proposed ferrous mining site, including equipment that is used for boring, drilling, bulk sampling, or obtaining climatological data or other data relating to the environment or the state's natural resources. Refer to Map 1 – Site Location Map for the location of areas closed to the public during the exploration activity.

As a precaution, during drilling of strata with suspected higher pyrite concentration (specifically the Tyler Slate and the Yale member of the Ironwood Formation), drill water will be tested for pH with a pH meter and the results recorded. The drill water will be tested prior to drilling into the suspected strata and recorded. Testing will be performed a second time after the strata has been drilled. If the tests indicate that the drilling water pH is less than 6.0 standard units, the drilling water will be treated with approved drilling additives (soda ash or lime) to raise the pH above 6.0 standard units.

Water testing documentation will be available to DNR at the site upon request. Documentation of all pH testing will be provided to DNR with the abandonment reports.

***295.44 (2)(a)(3)***

***A description of the grading and stabilization of the excavation, sides, and benches that will be conducted.***

All excavations shall be graded as to provide stable slopes. The sites will be regraded to blend into the surrounding surface contours.

***295.44 (2)(a)(4)***

***A description of how the grading and stabilization of any deposits of refuse will be conducted.***

Cuttings materials produced from the drilling activity are proposed to be removed from the drill site area. Therefore, grading and stabilization of deposits of refuse does not apply.

BTW size coring produces approximately 1.55 cubic feet of drill cutting per 100 feet of depth.

***295.44 (2)(a)(5)***

***A description of how any diversion and drainage of water from the exploration site will be conducted.***

Surface Runoff shall be diverted away from the drill site by means of ditches, sediment fence, hay bale dikes and/or earthen berms. See the attached drawing "Typical Site Plan" for an example of surface runoff diversions. No new culverts are proposed.

***295.44 (2)(a)(6)***

***A description of how any backfilling will be conducted.***

It is proposed to leave the drillholes open after drilling to allow future access for groundwater testing. See response to 295.44 (2)(a)(2) on page 3 of this application.

A drill rig will be mobilized to perform grouting activities at Final Abandonment.

Each drillhole shall be grouted with neat cement or fine concrete grout following the requirements of Wisconsin Statutes 295.44 (5). The proposed method is to pump the neat cement or concrete grout through a conductor pipe and allow the neat cement or concrete grout to fill the cavity from the bottom of the hole towards the surface. The conductor pipe will be incrementally moved towards the surface during the grouting operation. The bottom end of the conductor pipe will be submerged in concrete grout or

neat cement at all times when concrete grout or neat cement grout is being placed under water. The drillhole will be filled at the same time that all or part of the drillhole casing is removed from an unconsolidated formation, such as sand or gravel, that the drillhole will not remain open upon abandonment and the end of the casing will be kept below the surface of the fill material throughout the operation.

Each drill site shall be regraded as to remove any unstable slopes. The drill site shall be regraded as to blend into the original contour that was in place prior to the exploration activity taking place.

***295.44 (2)(a)(7)***

***A description of how any pollutant-bearing minerals or materials will be covered.***

Any pollutant-bearing minerals or materials will be removed from the drill site prior to backfilling. All sources of hydrocarbons will have spill containment and absorbent materials placed beneath them, and upon abandonment, will be removed from the drill site and disposed of by approved methods prior to regrading and reclamation activities occurring.

***295.44 (2)(a)(8)***

***A description of how the topsoils will be removed and stockpiled or how other measures will be taken to protect topsoils before exploration.***

Since the proposed activity occurs on previously disturbed areas, topsoil is expected to have been excavated by heavy equipment during the construction of the roads and comingled with subsoil materials.

If a topsoil horizon is encountered, the topsoil will be removed and stockpiled. The topsoil would be used for final reclamation after the exploration activities have been completed. The topsoils would be stockpiled within the footprint of the drilling site by placing it within the berm or by stockpiling at one side of the site. The topsoil will be seeded and mulched to provide a protective vegetative cover. The topsoil may also be covered with tarps if vegetative conditions are not favorable, such as those conditions found during the winter months.

***295.44 (2)(a)(9)***

***A description of how vegetative cover will be provided.***

Temporary seeding and mulching will occur after the drilling sump has been backfilled. Final reclamation will occur within 30 days of the completion of testing procedures at the exploration holes.

In the event that any topsoil that had been stockpiled, it will be returned to the site and spread once regrading is completed.

All sites shall be seeded to establish vegetation. Composite soil samples will be collected. The samples will be submitted to the local agronomy center for available nutrient analysis. The analysis will provide a recommended fertilizer application rate.

Soil preparation may include raking, discing or harrowing to loosen the soil to a minimum depth of 4 inches. This activity would provide a means to loosen the soil from the compaction effort originating from the timbering activity as well as the exploration activity.

A seed mix approved by Wisconsin Department of Natural Resources will be used. The seed mix will not contain invasive species. The proposed seed mix may be changed (with DNR approval) to address any shortages in availability of specific species.

The proposed seed mix consists of:

68% Common Oats
14% Annual Rye
4% Timothy
7% Virginia Wild Rye
7% Canada Wild Rye
0.25% Black-eyed Susan

Seed will be planted at a rate of 73.25 pounds per acre.

A temporary cover mix will consist of Common Oats or Annual Rye.

Once fertilizer and seed have been applied, the seeded area will be raked, disked, harrowed or other methods utilized in order to cover the seed to a depth of not more than 1-1/2 inches.

Mulching material shall consist of straw or hay in an air-dry condition, wood excelsior fiber or wood chips. Mulch shall be spread at a thickness of ½ to 1-1/2 inches. Compacted bales are to be broken and scattered to create a loose blanket over the seeded area.

The roads utilized for this activity are preexisting and will be left in place for future use by the landowner. A large portion of the roads have had extensive use in the past and are aggregate covered. The roads have been constructed and maintained to manage highway logging trucks to transport logs to market. Road maintenance will be performed as necessary, maintaining the maintenance activity within the preexisting dimensions of the roadway. Existing culverts will be left in place.

***295.44 (2)(a)(10)***

***A description of how any water impoundment will be accomplished.***

No water impoundment is anticipated.

***295.44 (2)(a)(11)***

***Identification of the means and method that will be used to prevent significant environmental pollution to the extent practicable.***

The drilling contractor will use compact core drilling machines to fit the size constraints of the existing roads. It is not proposed to create new roads for accessing the drilling project.

ROAD MAINTENANCE

The project is proposed for cold weather activity. It is desirable to access areas that have been documented with wetland communities within the existing roadbeds. (See Attachment to Response for s.295.44(2)(a)(11) – Wetland Delineation Report). To access the drillsites without disturbing the wetland areas, a program is proposed to create roads on frozen ground and to use compacted snowfall to create additional frozen layers for running surfaces.

The project site had several areas of wet road conditions identified during the warm weather months in 2013. This drilling campaign is being performed during the winter months to take advantage of the cold weather to access wet areas, using similar techniques that the silverculture industry has employed.

Initially, a bulldozer will be utilized to push snow to clear the roadways and the drillsites. Once the snow cover has been removed, the freezing temperatures penetrate into the ground to create a deeper frozen soil zone. Continued maintenance is required to remove additional snowfall off the road to allow the ground to freeze further. Once frozen, any additional snowfall will either be removed or packed in place by vehicle traffic and allowed to freeze. The additional layers of snow can be packed by vehicles such as snowmobiles, UTV utility vehicles and pickup trucks. The packed snow will freeze to create structural layers to support loads.

At the end of the winter season, the ice roads will melt and the wetland boundaries and plants will have been maintained.

Also, timber mats are proposed for use where road beds will not freeze effectively enough for truck traffic. The timber mats would be placed to bridge over the non-frozen areas. The timber mats are 4 feet wide by 16 feet long constructed of 12" by 12" timbers. The timbers are bound together by bolts and/or cables. The timber mats will be arranged to span the drainages without changing the existing drainage conditions. The timber mats will not be placed in delineated wetlands.

Access Road 1 will be used as the primary access. Access Road 1 is a well travelled road with aggregate base and is located near the bedrock. Snow plowing is needed to maintain the road.

The project may extend past the winter season. In as much, no wetland or stream impacts are proposed in this project. Realizing that there is a finite window for cold weather access, the sequence for the drill hole locations will concentrate on the sites located along Access Roads 2, 4 and 5. Drillholes located on Access Road 1 will have a lower priority in the sequencing and may be drilled during the warm weather months if winter weather ends earlier than expected. Vehicle activity in wet road areas such as Access Roads 2, 4 and 5 will be minimized during wet periods.

Any of the following methods or a combination of methods is proposed to minimize the sedimentation load on access roads, allow drainage to continue to cross the existing roads and to minimize the sedimentation load:

- Use the existing road surface where the existing road conditions would not create a sediment load from vehicular traffic; or,
- Install temporary timber mats to isolate the vehicular traffic from the drainage; or,

- Construct a rock cobble road that allows the drainage to flow beneath the traffic level. A course of crushed rock is placed over clean cobbles to form a running surface.
- The use of best stormwater drainage techniques such as silt fence and hay bales.
- The use of winter techniques to freeze the ground of existing roads

The road identified as Access Road No. 1 on the attached map has been used for logging and has an aggregate base. Since the road is in a condition that new disturbance is not necessary, the acreage has not been included within the disturbed area calculation. Access Road No. 1 has been used for highway trucks to take the harvested timber to market. The road is located near the top of the ridge and minimal drainage activity is needed to maintain this road. The drillsites for Coreholes 566-2, 584-2, 594-2, 655-3, 655-3V, and 674-2V are located on this road. Access Road No. 1 may also be used for logging activity during the time frame of the drilling project. This road is approximately 20,000 feet long.

Access Road No. 2 is located in the western end of the project in Ashland County. The road is a logging road that has identified wetlands. It will only be used during the winter season using frozen road techniques. The drillsite for Corehole 566-1 is located on this road. The road is approximately 2,000 feet long.

Access Road No. 3 may be used to access the project, but is not proposed for use as primary access. It is a former railroad grade and runs from Moore's Park Road to the former CN mail line. The total length of Access Road 3 is approximately 11,000 feet.

Access Road 4 is a logging road located on the north slope of the ore body. It has been used for commercial logging in the past and has been found on mapping dating to 1960. The road has numerous locations where wetland communities have established even though silviculture activity on the road has been as recent as 2010. This road is proposed for drilling activites only during the winter season using frozen road techniques. Access Road 4 is approximately 9,000 feet long. Drillsites 608-1, 628-1, 646-1, 655-1, 666-1, 674-1 and 686-2 will be accessed from Access Road 4.

Access Road 5 is a logging road located on the north slope of the ore body near the top of the ridge. Access to for the drillsite for 646-2 and 646-2V will be from Access Road 5. Access Road 5 is approximately 1,000 feet long.

DRILL SITES

Drill sites have been selected to avoid impacts to wetland and/or drainage features. Wetland delineation has been performed on Access Roads 2, 4 and parts of 5. Those documented wetland sites will be avoided for siting drill pad locations. The wetland delineation report is included in Attachment to Response for s.295.44(2)(a)(11) at the rear of this submittal.

The drill sites will each be approximately 25 feet wide by 60 feet long in size. Twelve (12) new drill sites will be created, with drillsites 655-3 and 646-2 containing two drillholes at each location. Drill site 674-2 from the 2013 Exploration No. 1 activity will be reactivated to drill a vertical hole. The vertical hole will supplement information from previously drilled 674-2.

Disturbed Acreage

| | |
|---|---|
| 12 Drillsites | 0.41 Acres |
| Drillsite 674-2 | 0.13 Acres |
| Cuttings Sump | 0.06 Acres |
| Total disturbance | 0.60 Acres |

Site preparation would include stockpiling any topsoil material from the drill site area. Since the sites are located on existing disturbances, it is anticipated that no topsoil will be encountered.

Drill cuttings will be collected on site in a mobile collection tank and transported to the Collection Tank Central Location where dewatering will occur. The drill cuttings will be disposed of off- site in approved licensed landfills in accordance with applicable regulations. See the narrative on Page 4 addressing the requirements of Wisconsin Statutes 295.44 (2)(a)(2).

Each site will be provided with grading and drainage control as described below.

DRAINAGE CONTROL

Surface Runoff will be controlled by diverting stormwater away from the drilling site by the use of siltation fence, berms, hay bale dikes and/or ditches or other stormwater control methods.

See "Typical Site Plan" sketch for conceptual detail. A separate site plan has been prepared to Site 674-2 to illustrate the arrangement for the Collection Tank Central Location and the Cutting Sump.

## WATER SOURCE

From Wisconsin NR141.15, drilling water must be from a known safe source free of bacterial and chemical contamination.

Water will be purchased from the municipal water system at the City of Mellen. This method would use a highway licensed water truck to bring the water to the project.

## 295.44 (2)(b) RECLAMATION PLAN

***A reclamation plan, designed to minimize adverse effects to the environment to the extent practicable, that includes all of the following:***

### *295.44 (2)(b)(1)*

***A description of how all toxic and hazardous wastes and other solid waste will be disposed of in solid or hazardous waste disposal facilities licensed under ch. 289 or 291 or otherwise in an environmentally sound manner.***

Any materials identified as toxic or hazardous waste as defined by Wisconsin statutes 291.05(1), 291.05(2) or 291.05(4) will be disposed of at a licensed hazardous waste disposal facility. The drill cuttings from the 2013 drilling program were tested prior to disposal for classification as hazardous or toxic wastes. The testing results indicated that this material is not classified as a hazardous waste and the material was disposed of in a licensed landfill.

The drill cuttings will be disposed of off-site in an approved licensed landfill in accordance with applicable regulations or consumed off site for larger scale studies for waste storage characterization. The studies would be performed offsite at a mineral processing laboratory.

### *295.44 (2)(b)(2)*

***A description of how topsoil will be preserved for purposes of future use in reclamation.***

Since the proposed activity occurs on previously disturbed areas, topsoil is not anticipated to be encountered. Existing roads that were constructed for use in the forestry industry are expected to have had the topsoil excavated and comingled with subsoil materials.

If topsoil is encountered, the topsoil will be removed and stockpiled. The topsoil would be used for final reclamation after the activities have been completed. Topsoil stockpiles will be protected by vegetation or covering with mulch or covering with tarps.

***295.44 (2)(b)(3)***

***A description of how revegetation will be conducted to stabilize disturbed soils and prevent air and water pollution to the extent practicable.***

Refer to the response to Wisconsin Statutes 295.44 (2)(a)(9) above for the final site reclamation revegetation.

Site vegetation will occur concurrently with site regrading activities.

***295.44 (2)(b)(4)***

***A description of how disturbance to wetlands will be minimized to the extent practicable.***

This application addresses a project with all roads and drillsites located on pre-existing disturbances that resulted from timbering and previous exploration activities. The project is proposed for winter activities to reach areas with wet road conditions during the summer months. Drill sites have been located to avoid wetland areas by using techniques such as wetland delineations, Wisconsin Wetland Inventory review and locating sites on higher elevations along the existing roads.

A small collection sump will be excavated with a hand shovel (approximately 1 cubic foot capacity) at the drill hole collar to place the collection pump. No excavated drilling sumps are proposed at the drill sites. No cuttings sumps are proposed. All drill cuttings are to be removed from the project using collection tanks and disposal to approved landfills.

Existing access roads will be used. Winter time frozen road activities will be used to freeze the road soils. See the response to 295.44(2)(a)(11) on page 9 of this plan for a more detailed description of how frozen roads will be managed.

***295.44 (2)(b)(5)***

***A statement that all drillholes will be abandoned in compliance with 295.44 (5).***

Drillholes will be abandoned as described in Wisconsin Statutes 295.44 (5).

## 295.44 (2)(c) EXPLORATION LICENSE FEE

***295.44 (2)(c) Exploration License Fee of $300.00***

A check in the amount of $300 has been provided.

## 295.44 (2)(d) SURETY BOND

***295.44 (2)(d) Surety Bond***

***A bond, as provided in 295.44 (3)(a).***

The Surety Bond is addressed in the response to 295.44 (3) found below.

## 295.44 (2)(e) CERTIFICATE OF INSURANCE

***295.44 (2)(e) Certificate of Insurance***

***A certificate of insurance showing that the applicant has in force a liability insurance policy issued by an insurance company licensed to do business in this state covering all exploration conducted or contracted for by the explorer in this state and affording personal injury and property damage protection in a total amount determined to be adequate by the department, but not more than $1,000,000 and not less than $50,000.***

A copy of the Certificate of Insurance follows this page. The Certificate of Insurance expires December 31, 2013. Once the 2014 Certificate of Insurance becomes available, a copy will be provided to the Wisconsin DNR.

## 295.44 (2)(f) FINANCIAL ASSURANCE

***295.44 (2)(f) Financial***

***A copy of the applicant's most recent annual report to the federal securities and exchange commission on form 10-K, or, if this is not available, a report of the applicant's current assets and liabilities or other data necessary to establish that the applicant is competent to conduct exploration in this state.***

See the Balance Sheet attachment.

## 295.44 (2m) CONFIDENTIALITY

***295.44 (2m) CONFIDENTIALITY***

***The department and the state geologist shall protect as confidential any information, other than effluent data, contained in an application for an exploration license, upon a showing that the information is entitled to protection as a trade secret, as defined in s. 134.90 (1)(c), and any information relating to the location, quality, or quantity of a ferrous mineral deposit, to production and sales figures, or to processes or production unique to the applicant or that would tend to adversely affect the competitive position of the applicant if made public.***

No items contained within this application would require consideration under 295.44 (2m).

## 295.44 (3) SURETY BOND

***295.44 (3) Bond***

***An applicant shall submit, as part of the application for an exploration license, a bond in the amount of $5,000 that is conditioned on faithful performance of the requirements of this section, that is issued by a surety company licensed to do business in this state, and that provides that the bond may not be canceled by the surety, except after not less than 90 days' notice to the department in writing by registered or certified mail.***

A Reclamation Surety Bond in the amount of $80,000 is provided. This amount exceeds our estimated reclamation bond amount.

***295.44 (3)(d)***

***The department may require that the amount of the bond submitted under this subsection be increased at any time, if the department determines that the level of activity by the explorer makes it likely that the bond would be inadequate to fund the termination of all drillholes for which the explorer is responsible.***

A Reclamation Cost Estimate has been included. See the attachment to 295.44 (3)(d) that follows this page.

GTAC
GOGEBIC TACONITE

December 31, 2013

Wisconsin Department of Natural Resources
ATTN: Mr. Larry Lynch – WA/5
101 South Webster Street
PO Box 7921
Madison, WI 53707-7921

Dear Mr. Lynch:

Re: Exploration License
Wisconsin Statutes 295.44

Gogebic Taconite, LLC submits to your agency an Application for Exploration License per the requirements of the above standard for the period starting January 1 to June 30, 2014. A renewal application will be provided for the period of July 1, 2014 to June 30, 2015.

This Exploration Activity involves the drilling of 15 drillholes. The proposed exploration drilling compliments that 2013 drilling campaign. Access Road issues from the wet summer prohibited access to downslope areas of the ore body. This Exploration Plan addresses winter time road maintenance activities for wet areas as well as proposing additional holes to further define the geologic conditions.

No wetland or drainage impacts are proposed with this plan.

Included in this submittal, you will find:

- A Site Location Map
- A Property Owner Map
- An Exploration Plan
- A Reclamation Plan
- A Certificate of Insurance
- An Exploration License Fee in the amount of $300.00
- A Reclamation Cost Estimate
- A Reclamation Surety Bond

Any questions should be directed to our Hurley office at (715) 561-2601. Our mailing address is:

Gogebic Taconite, LLC
402 Silver Street
Hurley, WI 54534

Sincerely,

Timothy J Myers
Engineer

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# 295.44 (2) EXPLORATION LICENSE

December 31, 2013

## OVERVIEW

Gogebic Taconite, LLC is hereby applying for an Exploration License as described in Wisconsin Statutes 295.44 for the current period ending June 30, 2014. This project is identified as Gtac Exploration No. 2. The proposed project includes locations first proposed in May 2013 that were not drilled during the 2013 drilling campaign as well as new locations that provide additional geologic confirmation. The following pages address the requirements of the statute.

Gtac Exploration No. 2 project will occur in an area of previous exploration and prospecting. Activity in the area dates back to the 1850's with core drilling occurring as early as the 1920's with as many as 240 recorded sites.

Gtac Exploration No. 2 project proposes 12 new locations and reuse of an existing location (674-2) from Exploration License 43001. Also, Drillsites 655-3 and 646-2 will have each have two drillholes which will include an angled hole and a vertical hole. The total number of drillholes in this project will be 15 drillholes.

The drilling method will use hollow center wireline corehole techniques. The drilling method will use BTW size coring tools which will drill a 2.36 inch diameter hole. The rock sample will be 1.654 inch diameter. The rock samples will be collected and analyses will be performed offsite.

The target geologic formation for the drilling is the Ironwood Iron Formation. This formation is a sedimentary rock formation of Paleoproterozoic age.

Most of the drillholes will be drilled on an approximate 45 degree angle from horizontal to penetrate the ore body at near perpendicular to the bedding. Three drillholes are proposed to be drilled at near vertical in this program. The formation dips at 60 to 70 degrees from the horizontal in a north by northwest direction.

Wisconsin Statutes 295.44 requires that a person seeking an exploration license shall file an application that includes all of the following:

Statute 295.44 (2)(a) An Exploration Plan – See Page 2
Statute 295.44 (2)(b) A Reclamation Plan – See Page 13
Statute 295.44 (2)(c) an Exploration License Fee – See Page 15
Statute 295.44 (2)(d) A Bond – See Page 15
Statute 295.44 (2)(e) A Certificate of Insurance – See Page 15

Statute 295.44 (2)(f) Financial Assurance – See Page 15
Statute 295.44 (2m) Confidentiality – See Page 16
Statute 295.44 (3) Surety Bond Requirements – See Page 16

## 295.44 (2)(a) Exploration Plan

***295.44 (2)(a)(1)***

***A description of the site where the exploration will take place and a map of that area showing the locations of the exploration.***

The project site is located in Ashland and Iron Counties of Wisconsin on privately owned lands. The project area has been commercially forested and existing roads will be used to access the drilling sites as well as serving as locations for the drilling sites.

| Drillhole | Legal Description | Easting (Feet) | Northing (Feet) | Elevation (Ft) | Target Depth |
|---|---|---|---|---|---|
| 566-1 | T44N R2W S01 NW SW | 1856745 | 420645 | 1512 | 1429 |
| 566-2 | T44N R2W S01 SW SW | 1856562 | 419263 | 1582 | 330 |
| 584-2 | T44N R2W S01 NE SW | 1858350 | 420290 | 1712 | 500 |
| 594-2 | T44N R2W S01 NW SE | 1859367 | 420363 | 1759 | 1300 |
| 608-1 | T44N R2W S01 SE NE | 1860895 | 422302 | 1586 | 1465 |
| 646-1 | T45N R1W S31 SW SE | 1864699 | 423911 | 1568 | 800 |
| 646-2 | T44N R1W S06 NW NE | 1864704 | 422632 | 1738 | 700 |
| 646-2V | T44N R1W S06 NW NE | 1864681 | 422632 | 1738 | 600 |
| 655-1 | T45N R1W S31 SE SE | 1865570 | 423836 | 1582 | 1000 |
| 655-3V | T44N R1W S06 SE NE | 1865571 | 422268 | 1855 | 280 |
| 655-3 | T44N R1W S06 SE NE | 1865576 | 422268 | 1855 | 350 |
| 666-1 | T45N R1W S32 SW SW | 1866665 | 424130 | 1620 | 1000 |
| 674-1 | T45N R1W S32 SW SW | 1867368 | 424096 | 1654 | 920 |
| 674-2V | T45N R1W S32 NW NW | 1867588 | 423444 | 1758 | 700 |
| 686-2 | T45N R1W S32 SE SW | 1868723 | 423850 | 1734 | 600 |

Refer to Map 1 – Site Location Map for a map of the area showing locations of the exploration activity.

Land Owner letters are provided to document the legal right of entry for Gogebic Taconite, LLC to perform exploration activities on the privately owned lands.

***295.44 (2)(a)(2)***
***A description of the means and method that will be used for the exploration.***

METHOD

The drilling rig employs a diamond-impregnated hollow drill bit to bore into bedrock strata which produces a cylindrical rock sample. The rock sample provides an indication of strata conditions and provides materials for rock mechanics and geochemical testing.

The surface soils will be drilled to the top of bedrock. A steel pipe casing will be installed into the bedrock to serve as a surface casing. Once the steel casing has been seated into the bedrock, cement grout will be pumped through the interior of the casing under pressure. The cement grout will fill the void between the casing and the hole wall to form a seal. This steel casing serves to isolate the bedrock from the surface strata and to prevent groundwater cross contamination. At the end of drilling, the steel casing will remain open to allow additional studies from the exploration hole such as video scoping, static water elevation and hydrologic testing. The casing will be welded closed or provided with a locking device to prevent interference from the surface.

The hollow center drill bit and drill steel is inserted through the larger diameter surface casing to access the bedrock. Drill water is pumped through the center of the drill steel to cool and lubricate the drill bit. Only the use of DNR Bureau of Drinking Water and Groundwater approved additives will be used for lubricants. The proposed drilling lubricants to be used will be the NSF-approved Baroid products: EZ Mud Drilling Polymer, EZ Mud DP and EZ Mud Gold.

Twelve drill holes will be drilled at 45 degrees from horizontal to intercept the steeply dipping ore body. Three holes have been proposed for vertical drilling and they are designated by the letter V at the end of the hole name.

Rock cuttings are flushed out between the outside of the drill steel and the bedrock. A rock core sample remains in the interior of the drill steel and is removed by wireline methods. The BTW sized drilling tools create a 2.36-inch diameter hole and produce a 1.654-inch diameter rock sample.

A drill sump equipped with a solids pump will be located at the drillhole collar to pump the drill water and rock cuttings into a mobile collection tank. The drill cuttings will consist of surface sands and gravels, pulverized bedrock and drilling polymers. The

overflow water will be reused by discharging the overflow water into the drill rig tank located on the drill rig. The drill cuttings will be retained in the mobile collection tank. The drill cuttings will be removed from the drill site by means of the mobile collection tank. Refer to the Typical Site Plan for a piping arrangement.

The mobile collection tank will be used to transport the cuttings material to the Collection Tank Central Location within the project area. The Collection Tank Central Location (located at Drillsite 674-2) contains two temporary steel storage tanks. The temporary cuttings tank may be used, but due to the cold weather, an alternative cuttings storage method is proposed for a cuttings sump located near Site 674-2.

The cuttings sump will be constructed by excavating a hole to temporarily store drill cuttings until they can be transported off site. The cuttings sump will be excavated by heavy equipment to a dimension to contain a minimum 26 cubic yards. The expected volume of drill cuttings is approximately 6.4 cubic yards. The extra sump volume allows for drill water contained within the collection tank.

BTW size coring produces approximately 1.55 cubic feet of drill cutting per 100 feet of depth. The drill program is proposing 11,094 feet of drilling activity.

The cuttings sump will be lined with a non-woven geotextile to provide separation between the original ground and the drill cuttings. The geotextile also allows the drill water to disperse while retaining the drill cuttings. At the time that the cuttings are removed, the geotextile will be removed and disposed of with the drill cuttings at a licensed solid waste facility.

The drill cuttings will be disposed of off-site in approved licensed landfills in accordance with applicable regulations. Documentation from the landfill accepting the drill cuttings will be provided to DNR.

The drill cuttings may also be used for larger scale studies for permitting requirements including waste storage strength of material characterization. The studies would be performed offsite at a mineral processing laboratory.

The exploration holes and the drill sites may be temporarily abandoned upon completion of the drilling. Groundwater and geophysical tests may require that select exploration holes be left open for data gathering. Each exploration hole will have a welded or locking cap installed to prevent contamination from the surface.

If an exploration hole is found to create an artesian effect, the hole will be temporarily plugged with a mechanical packer assembly. The packer will be removed for testing and will be removed for permanent abandonment of the hole.

For permanent abandonment of the exploration holes, a drill rig will be mobilized to reenter the hole to provide grouting as required by the regulations. The bond amount has included the cost of grouting mobilization in the anticipation that a drill rig would be remobilized to perform the grouting activity.

Rock samples collected from the drilling will be removed from the site for further processing.

The drill project is located on private lands enrolled under the Managed Forestland regulations (Wisconsin Statutes 77.83 (2)). These company lands are open to the public for hunting, fishing, hiking, sight-seeing and cross-country skiing. Any other activities on these lands, including camping and operation of unauthorized engine driven vehicles are prohibited.

2013 Wisconsin Act 81 restricts the public from within 600 feet of fixed sampling equipment or within 600 feet of either side of a road that is used for purposes associated with ferrous mining. Statute 77.81(1m) defines "Fixed sampling equipment" as physical equipment that will be in the same location for more than 24 hours and that is used for the evaluation of a proposed ferrous mining site, including equipment that is used for boring, drilling, bulk sampling, or obtaining climatological data or other data relating to the environment or the state's natural resources. Refer to Map 1 – Site Location Map for the location of areas closed to the public during the exploration activity.

As a precaution, during drilling of strata with suspected higher pyrite concentration (specifically the Tyler Slate and the Yale member of the Ironwood Formation), drill water will be tested for pH with a pH meter and the results recorded. The drill water will be tested prior to drilling into the suspected strata and recorded. Testing will be performed a second time after the strata has been drilled. If the tests indicate that the drilling water pH is less than 6.0 standard units, the drilling water will be treated with approved drilling additives (soda ash or lime) to raise the pH above 6.0 standard units.

Water testing documentation will be available to DNR at the site upon request. Documentation of all pH testing will be provided to DNR with the abandonment reports.

***295.44 (2)(a)(3)***

***A description of the grading and stabilization of the excavation, sides, and benches that will be conducted.***

All excavations shall be graded as to provide stable slopes. The sites will be regraded to blend into the surrounding surface contours.

***295.44 (2)(a)(4)***

***A description of how the grading and stabilization of any deposits of refuse will be conducted.***

Cuttings materials produced from the drilling activity are proposed to be removed from the drill site area. Therefore, grading and stabilization of deposits of refuse does not apply.

BTW size coring produces approximately 1.55 cubic feet of drill cutting per 100 feet of depth.

***295.44 (2)(a)(5)***

***A description of how any diversion and drainage of water from the exploration site will be conducted.***

Surface Runoff shall be diverted away from the drill site by means of ditches, sediment fence, hay bale dikes and/or earthen berms. See the attached drawing "Typical Site Plan" for an example of surface runoff diversions. No new culverts are proposed.

***295.44 (2)(a)(6)***

***A description of how any backfilling will be conducted.***

It is proposed to leave the drillholes open after drilling to allow future access for groundwater testing. See response to 295.44 (2)(a)(2) on page 3 of this application.

A drill rig will be mobilized to perform grouting activities at Final Abandonment.

Each drillhole shall be grouted with neat cement or fine concrete grout following the requirements of Wisconsin Statutes 295.44 (5). The proposed method is to pump the neat cement or concrete grout through a conductor pipe and allow the neat cement or concrete grout to fill the cavity from the bottom of the hole towards the surface. The conductor pipe will be incrementally moved towards the surface during the grouting operation. The bottom end of the conductor pipe will be submerged in concrete grout or

neat cement at all times when concrete grout or neat cement grout is being placed under water. The drillhole will be filled at the same time that all or part of the drillhole casing is removed from an unconsolidated formation, such as sand or gravel, that the drillhole will not remain open upon abandonment and the end of the casing will be kept below the surface of the fill material throughout the operation.

Each drill site shall be regraded as to remove any unstable slopes. The drill site shall be regraded as to blend into the original contour that was in place prior to the exploration activity taking place.

***295.44 (2)(a)(7)***

***A description of how any pollutant-bearing minerals or materials will be covered.***

Any pollutant-bearing minerals or materials will be removed from the drill site prior to backfilling. All sources of hydrocarbons will have spill containment and absorbent materials placed beneath them, and upon abandonment, will be removed from the drill site and disposed of by approved methods prior to regrading and reclamation activities occurring.

***295.44 (2)(a)(8)***

***A description of how the topsoils will be removed and stockpiled or how other measures will be taken to protect topsoils before exploration.***

Since the proposed activity occurs on previously disturbed areas, topsoil is expected to have been excavated by heavy equipment during the construction of the roads and comingled with subsoil materials.

If a topsoil horizon is encountered, the topsoil will be removed and stockpiled. The topsoil would be used for final reclamation after the exploration activities have been completed. The topsoils would be stockpiled within the footprint of the drilling site by placing it within the berm or by stockpiling at one side of the site. The topsoil will be seeded and mulched to provide a protective vegetative cover. The topsoil may also be covered with tarps if vegetative conditions are not favorable, such as those conditions found during the winter months.

***295.44 (2)(a)(9)***

***A description of how vegetative cover will be provided.***

Temporary seeding and mulching will occur after the drilling sump has been backfilled. Final reclamation will occur within 30 days of the completion of testing procedures at the exploration holes.

In the event that any topsoil that had been stockpiled, it will be returned to the site and spread once regrading is completed.

All sites shall be seeded to establish vegetation. Composite soil samples will be collected. The samples will be submitted to the local agronomy center for available nutrient analysis. The analysis will provide a recommended fertilizer application rate.

Soil preparation may include raking, discing or harrowing to loosen the soil to a minimum depth of 4 inches. This activity would provide a means to loosen the soil from the compaction effort originating from the timbering activity as well as the exploration activity.

A seed mix approved by Wisconsin Department of Natural Resources will be used. The seed mix will not contain invasive species. The proposed seed mix may be changed (with DNR approval) to address any shortages in availability of specific species.

The proposed seed mix consists of:

68% Common Oats
14% Annual Rye
4% Timothy
7% Virginia Wild Rye
7% Canada Wild Rye
0.25% Black-eyed Susan

Seed will be planted at a rate of 73.25 pounds per acre.

A temporary cover mix will consist of Common Oats or Annual Rye.

Once fertilizer and seed have been applied, the seeded area will be raked, disked, harrowed or other methods utilized in order to cover the seed to a depth of not more than 1-1/2 inches.

Mulching material shall consist of straw or hay in an air-dry condition, wood excelsior fiber or wood chips. Mulch shall be spread at a thickness of ½ to 1-1/2 inches. Compacted bales are to be broken and scattered to create a loose blanket over the seeded area.

The roads utilized for this activity are preexisting and will be left in place for future use by the landowner. A large portion of the roads have had extensive use in the past and are aggregate covered. The roads have been constructed and maintained to manage highway logging trucks to transport logs to market. Road maintenance will be performed as necessary, maintaining the maintenance activity within the preexisting dimensions of the roadway. Existing culverts will be left in place.

***295.44 (2)(a)(10)***

***A description of how any water impoundment will be accomplished.***

No water impoundment is anticipated.

***295.44 (2)(a)(11)***

***Identification of the means and method that will be used to prevent significant environmental pollution to the extent practicable.***

The drilling contractor will use compact core drilling machines to fit the size constraints of the existing roads. It is not proposed to create new roads for accessing the drilling project.

ROAD MAINTENANCE

The project is proposed for cold weather activity. It is desirable to access areas that have been documented with wetland communities within the existing roadbeds. (See Attachment to Response for s.295.44(2)(a)(11) – Wetland Delineation Report). To access the drillsites without disturbing the wetland areas, a program is proposed to create roads on frozen ground and to use compacted snowfall to create additional frozen layers for running surfaces.

The project site had several areas of wet road conditions identified during the warm weather months in 2013. This drilling campaign is being performed during the winter months to take advantage of the cold weather to access wet areas, using similar techniques that the silverculture industry has employed.

Initially, a bulldozer will be utilized to push snow to clear the roadways and the drillsites. Once the snow cover has been removed, the freezing temperatures penetrate into the ground to create a deeper frozen soil zone. Continued maintenance is required to remove additional snowfall off the road to allow the ground to freeze further. Once frozen, any additional snowfall will either be removed or packed in place by vehicle traffic and allowed to freeze. The additional layers of snow can be packed by vehicles such as snowmobiles, UTV utility vehicles and pickup trucks. The packed snow will freeze to create structural layers to support loads.

At the end of the winter season, the ice roads will melt and the wetland boundaries and plants will have been maintained.

Also, timber mats are proposed for use where road beds will not freeze effectively enough for truck traffic. The timber mats would be placed to bridge over the non-frozen areas. The timber mats are 4 feet wide by 16 feet long constructed of 12" by 12" timbers. The timbers are bound together by bolts and/or cables. The timber mats will be arranged to span the drainages without changing the existing drainage conditions. The timber mats will not be placed in delineated wetlands.

Access Road 1 will be used as the primary access. Access Road 1 is a well travelled road with aggregate base and is located near the bedrock. Snow plowing is needed to maintain the road.

The project may extend past the winter season. In as much, no wetland or stream impacts are proposed in this project. Realizing that there is a finite window for cold weather access, the sequence for the drill hole locations will concentrate on the sites located along Access Roads 2, 4 and 5. Drillholes located on Access Road 1 will have a lower priority in the sequencing and may be drilled during the warm weather months if winter weather ends earlier than expected. Vehicle activity in wet road areas such as Access Roads 2, 4 and 5 will be minimized during wet periods.

Any of the following methods or a combination of methods is proposed to minimize the sedimentation load on access roads, allow drainage to continue to cross the existing roads and to minimize the sedimentation load:

- Use the existing road surface where the existing road conditions would not create a sediment load from vehicular traffic; or,
- Install temporary timber mats to isolate the vehicular traffic from the drainage; or,

- Construct a rock cobble road that allows the drainage to flow beneath the traffic level. A course of crushed rock is placed over clean cobbles to form a running surface.
- The use of best stormwater drainage techniques such as silt fence and hay bales.
- The use of winter techniques to freeze the ground of existing roads

The road identified as Access Road No. 1 on the attached map has been used for logging and has an aggregate base. Since the road is in a condition that new disturbance is not necessary, the acreage has not been included within the disturbed area calculation. Access Road No. 1 has been used for highway trucks to take the harvested timber to market. The road is located near the top of the ridge and minimal drainage activity is needed to maintain this road. The drillsites for Coreholes 566-2, 584-2, 594-2, 655-3, 655-3V, and 674-2V are located on this road. Access Road No. 1 may also be used for logging activity during the time frame of the drilling project. This road is approximately 20,000 feet long.

Access Road No. 2 is located in the western end of the project in Ashland County. The road is a logging road that has identified wetlands. It will only be used during the winter season using frozen road techniques. The drillsite for Corehole 566-1 is located on this road. The road is approximately 2,000 feet long.

Access Road No. 3 may be used to access the project, but is not proposed for use as primary access. It is a former railroad grade and runs from Moore's Park Road to the former CN mail line. The total length of Access Road 3 is approximately 11,000 feet.

Access Road 4 is a logging road located on the north slope of the ore body. It has been used for commercial logging in the past and has been found on mapping dating to 1960. The road has numerous locations where wetland communities have established even though silviculture activity on the road has been as recent as 2010. This road is proposed for drilling activites only during the winter season using frozen road techniques. Access Road 4 is approximately 9,000 feet long. Drillsites 608-1, 628-1, 646-1, 655-1, 666-1, 674-1 and 686-2 will be accessed from Access Road 4.

Access Road 5 is a logging road located on the north slope of the ore body near the top of the ridge. Access to for the drillsite for 646-2 and 646-2V will be from Access Road 5. Access Road 5 is approximately 1,000 feet long.

DRILL SITES

Drill sites have been selected to avoid impacts to wetland and/or drainage features. Wetland delineation has been performed on Access Roads 2, 4 and parts of 5. Those documented wetland sites will be avoided for siting drill pad locations. The wetland delineation report is included in Attachment to Response for s.295.44(2)(a)(11) at the rear of this submittal.

The drill sites will each be approximately 25 feet wide by 60 feet long in size. Twelve (12) new drill sites will be created, with drillsites 655-3 and 646-2 containing two drillholes at each location. Drill site 674-2 from the 2013 Exploration No. 1 activity will be reactivated to drill a vertical hole. The vertical hole will supplement information from previously drilled 674-2.

Disturbed Acreage

| | |
|---|---|
| 12 Drillsites | 0.41 Acres |
| Drillsite 674-2 | 0.13 Acres |
| Cuttings Sump | 0.06 Acres |
| Total disturbance | 0.60 Acres |

Site preparation would include stockpiling any topsoil material from the drill site area. Since the sites are located on existing disturbances, it is anticipated that no topsoil will be encountered.

Drill cuttings will be collected on site in a mobile collection tank and transported to the Collection Tank Central Location where dewatering will occur. The drill cuttings will be disposed of off- site in approved licensed landfills in accordance with applicable regulations. See the narrative on Page 4 addressing the requirements of Wisconsin Statutes 295.44 (2)(a)(2).

Each site will be provided with grading and drainage control as described below.

DRAINAGE CONTROL

Surface Runoff will be controlled by diverting stormwater away from the drilling site by the use of siltation fence, berms, hay bale dikes and/or ditches or other stormwater control methods.

See "Typical Site Plan" sketch for conceptual detail. A separate site plan has been prepared to Site 674-2 to illustrate the arrangement for the Collection Tank Central Location and the Cutting Sump.

## WATER SOURCE

From Wisconsin NR141.15, drilling water must be from a known safe source free of bacterial and chemical contamination.

Water will be purchased from the municipal water system at the City of Mellen. This method would use a highway licensed water truck to bring the water to the project.

## 295.44 (2)(b) RECLAMATION PLAN

***A reclamation plan, designed to minimize adverse effects to the environment to the extent practicable, that includes all of the following:***

### *295.44 (2)(b)(1)*

***A description of how all toxic and hazardous wastes and other solid waste will be disposed of in solid or hazardous waste disposal facilities licensed under ch. 289 or 291 or otherwise in an environmentally sound manner.***

Any materials identified as toxic or hazardous waste as defined by Wisconsin statutes 291.05(1), 291.05(2) or 291.05(4) will be disposed of at a licensed hazardous waste disposal facility. The drill cuttings from the 2013 drilling program were tested prior to disposal for classification as hazardous or toxic wastes. The testing results indicated that this material is not classified as a hazardous waste and the material was disposed of in a licensed landfill.

The drill cuttings will be disposed of off-site in an approved licensed landfill in accordance with applicable regulations or consumed off site for larger scale studies for waste storage characterization. The studies would be performed offsite at a mineral processing laboratory.

### *295.44 (2)(b)(2)*

***A description of how topsoil will be preserved for purposes of future use in reclamation.***

Since the proposed activity occurs on previously disturbed areas, topsoil is not anticipated to be encountered. Existing roads that were constructed for use in the forestry industry are expected to have had the topsoil excavated and comingled with subsoil materials.

If topsoil is encountered, the topsoil will be removed and stockpiled. The topsoil would be used for final reclamation after the activities have been completed. Topsoil stockpiles will be protected by vegetation or covering with mulch or covering with tarps.

***295.44 (2)(b)(3)***

***A description of how revegetation will be conducted to stabilize disturbed soils and prevent air and water pollution to the extent practicable.***

Refer to the response to Wisconsin Statutes 295.44 (2)(a)(9) above for the final site reclamation revegetation.

Site vegetation will occur concurrently with site regrading activities.

***295.44 (2)(b)(4)***

***A description of how disturbance to wetlands will be minimized to the extent practicable.***

This application addresses a project with all roads and drillsites located on pre-existing disturbances that resulted from timbering and previous exploration activities. The project is proposed for winter activities to reach areas with wet road conditions during the summer months. Drill sites have been located to avoid wetland areas by using techniques such as wetland delineations, Wisconsin Wetland Inventory review and locating sites on higher elevations along the existing roads.

A small collection sump will be excavated with a hand shovel (approximately 1 cubic foot capacity) at the drill hole collar to place the collection pump. No excavated drilling sumps are proposed at the drill sites. No cuttings sumps are proposed. All drill cuttings are to be removed from the project using collection tanks and disposal to approved landfills.

Existing access roads will be used. Winter time frozen road activities will be used to freeze the road soils. See the response to 295.44(2)(a)(11) on page 9 of this plan for a more detailed description of how frozen roads will be managed.

***295.44 (2)(b)(5)***

***A statement that all drillholes will be abandoned in compliance with 295.44 (5).***

Drillholes will be abandoned as described in Wisconsin Statutes 295.44 (5).

## 295.44 (2)(c) EXPLORATION LICENSE FEE

***295.44 (2)(c) Exploration License Fee of $300.00***

A check in the amount of $300 has been provided.

## 295.44 (2)(d) SURETY BOND

***295.44 (2)(d) Surety Bond***

***A bond, as provided in 295.44 (3)(a).***

The Surety Bond is addressed in the response to 295.44 (3) found below.

## 295.44 (2)(e) CERTIFICATE OF INSURANCE

***295.44 (2)(e) Certificate of Insurance***

***A certificate of insurance showing that the applicant has in force a liability insurance policy issued by an insurance company licensed to do business in this state covering all exploration conducted or contracted for by the explorer in this state and affording personal injury and property damage protection in a total amount determined to be adequate by the department, but not more than $1,000,000 and not less than $50,000.***

A copy of the Certificate of Insurance follows this page. The Certificate of Insurance expires December 31, 2013. Once the 2014 Certificate of Insurance becomes available, a copy will be provided to the Wisconsin DNR.

## 295.44 (2)(f) FINANCIAL ASSURANCE

***295.44 (2)(f) Financial***

***A copy of the applicant's most recent annual report to the federal securities and exchange commission on form 10-K, or, if this is not available, a report of the applicant's current assets and liabilities or other data necessary to establish that the applicant is competent to conduct exploration in this state.***

See the Balance Sheet attachment.

## 295.44 (2m) CONFIDENTIALITY

***295.44 (2m) CONFIDENTIALITY***

***The department and the state geologist shall protect as confidential any information, other than effluent data, contained in an application for an exploration license, upon a showing that the information is entitled to protection as a trade secret, as defined in s. 134.90 (1)(c), and any information relating to the location, quality, or quantity of a ferrous mineral deposit, to production and sales figures, or to processes or production unique to the applicant or that would tend to adversely affect the competitive position of the applicant if made public.***

No items contained within this application would require consideration under 295.44 (2m).

## 295.44 (3) SURETY BOND

***295.44 (3) Bond***

***An applicant shall submit, as part of the application for an exploration license, a bond in the amount of $5,000 that is conditioned on faithful performance of the requirements of this section, that is issued by a surety company licensed to do business in this state, and that provides that the bond may not be canceled by the surety, except after not less than 90 days' notice to the department in writing by registered or certified mail.***

A Reclamation Surety Bond in the amount of $80,000 is provided. This amount exceeds our estimated reclamation bond amount.

***295.44 (3)(d)***

***The department may require that the amount of the bond submitted under this subsection be increased at any time, if the department determines that the level of activity by the explorer makes it likely that the bond would be inadequate to fund the termination of all drillholes for which the explorer is responsible.***

A Reclamation Cost Estimate has been included. See the attachment to 295.44 (3)(d) that follows this page.

# ATTACHMENT to RESPONSE for s.295.44(2)(a)(1)

# LAND OWNER LETTERS

May 29, 2013

Wisconsin Department of Natural Resources
Mining Coordinator – WA/5
101 South Webster Street
PO Box 7921
Madison, WI 53707-7921

Dear Director:

Re: Gogebic Taconite, LLC
Exploration License
Right of Entry

This letter serves to inform your agency that through the Option Agreement signed by RGGS Land & Minerals, LTD., L.P. and Gogebic Taconite, LLC, the right to access the Optioned Lands and the right to perform Exploration and Environmental Studies on the Optioned Lands has been granted to Gogebic Taconite, LLC.

The Optioned Lands include parcels in the following areas of Iron County, Wisconsin:
Sections 31, 32 and 33, Township 45 North, Range 1 West.
Sections 5 and 6, Township 44 North, Range 1 West.
The Optioned Lands include parcels in the following areas of Ashland County, Wisconsin
Sections 1, 2, 11 and 12, Township 44 North, Range 2 West.

The various roads that would be used in the Exploration Activity are used for timber harvesting operations on the property. These roads are to be left in place for future activities. The proposed reclamation of drill sites and roads as described in Gogebic Taconite, LLC's Exploration License application meets the requirements of RGGS Land & Minerals, LTD., L.P., the land owner.

Terry Villa

Terry Villa
RGGS Land & Minerals, LTD., L.P.
PO Box 1266
Virginia, MN 55792

# LaPointe Iron Company

a Wisconsin corporation

TELEPHONE
218/262-0799

3920 13th Avenue East, Suite #7
Hibbing, Minnesota 55746

FAX
206/203-0098


May 29, 2013

Wisconsin Department of Natural Resources
Mining Coordinator – WA/5
101 South Webster Street
PO Box 7921
Madison, WI 53707-7921

**Re: Gogebic Taconite, LLC – Exploration License & Right of Entry**

Dear Director:

This letter serves to inform your agency that through the Option Agreement signed by LaPointe Iron Company and Gogebic Taconite, LLC, the right to access the Optioned Lands and the right to perform Exploration and Environmental Studies on the Optioned Lands has been granted to Gogebic Taconite, LLC.

The Optioned Lands include parcels in the following areas in Iron County, Wisconsin:

Township 45 North, Range 1 West, Sections 28 and 33

The Optioned Lands include parcels in the following areas in Ashland County, Wisconsin

Township 44 North, Range 2 West, Sections 1, 2, 11 and 12;

The various roads that would be used in the Exploration Activity are used in timbering operations on the property. These roads are to be left in place for future activities. Therefore, the proposed reclamation of the drill sites and roads as remaining in the road system on the property meets the requirements of LaPointe Iron Company, the land owner.

Sincerely,

David C. Adams, President
LaPointe Iron Company

# CHESTER COMPANY, LIMITED

TELEPHONE
218/262-0799

3920 13th Avenue East, Suite # 7
Hibbing, Minnesota 55746

Fax
206/203-0098

May 29, 2013

Wisconsin Department of Natural Resources
Mining Coordinator – WA/5
101 South Webster Street
PO Box 7921
Madison, WI 53707-7921

**Re: Gogebic Taconite, LLC – Exploration License & Right of Entry**

Dear Director:

This letter serves to inform your agency that through the Option Agreement signed by Chester Company, Limited and Gogebic Taconite, LLC, the right to access the Optioned Lands and the right to perform Exploration and Environmental Studies on the Optioned Lands has been granted to Gogebic Taconite, LLC.

The Optioned Lands include parcels in the following areas in Iron County, Wisconsin:

Township 44 North, Range 1 West, Sections 5 and 6

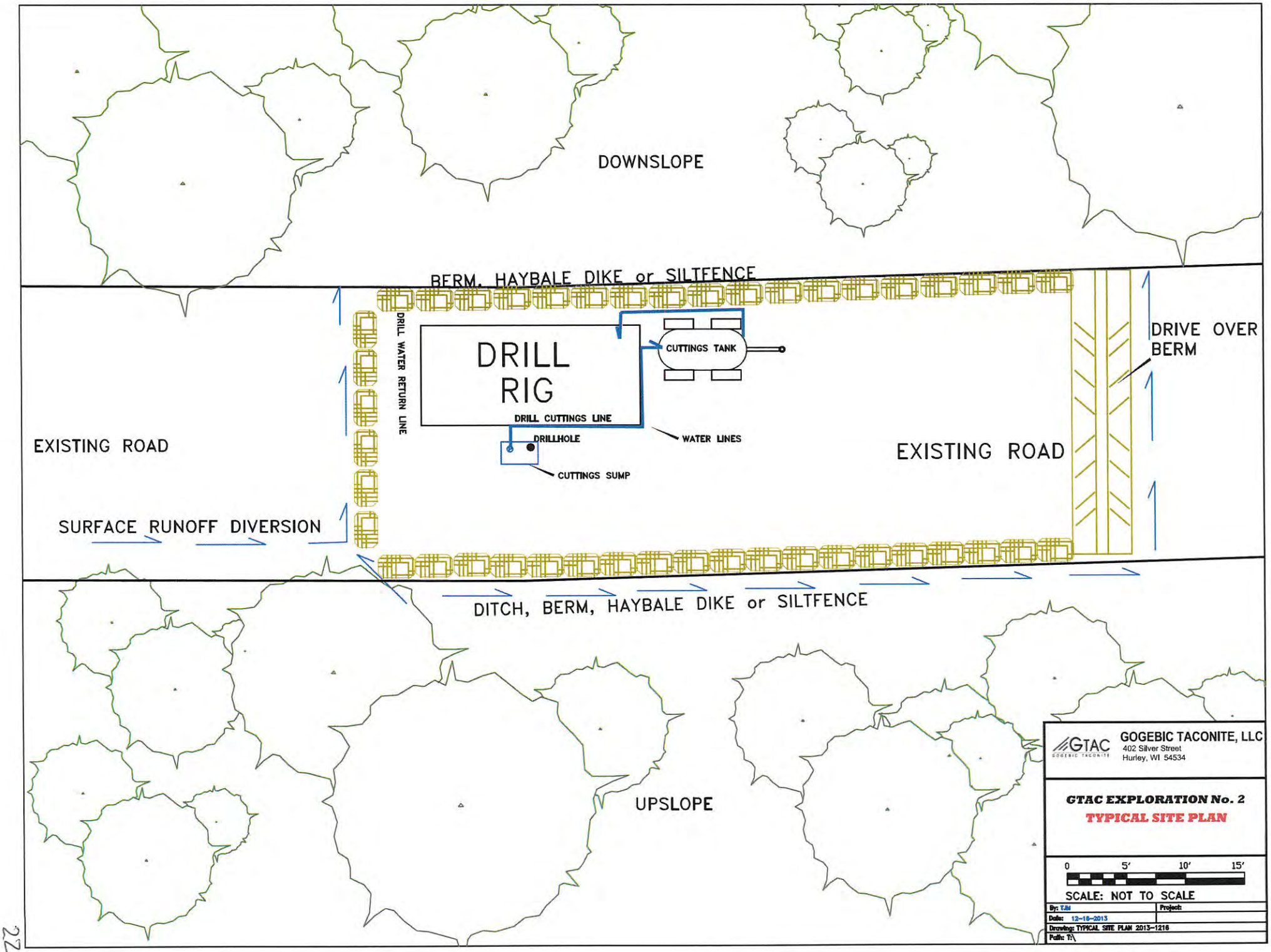
The various roads that would be used in the Exploration Activity are used in timbering operations on the property. These roads are to be left in place for future activities. Therefore, the proposed reclamation of the drill sites and roads as remaining in the road system on the property meets the requirements of Chester Company, Limited, the land owner.

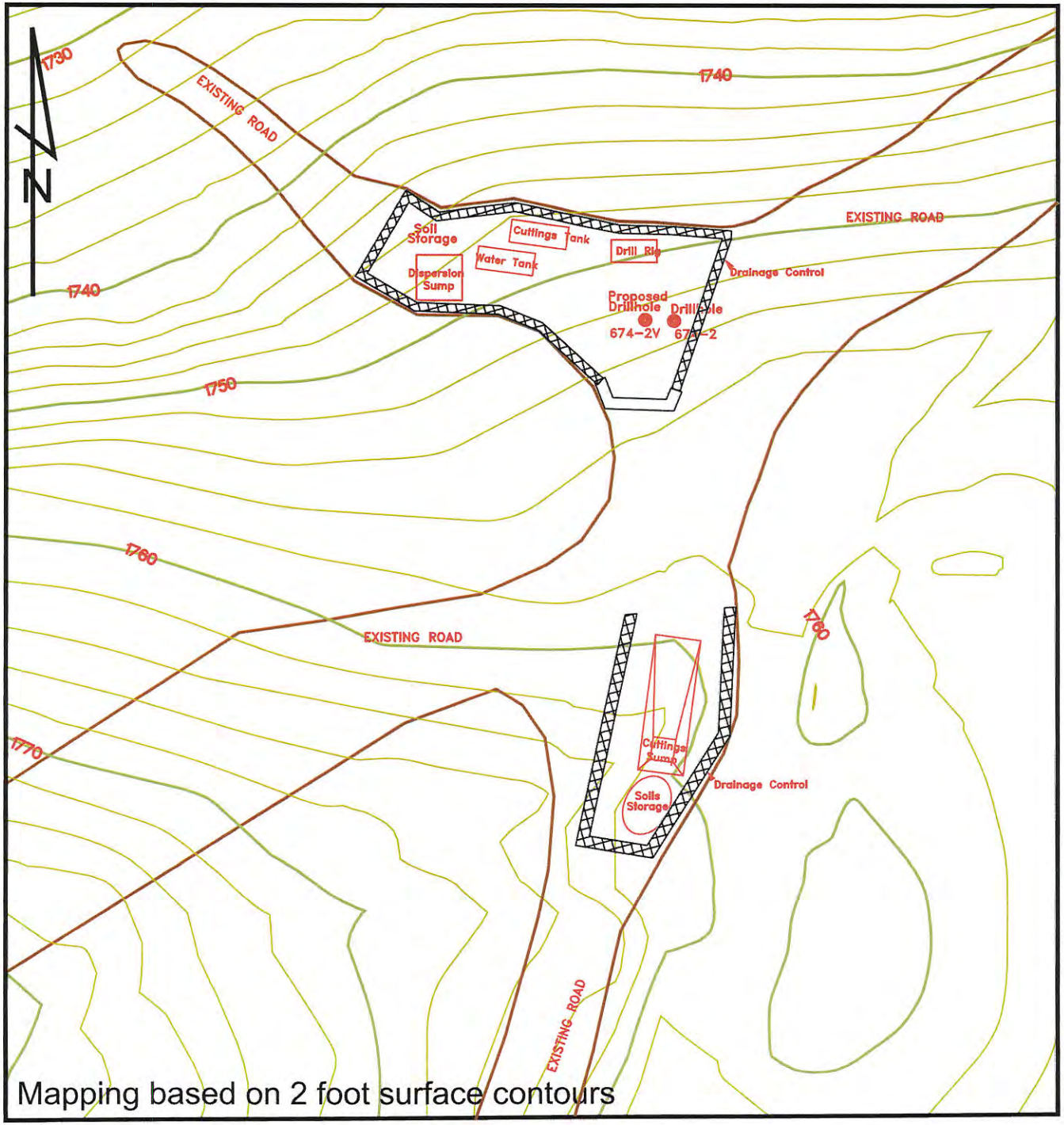
Sincerely,

David C. Adams, President
CMMI, General Partner of Chester Company, Limited

# ATTACHMENT TO RESPONSE FOR s.295.44 (2)(a)(11)

# TYPICAL SITE PLAN


DOWNSLOPE
BERM, HAYBALE DIKE or SILTFENCE
DRILL WATER RETURN LINE
DRILL RIG
CUTTINGS TANK
DRILL CUTTINGS LINE
DRILLHOLE
WATER LINES
CUTTINGS SUMP
DRIVE OVER BERM
EXISTING ROAD
EXISTING ROAD
SURFACE RUNOFF DIVERSION
DITCH, BERM, HAYBALE DIKE or SILTFENCE
UPSLOPE
GTAC
GOGEBIC TACONITE, LLC
402 Silver Street
Hurley, WI 54534
GTAC EXPLORATION No. 2
TYPICAL SITE PLAN
0 5' 10' 15'
SCALE: NOT TO SCALE
By: TJM
Project:
Date: 12-16-2013
Drawing: TYPICAL SITE PLAN 2013-1216
Path: T:\




# SITE LOCATION

Township 44 North, Range 1 West
NW NW Section 5

Disturbed Acreage 0.13 Acres
Site 674-2

Disturbed Acreage 0.06 Acres
Cuttings Sump

GTAC
GOGEBIC TACONITE

**Gogebic Taconite**
402 Silver Street
Hurley, WI 54534

**GTAC EXPLORATION NO. 1**

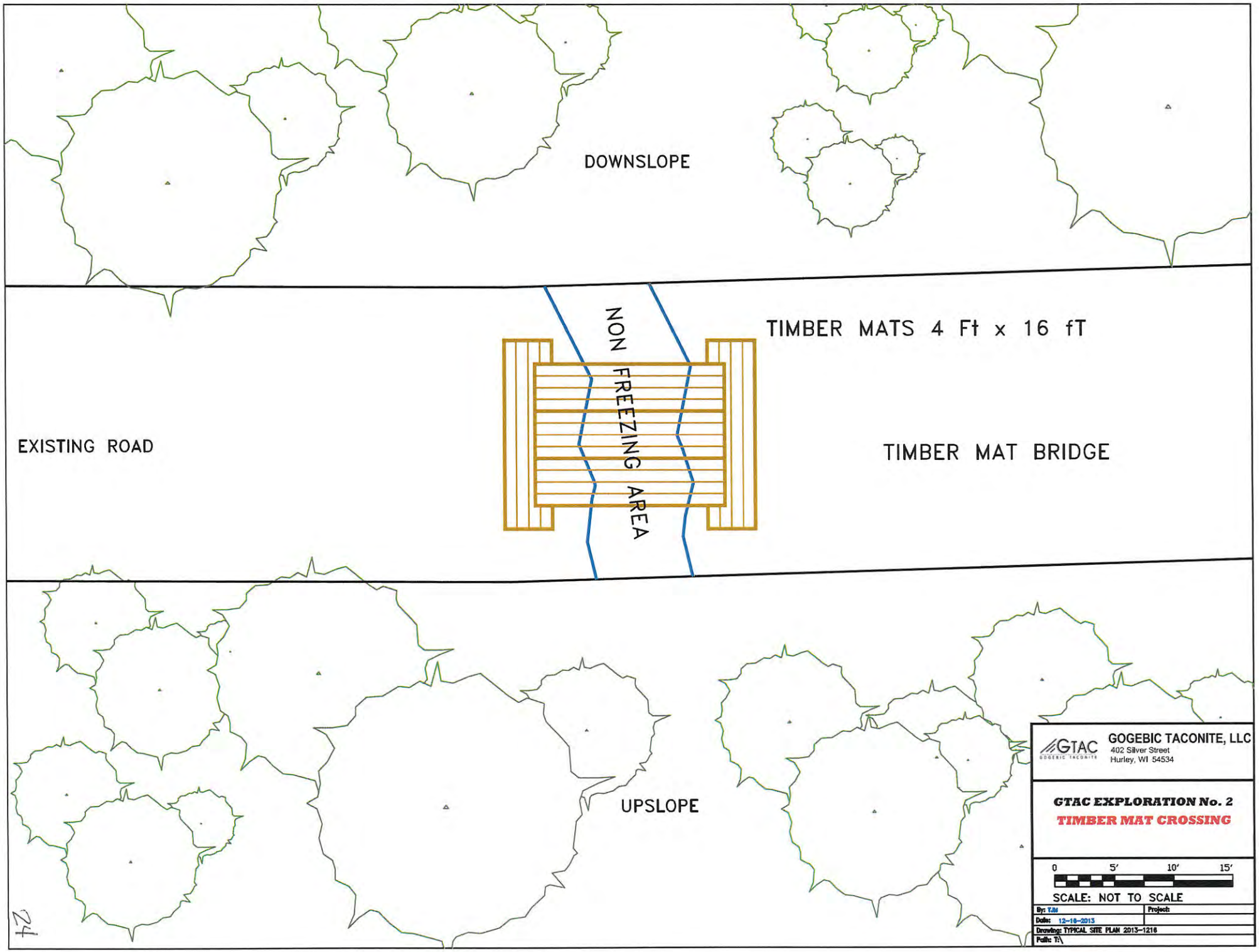
**COLLECTION TANK CENTRAL LOC.**

***PLAN VIEW***

0 40' 80' 120'

SCALE: NOT TO SCALE

| | |
|---|---|
| By: TJM | Project: |
| Date: 12-16-2013 | |
| Drawing: Drill Site 674-2 Layout | |
| Path: EXPLORATION 2013-1216 | |


DOWNSLOPE
TIMBER MATS 4 Ft x 16 fT
NON FREEZING AREA
EXISTING ROAD
TIMBER MAT BRIDGE
UPSLOPE
GTAC
GOGEBIC TACONITE, LLC
402 Silver Street
Hurley, WI 54534
GTAC EXPLORATION No. 2
TIMBER MAT CROSSING
0
5'
10'
15'
SCALE: NOT TO SCALE
By: TJH
Project:
Date: 12-16-2013
Drawing: TYPICAL SITE PLAN 2013-1216
Path: T:\

# ATTACHMENT to RESPONSE for s.295.44(2)(a)(11)

# WETLAND DELINEATION REPORT

Wetlands & Waterways LLC

# Wetland Delineation Report

## Gogebic Taconite, LLC

### Access Roads 2, 4 and 5

### Town of Anderson, Iron County, Wisconsin

### and

### Town of Morse, Ashland County, Wisconsin

December 30, 2013

Wetlands & Waterways

# WETLAND DELINEATION REPORT

## GOGEBIC TACONITE, LLC
## ACCESS ROADS 2, 4 AND 5
## TOWN OF ANDERSON, IRON COUNTY, WISCONSIN
## AND
## TOWN OF MORSE, ASHLAND COUNTY, WISCONSIN

December 30, 2013

Prepared for:

Mr. Tim Myers, P.E.
Chief Engineer
Gogebic Taconite, LLC
402 Silver Street
Hurley, Wisconsin 54534

Prepared By:

Wetlands and Waterways, LLC
5742 Warbonnet Lane
Hazelhurst, Wisconsin 54531
(715) 892-4211

Project Number: 007

Ann M. Michalski, PSS, PWS, CST
WDNR Professionally Assured Wetland Delineator

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Wetlands & Waterways

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  Figure 4: ..... Ashland and Iron County Soil Survey Map

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# Introduction

Gogebic Taconite, LLC contracted Wetlands and Waterways, LLC to delineate wetlands along portions of three existing forest roads referred to as Access Road 2, Access Road 4 and Access Road 5. Access Road 2 is located in Parts of Section 1 and 2 of Township 44 North, Range 2 West, Town of Morse, Ashland County, Wisconsin. Access Road 4 is located in Part of Section 1 of Township 44 North, Range 2 West and Parts of Sections 6, 31 and 32 of Township 45 North, Range 1 West, Town of Anderson, Iron County, Wisconsin. Access Road 5 is located in Part of Section 6, Township 45 North, Range 1 West, Town of Anderson, Iron County, Wisconsin. See Figure 1 for the property location and local topography.

The access routes and associated drill sites were examined on May 30th and June 3rd, 2013 by Ms. Ann Michalski, PSS, PWS, Wisconsin Department of Natural Resources (WDNR) Professionally Assured Wetland Delineator for areas meeting jurisdictional wetland criteria as specified in the 1987 Corps of Engineers Wetlands Delineation Manual and the Northcentral and Northeast Regional Supplement. A follow up site visit was conducted on June 19th, 2013 with representatives from WDNR and U.S. Army Corps of Engineers (USACOE) to review the delineated areas.

The study areas consist primarily of existing forest roads and areas immediately adjacent to the roads that were built for historic logging and mining activities. The forest roads are bordered on both sides by mature hardwood forests. Access Roads 2, 4 and 5 are referred to as secondary access routes for purposes of this report. One primary access road runs across the property from west to east with several secondary roads branching off of it. The primary access road is improved more so than the secondary access roads and will not require any alterations or permitting for purposes of accessing the drill sites. Therefore, the primary access road was not included as part of the delineation.

The purpose of delineating Access Roads 2, 4 and 5 and associated drill sites was to identify wetlands to be avoided or permitted for temporary impacts associated with equipment transport to the proposed drilling sites. Gogebic Taconite, LLC has since discussed using ice roads with appropriate regulatory agencies to access specific areas while protecting the identified wetlands. Figure 2 shows the overall site layout, access routes and associated drill sites. Some drill sites were adjusted based on the findings of the delineation in order to avoid wetland impacts. Figures 2A through 2D show the locations of Access Roads 2, 4 and 5 and delineated wetlands in greater detail. Representative data points were recorded at each sample site location and a Field Data Sheet was recorded for each location. The sample points are shown on Figures 2A through 2D and Field Data Sheets are included in Appendix A.

Per the Wisconsin Wetland Inventory (WWI) classification system, the wetlands identified for this study are classified primarily as E2K (Emergent/wet meadow, narrow-leaved persistent, palustrine, wet soil) and T3K (Forested, broad-leaved deciduous, palustrine, wet soil) wetlands. The Field Data Sheets classify the wetlands according to the Cowardin ET AL 1979 classification system as PEM1 (Palustrine, Emergent, Persistent) and PFO1 (Palustrine, Forested, Broad-Leaved Deciduous) and wetlands. Several of the wetlands identified had small,

intermittent drainageways flowing through them at the time of the first site visit. The drainageways were evaluated by USACOE and WDNR staff during the follow up site visit and most of them were dry at the time of that site visit.

Twenty-four wetlands were delineated within the study areas. Two other locations (SB1 and SB2) were evaluated in greater detail due to suspect vegetation but these areas did not meet wetland criteria. Overall, the majority of the wetlands areas within the study area along Access Roads 2, 4 and 5 are considered Significantly Disturbed due to the historic road construction resulting in removal of natural vegetation, alteration of soil profiles and development of depressional areas that now hold runoff from the adjacent hillsides. Many of these areas have soil compaction and rutting from historic activities, as well as recent ATV traffic. Despite the ATV disturbances being more recent, the wetlands were considered to have new normal circumstances since road construction occurred many years ago and hydric conditions likely began to develop at that time. Most areas immediately adjacent to the access roads were not considered Significantly Disturbed. Also, most areas observed were not considered Problematic with the exception of shallow rock at some sample sites preventing full soil profile viewing.

Wetland boundaries were identified using procedures outlined in the 1987 Corps of Engineers Wetland Delineation Manual and Northcentral and Northeast Regional Supplement. Boundaries for areas identified as wetlands were determined based on topographical changes, transitions from hydric soils and hydric vegetation to upland soils and upland vegetation and presence or lack of hydrology indicators. Regulatory personnel from USACOE and WDNR were present at the site on June 19th and reviewed the delineated areas.

Precipitation totals for this area were in general higher than normal throughout the 2013 growing season. The National Weather Service historical precipitation data reviewed for Duluth, Minnesota, Rhinelander, Wisconsin and Marquette, Michigan indicated that the month-to-date precipitation levels were near normal but the year-to-date precipitation levels were much higher than normal (+3 to +4" above normal) at the time of the delineation. The Palmer Drought Index also indicated that as of May 25th, the area was "very moist" with a +3.00 to +3.99 value indicating wetter than normal conditions.

Standing and flowing water was observed in many wetland areas at the time of the first site visit but by the June 19th site visit, most wetland areas observed only had saturated soils. Primary hydrology indicators present at the time of the site visits included Surface Water (A1), High Water Table (A2), Saturation (A3) and Water-Stained Leaves (B9) and secondary hydrology indicators including Drainage Patterns (B10), Geomorphic Position (D2) and FAC-neutral test (D5).

Hydric soil indicators applied at the site include Histosol (A1), Redox Dark Surface (F6), Depleted Dark Surface (F7) and Redox Depressions (F8), 2 CM Muck (A10) and Very Shallow Dark Surface (TF12). A few areas identified as wetlands did not meet hydric soil indicators, primarily due to shallow rock preventing full soil profile viewing but hydric soils were assumed based on hydrology indicators and vegetation in those locations.

# Study Methods

Available topographic maps, survey maps, aerial photos, WWI maps, and the Ashland and Iron County Soil Survey maps were reviewed prior to visiting the property to identify potential wetland areas. The WWI is included as Figure 3. The combined Ashland and Iron County Soil Survey Map is included as Figure 4.

Examination of vegetation, soils and hydrology, as outlined in the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987) and the Northcentral Regional Supplement, were used to characterize and determine wetland boundaries. The NRCS Field Indicators of Hydric Soils in the United States guide was also utilized to identify hydric soils at the site. Wetland edges were marked with pink flagging labeled "Wetland Delineation" for the purposes of photos and wetland boundary documentation during several of the site visits but flagging was then removed. The wetland edge was considered the highest extent of the jurisdictional wetland. Areas below the delineated wetland edge met required wetland criteria, while areas above did not. Wetland boundaries and sample site locations were located with a Trimble GeoXT 6000 Series GPS with sub-meter accuracy. The wetland boundaries and sample site locations are shown on Figures 2A, 2B, 2C and 2D with several wetlands identified being confined to the existing access road corridors and not extending into adjacent forested areas. Two additional locations (SB1 and SB2) were evaluated due to suspect vegetation and topographical position but the areas were determined to be uplands. A representative sample site was chosen at each location and a Field Data Sheet was completed.

In the location of the delineated wetlands, a sample transect was established in a representative wetland to upland transition zone. The transect was comprised of two sample points located along a line running perpendicular to the wetland edge, with one point in obvious wetland and one point in obvious upland. A field data form was completed for each of the upland and wetland sample points. Sample point locations for the wetland transects were also located with a GPS and are shown on Figures 2A through 2D. Field data forms are included in Appendix A.

Wetland classification was performed according to Cowardin and Wisconsin Wetland Inventory classification systems. Vegetation was identified using suitable keys (Eggers and Reed, 1987; Knopt, 1980; Courtenay/Zimmerman, 1972; Fassett, 1951; Chadde, 1998) and a plant's hydrophytic status was determined using the most recent Northcentral-Northeast Region – National Wetlands Plant List (U.S. Army Corps of Engineers, 2012).

# Results

**OFF-SITE SURVEY**

The WWI/Hydric Soils map indicates several small wetland symbols (< 2 acres) in the vicinity of Access Roads 2, 4 and 5. Based on observations during the site visits, several of the wetlands delineated may be part of the mapped wetlands but not all mapped wetland symbols were necessarily within the immediate study areas. The WWI Surface Water Data Viewer does not indicate any intermittent or navigable streams in the location of Access Roads 2, 4 or 5. The Iron and Ashland County Soil Surveys indicate that the access roads and associated drill sites consist primarily of moderately well to well drained upland soils. No hydric soils or soils with hydric inclusions are mapped within the immediate areas of Access Roads 2, 4 and 5.

The Ashland and Iron County Soil Surveys indicate that the following soil series are present within the study areas:

5351C – Gogebic Silt Loam, 6 to 18% slopes, Very Stony, Rocky - These soils consist primarily of moderately well drained silt loam soils overlying fine sandy loam and gravelly fine sandy loam soils. These soils are typically formed on convex or linear crests, side slopes, base slopes, nose slopes or head slopes of till plains with gently rolling to moderately steep terrain. These soils are classified as Frigid Alfic Oxyaquic Fragiorthods. These soils are not listed on the Wisconsin or National Hydric Soils lists.

5351D – Gogebic Silt Loam, 18 to 35% slopes, Very Stony, Rocky - These soils consist primarily of moderately well drained silt loam soils overlying fine sandy loam and gravelly fine sandy loam soils. These soils are typically formed on convex or linear crests, side slopes, base slopes, nose slopes or head slopes of till plains with moderately steep to very steep terrain. These soils are classified as Frigid Alfic Oxyaquic Fragiorthods. These soils are not listed on the Wisconsin or National Hydric Soils lists.

5369D – Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18 to 35% slopes – These soils consist primarily of moderately well to well drained cobbly silt loam overlying cobbly loam or very stony loamy sand or sandy loam over bedrock. These soils are typically formed on convex or linear summits, backslopes, shoulders and footslopes of moraines with moderately steep to very steep terrain. These soils are classified as Frigid Oxyaquic Haplorthods, Alfic Oxyaquic Fragiorthods and Frigid Lithic Haplorthods. These soils are not listed on the Wisconsin or National Hydric Soils lists.

5369E – Michigamme-Schweitzer-Peshekee-Rock Outcrop Complex, 35 to 55% slopes - These soils consist primarily of well drained cobbly fine sandy loam and cobbly silt loam or very fine sandy loam overlying cobbly and/or gravelly soils over bedrock. These soils are typically formed on convex shoulders, backslopes, sideslopes and summits on hills and till plains with very steep to extremely steep terrain. These soils are classified as Frigid Fragic Haplorthods, Frigid Alfic

Fragiothods and Frigid Lithic Haplorthods. These soils are not listed on the Wisconsin or National Hydric Soils lists.

The combined Ashland and Iron County Soil Survey map is included as Figure 4.

## Field Delineation

Twenty-four wetland areas were delineated during the site visit. Two other sample sites were also evaluated and identified as uplands. The following text describes the wetlands identified at the site and the basis for determining the wetland boundaries. See Appendix A for Wetland Data Forms. Refer to Figures 2A through 2D for the location of the delineated wetlands, the wetland sample points and transects and sample points along Access Roads 2, 4 and 5.

## Delineated Wetlands

**Wetlands 1 through 24** are primarily PEM1 (Palustrine, Emergent, Persistent) wetlands with only Wetland 17 being classified as a PFO/PEM1 (Palustrine, Forested, Broad-Leaved Deciduous/ Palustrine, Emergent, Persistent) wetland because the sample point had to be located slightly off the edge of the roadway due to rocky soils within the roadway. Although many of these wetlands may extend beyond the edges of the access roads and would be classified as other types of wetlands, the classifications were applied to the areas within the immediate study area.

Overall, the majority of the wetlands within the study area along Access Roads 2, 4 and 5 are considered Significantly Disturbed due to the historic road construction resulting in removal of natural vegetation, alteration of soil profiles and development of depressional areas that now hold runoff from the adjacent hillsides. Many of these areas have soil compaction and rutting from historic activities, as well as recent ATV traffic. Despite the ATV disturbances being more recent, the wetlands were considered to have new normal circumstances since road construction occurred many years ago and hydric conditions likely began to develop at that time. Due to shallow rock throughout the site, a full soil profile could not be viewed at several of the wetland and upland sample points and these areas were considered Problematic. However, in most cases obvious transitions in hydrology and vegetation, as well as defined topographic breaks in most areas, were considered and most heavily evaluated in determining wetland boundaries. Reference sites were also evaluated where available.

Wetlands 1, 2, 5, 8, 9, 10, 12, 14, 15, 16, 17, 18, 19, 20, 21 and 22 had drainageways that were observed during the first site visit. Many of the drainageways had a small amount of flowing water at the time of that visit but likely due to several heavy precipitation events prior to the site visit. Almost all drainageways were dry at the time of the follow up site visit on June 19th. Primary hydrology indicators observed during the delineation of the study areas included Surface Water (A1), High Water Table (A2), Saturation (A3) and Water-Stained Leaves (B9) and secondary hydrology indicators including Drainage Patterns (B10), Geomorphic Position (D2) and FAC-neutral test (D5). Wetlands 3, 4, 6, 7, 11, 13, 23 and 24 appear to be confined to the road.

The wetland soils consist primarily of dark sandy loam and loamy sand soils with redoximporphic features, overlying shallow rock in many locations. Upland soils consist primarily of sandy loam and loamy sand soils lacking redoximorphic features, also overlying shallow rock in many locations. Hydric soil indicators applied at the site include Histosol (A1), Redox Dark Surface (F6), Depleted Dark Surface (F7) and Redox Depressions (F8), 2 CM Muck (A10) and Very Shallow Dark Surface (TF12). A few areas identified as wetlands did not meet hydric soil indicators, primarily due to shallow rock preventing full soil profile viewing but hydric soils were assumed based on hydrology indicators and vegetation in those locations.

**SB1 and SB2** are sample points that were evaluated primarily due their topographic positions and suspect vegetation. Both of these sites were considered Significantly Disturbed because they had been created by historic earthmoving activities related to former mining and logging activities at the site. However, this was considered the new normal circumstance in all cases. Both of these areas were located in an area that appeared to be a former landing for logging activities. These areas did not meet the necessary wetland criteria and were determined to be uplands. A representative sample site was chosen and a Field Data Sheet was completed. Both areas were review by USACOE and WDNR personnel present at the site during the June 19th site visit.

The dominant vegetation found in the wetland sample site location includes the following:

| Scientific Name | Common Name | Indicator |
|---|---|---|
| *Acer rubrum* | Red Maple | FAC |
| *Acer saccharum* | Sugar Maple | FACU |
| *Anemone canadensis* | Canada Anemone | FACW |
| *Barbarea vulgaris* | Yellow Rocket | FAC |
| *Betula alleghaniensis* | Yellow Birch | FAC |
| *Caltha palustris* | Marsh Marigold | OBL |
| *Carex crinita* | Fringed Sedge | OBL |
| *Carex cristatella* | Crested Sedge | FACW |
| *Carex lacustris* | Lake Sedge | OBL |
| *Equisetum arvense* | Common Horsetail | FAC |
| *Fragaris virginiana* | Virginia Strawberry | FACU |
| *Fraxinus nigra* | Black Ash | FACW |
| *Impatiens capensis* | Orange Jewelweed | FACW |
| *Mentha arvensis* | Field Mint | FACW |
| *Myosotis scorpioides* | Forget-Me-Not | OBL |
| *Onoclea sensibilis* | Sensitive Fern | FACW |
| *Osmunda cinnamomea* | Cinnamon Fern | FACW |
| *Osmunda claytoniana* | Interrupted Fern | FAC |
| *Prunus virginiana* | Chokecherry | FACU |
| *Quercus alba* | White Oak | FACU |
| *Quercus rubra* | Northern Red Oak | FACU |
| *Rubus idaeus* | Red Raspberry | FAC |
| *Rubus pubescens* | Dwarf Raspberry | FACW |
| *Rumex altissimus* | Pale Dock | FACW |
| *Rumex obtusifolius* | Bitter Dock | FAC |

| | | |
|---|---|---|
| *Schoenoplectus tabernaemontani* | Soft-Stem Bulrush | OBL |
| *Scirpus cyperinus* | Wool-Grass | OBL |
| *Solidago gigantea* | Giant Goldenrod | FACW |
| *Tilia americana* | American Basswood | FACU |

The dominant vegetation found in the upland sample site locations at this site includes the following:

| Scientific Name | Common Name | Indicator |
|---|---|---|
| *Acer rubrum* | Red Maple | FAC |
| *Acer saccharum* | Sugar Maple | FACU |
| *Allium tricoccum* | Wild Leek | FACU |
| *Arctium minus* | Common Burdock | FACU |
| *Betula alleghaniensis* | Yellow Birch | FAC |
| *Cardamine concatenata* | Cutleaf Toothwort | FACU |
| *Carex crinita* | Fringed Sedge | OBL |
| *Carex gracillima* | Graceful Sedge | FACU |
| *Carex pensylvanica* | Pennsylvania Sedge | UPL |
| *Caulophyllum thalictroides* | Blue Cohosh | UPL |
| *Dryopteris intermedia* | Evergreen Wood Fern | FAC |
| *Erythronium americanum* | Yellow Trout-Lily | UPL |
| *Eurybia macrophylla* | Large-Leaf Aster | UPL |
| *Fragaris virginiana* | Virginia Strawberry | FACU |
| *Fraxinus pennsylvanica* | Green Ash | FACW |
| *Gymnocarpoum dryopteris* | Northern Oak Fern | FACU |
| *Hieracium aurantiacum* | Orange Hawkweed | UPL |
| *Lonicera canadensis* | American Fly Honeysuckle | FACU |
| *Lonicera tatarica* | Tartarian Honeysuckle | FACU |
| *Maianthemum canadense* | Canada Mayflower | FACU |
| *Matteuccia struthiopteris* | Ostrich Fern | FAC |
| *Onoclea sensibilis* | Sensitive Fern | FACW |
| *Osmunda claytoniana* | Interrupted Fern | FAC |
| *Ostrya virginiana* | Ironwood | FACU |
| *Phegopteris connectilis* | Northern Beech Fern | FACU |
| *Plantago major* | Greater Plantain | FACU |
| *Quercus rubra* | Northern Red Oak | FACU |
| *Ribes cynosbati* | Prickly Wild Gooseberry | FACU |
| *Rubus idaeus* | Red Raspberry | FAC |
| *Rumex altissimus* | Pale Dock | FACW |
| *Solidago altissima* | Canada Goldenrod | FACU |
| *Taraxacum officinale* | Common Dandelion | FACU |
| *Tilia americana* | American Basswood | FACU |
| *Uvularia sessifolia* | Sessile Leaf Bellwort | FACU |
| *Viola pubescens* | Yellow Violet | FACU |

The wetland edges were identified based on the transition from upland vegetation to wetland vegetation and differences in soil and hydrology observed at upland and wetland sample points.

# Conclusions

Three existing forest roads referred to as Access Road 2, Access Road 4 and Access Road 5 were delineated for this study. The access routes and associated drill sites were examined on May 30th and June 3rd, 2013 by Ms. Ann Michalski, PSS, PWS, WDNR Professionally Assured Wetland Delineator for areas meeting jurisdictional wetland criteria as specified in the 1987 Corps of Engineers Wetlands Delineation Manual and the Northcentral and Northeast Regional Supplement. A follow up site visit was conducted on June 19th, 2013 with representatives from WDNR and USACOE to review the delineated areas.

The areas examined consist primarily of existing forest roads that were built for historic logging and mining activities. The forest roads are bordered on both sides by mature hardwood forests. Access Roads 2, 4 and 5 are referred to as secondary access routes for purposes of this report. One primary access road runs across the property from west to east with several secondary roads branching off of it. The primary access road is improved more so than the secondary access roads and will not require any alterations or permitting for purposes of accessing the drill sites. Therefore, the primary access road was not included as part of the delineation.

The purpose of delineating Access Roads 2, 4 and 5 and associated drill sites was to identify wetlands to be avoided or permitted for temporary impacts associated with equipment transport to the proposed drilling sites. Gogebic Taconite, LLC has since discussed using ice roads with appropriate regulatory agencies to access specific areas while protecting the identified wetlands. Figure 2 shows the overall site layout, access routes and associated drill sites. Some drill sites were adjusted based on the findings of the delineation in order to avoid wetland impacts. Figures 2A through 2D show the locations of Access Roads 2, 4 and 5 and delineated wetlands in greater detail.

Twenty-four wetlands were delineated within the study areas. Two other locations (SB1 and SB2) were evaluated in greater detail due to suspect vegetation but these areas did not meet wetland criteria. Overall, the majority of the wetlands areas within the study area along Access Roads 2, 4 and 5 are considered Significantly Disturbed due to the historic road construction resulting in removal of natural vegetation, alteration of soil profiles and development of depressional areas that now hold runoff from the adjacent hillsides. Many of these areas have soil compaction and rutting from historic activities, as well as recent ATV traffic. Despite the ATV disturbances being more recent, the wetlands were considered to have new normal circumstances since road construction occurred many years ago and hydric conditions likely began to develop at that time. Most areas immediately adjacent to the access roads were not considered Significantly Disturbed. Also, most areas observed were not considered Problematic with the exception of shallow rock at some sample sites preventing full soil profile viewing.

Wetland boundaries were identified using procedures outlined in the 1987 Corps of Engineers Wetland Delineation Manual and Northcentral and Northeast Regional Supplement. The areas identified as wetland were primarily identified based on topographical changes, transitions from hydric soils and hydric vegetation to upland soils and upland vegetation and presence or lack of

hydrology indicators. Best professional judgment was also applied based on many years of conducting wetland delineations in northern Wisconsin.

The findings of this wetland delineation report are only valid for the site conditions which existed at the time of this investigation. All wetland boundaries were reviewed by representatives from USACOE and WDNR on June 19th, 2013.

The final authority for wetland boundaries and permit requirements rests with the government agencies which have jurisdiction over this project. Findings of this wetland delineation are subject to revision based upon natural or induced changes in weather, vegetation management, land use, topography, surface water flow, subsurface drainage, stormwater management, within or near the project site which may affect the soils, hydrology, or vegetative community on the project site.

This report provides a description of existing wetland conditions within the project area and does not include quantification of any temporary or permanent impacts to wetlands or waterbodies. Such impacts would require review and approval from all appropriate agencies. Activities which impact or potentially impact jurisdictional wetlands are currently regulated at several levels of government. Federal (USACOE), State (WDNR) and local government agencies may all be involved in reviewing a single project. To avoid potential penalties and project delays it is necessary to acquire necessary permits and approvals from all jurisdictional agencies before initiating activities in wetlands.

Wetlands & Waterways

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N
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SCALE IN FEET
400 0 400 800

LEGEND:

- DRILL SITE
- SECONDARY ACCESS ROADS
- PRIMARY ACCESS ROADS
- PROPERTY BOUNDARY

STATE ROUTE 77

Ashland County
Iron County
County Line Road

Tyler Forks

ACCESS ROAD 2
566–1

ACCESS ROAD 4
646–1
655–1
666–1
674–1
686–2

ACCESS ROAD 5
608–1
646–2

Gravel Pit

ANDERSON

Map created with TOPO!® ©2007 National Geographic

PROJECT NUMBER: 129

FIGURE NO. 1

Wetlands & Waterways LLC

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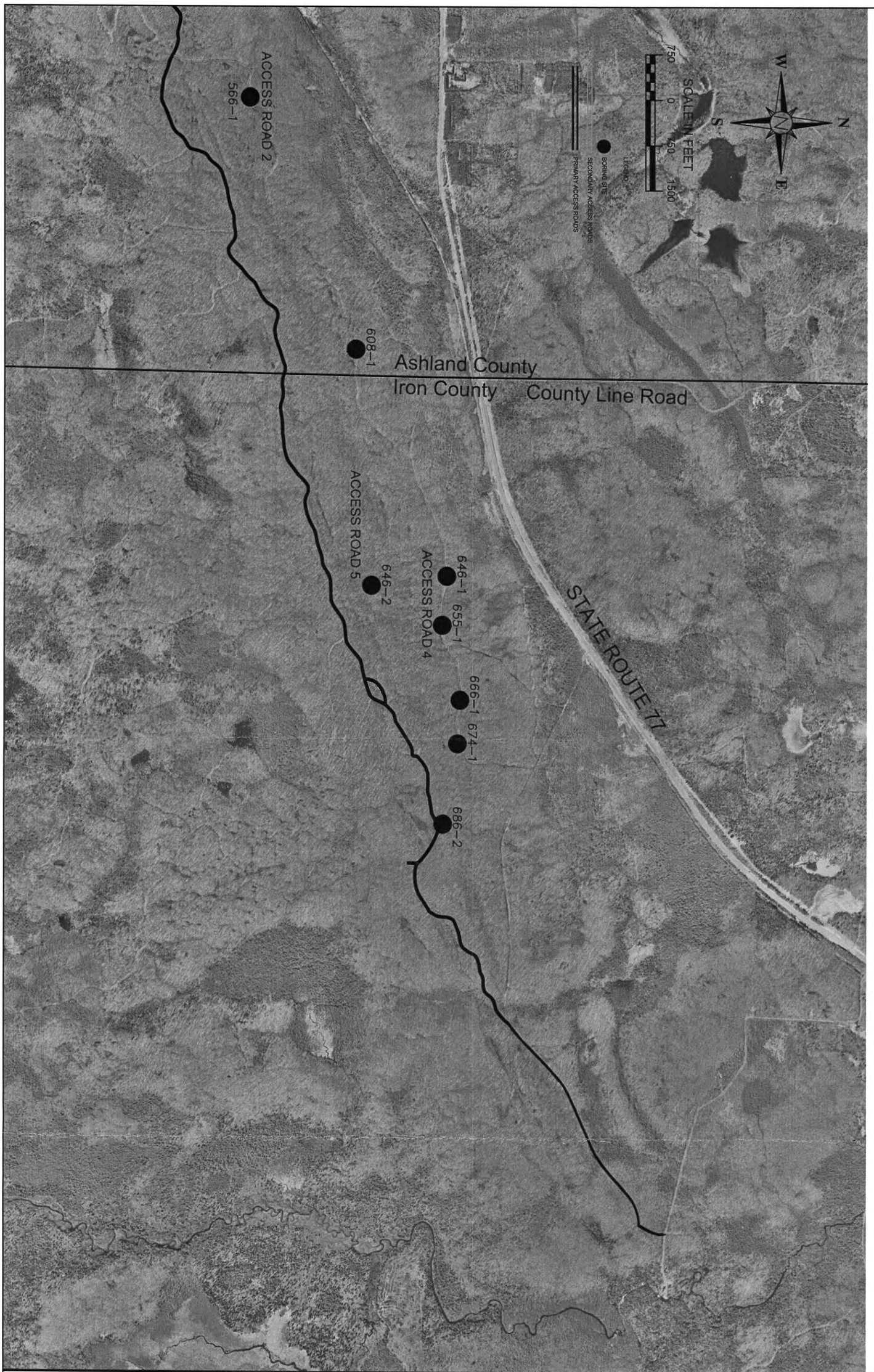
APPROVED BY: AMM
DRAWN BY: NLB
DATE: 12/30/13
SCALE: 1"=800'

SITE LOCATION & LOCAL TOPOGRAPHY

GOGEBIC TACONITE, LLC
ASHLAND AND IRON COUNTY
WISCONSIN

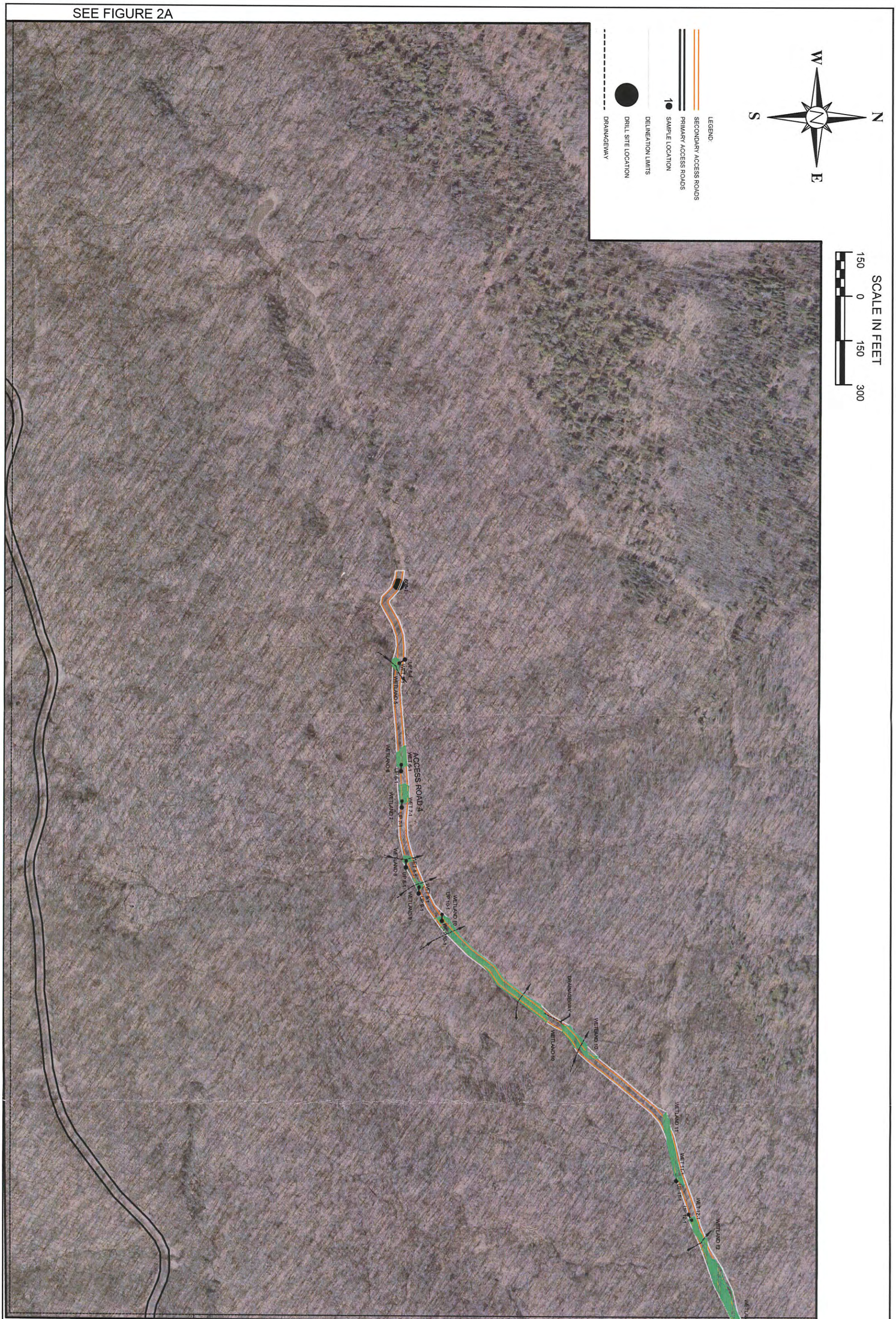



| | | | | |
|---|---|---|---|---|
| SITE LOCATION MAP<br>ACCESS ROADS 2,4 & 5 | APPROVED BY: AMM<br>DRAWN BY: NLB | THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF WETLANDS & WATERWAYS LLC. AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS FURNISHED. | Wetlands & Waterways LLC | PROJECT NUMBER: 129<br>FIGURE NO. 2 |
| GOGEBIC TACONITE, LLC<br>ASHLAND & IRON COUNTY, WISCONSIN | DATE: 12-30-13<br>SCALE: 1"=1500' | | | |

SEE FIGURE 2B

| | | | | |
|---|---|---|---|---|
| WETLAND LOCATION MAP<br>ACCESS ROADS 2, 4 & 5 | APPROVED BY: AMM<br>DRAWN BY: NLB | THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF WETLANDS & WATERWAYS LLC. AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS FURNISHED. | Wetlands & Waterways LLC | PROJECT NUMBER: 129 |
| GOGEBIC TACONITE, LLC<br>SEC.1, T44N, R2W, TOWN OF MORSE, ASHLAND COUNTY, WISCONSIN | DATE: 12-30-13<br>SCALE: 1"=300' | | | FIGURE NO.<br>2A |

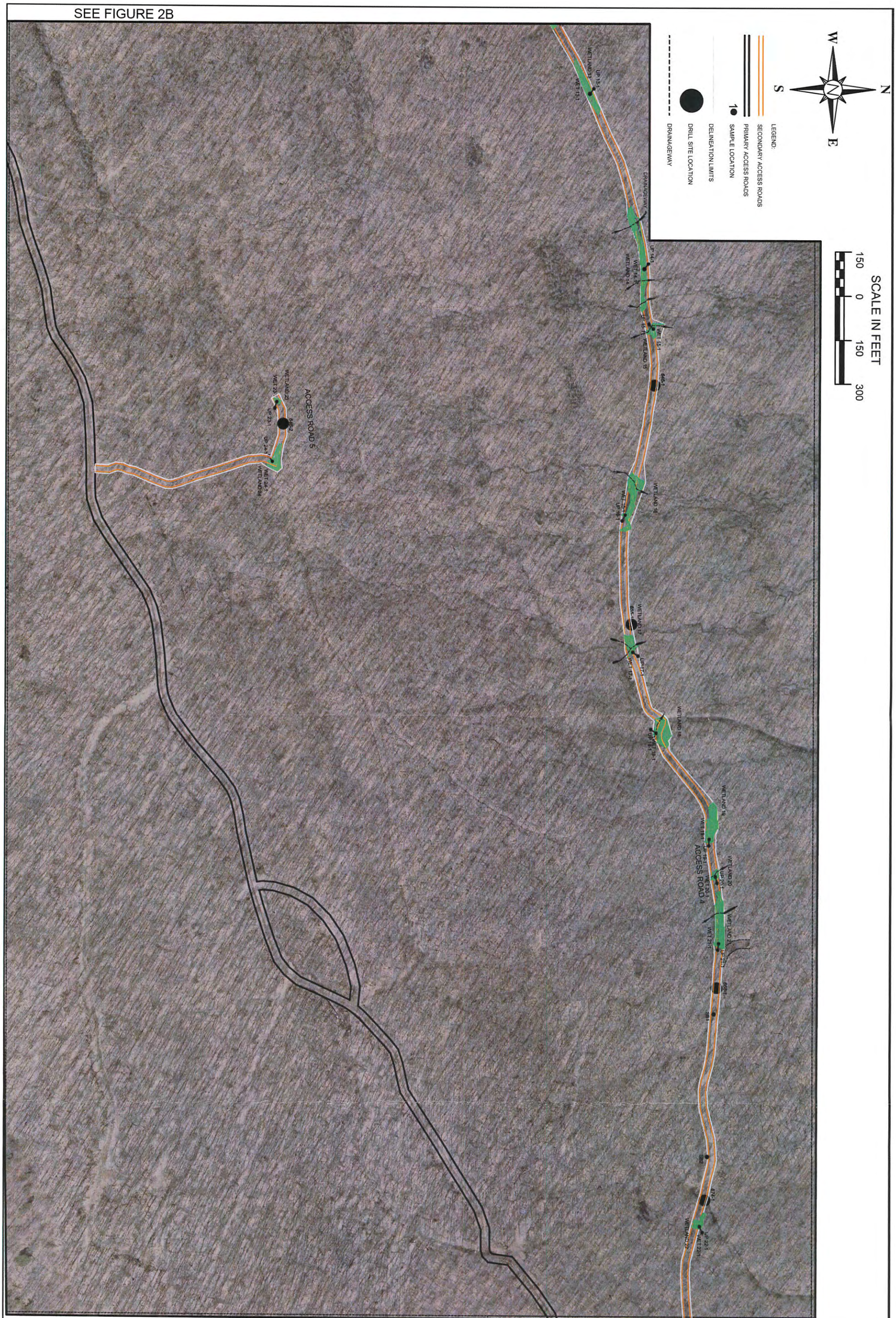
SEE FIGURE 2A




SEE FIGURE 2C

| | | | | |
|---|---|---|---|---|
| WETLAND LOCATION MAP<br>ACCESS ROADS 2,4 &5<br>GOGEBIC TACONITE, LLC<br>SEC.1, T44N, R2W, TOWN OF MORSE, ASHLAND COUNTY, SEC.6, T45N, R1W, TOWN OF ANDERSON, IRON COUNTY, WISCONSIN | APPROVED BY: AMM<br>DRAWN BY: NLB<br>DATE: 12-30-13<br>SCALE: 1"=300' | THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF WETLANDS & WATERWAYS LLC. AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS FURNISHED. | Wetlands & Waterways LLC | PROJECT NUMBER: 129<br>FIGURE NO.<br>**2B** |

SEE FIGURE 2B




SEE FIGURE 2D

| | | | | |
|---|---|---|---|---|
| WETLAND LOCATION MAP<br>ACCESS ROADS 2,4 & 5 | APPROVED BY: AMM<br>DRAWN BY: NLB<br>DATE: 12-30-13<br>SCALE: 1"=300' | THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF WETLANDS & WATERWAYS LLC. AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS FURNISHED. | Wetlands & Waterways LLC | PROJECT NUMBER: 129<br>FIGURE NO. **2C** |
| GOGEBIC TACONITE, LLC<br>SEC. 6, 31 & 32, T45N, R1W, TOWN OF ANDERSON,<br>IRON COUNTY, WISCONSIN | | | | |

7/17

SEE FIGURE 2C

| | | | | |
|---|---|---|---|---|
| WETLAND LOCATION MAP<br>ACCESS ROADS 2,4 & 5 | APPROVED BY: AMM<br>DRAWN BY: NLB<br>DATE: 12-30-13<br>SCALE: 1"=300' | THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF WETLANDS & WATERWAYS LLC. AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS FURNISHED. | Wetlands & Waterways LLC | PROJECT NUMBER: 129<br>FIGURE NO. 2D |
| GOGEBIC TACONITE, LLC<br>SEC. 32, T45N, R1W, TOWN OF ANDERSON, IRON COUNTY, WISCONSIN | | | | |

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LEGEND

WISCONSIN WETLAND INVENTORY MAPPED WETLANDS

HYDRIC SOILS

DRILL SITE LOCATION

STATE ROUTE 77

Ashland County

Iron County

646-1

655-1

666-1

674-1

686-2

ACCESS ROAD 4

646-2

608-1

ACCESS ROAD 5

ACCESS ROAD 2

566-1

PROJECT NUMBER: 129

FIGURE NO. 3

Wetlands & Waterways LLC

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APPROVED BY: AMM

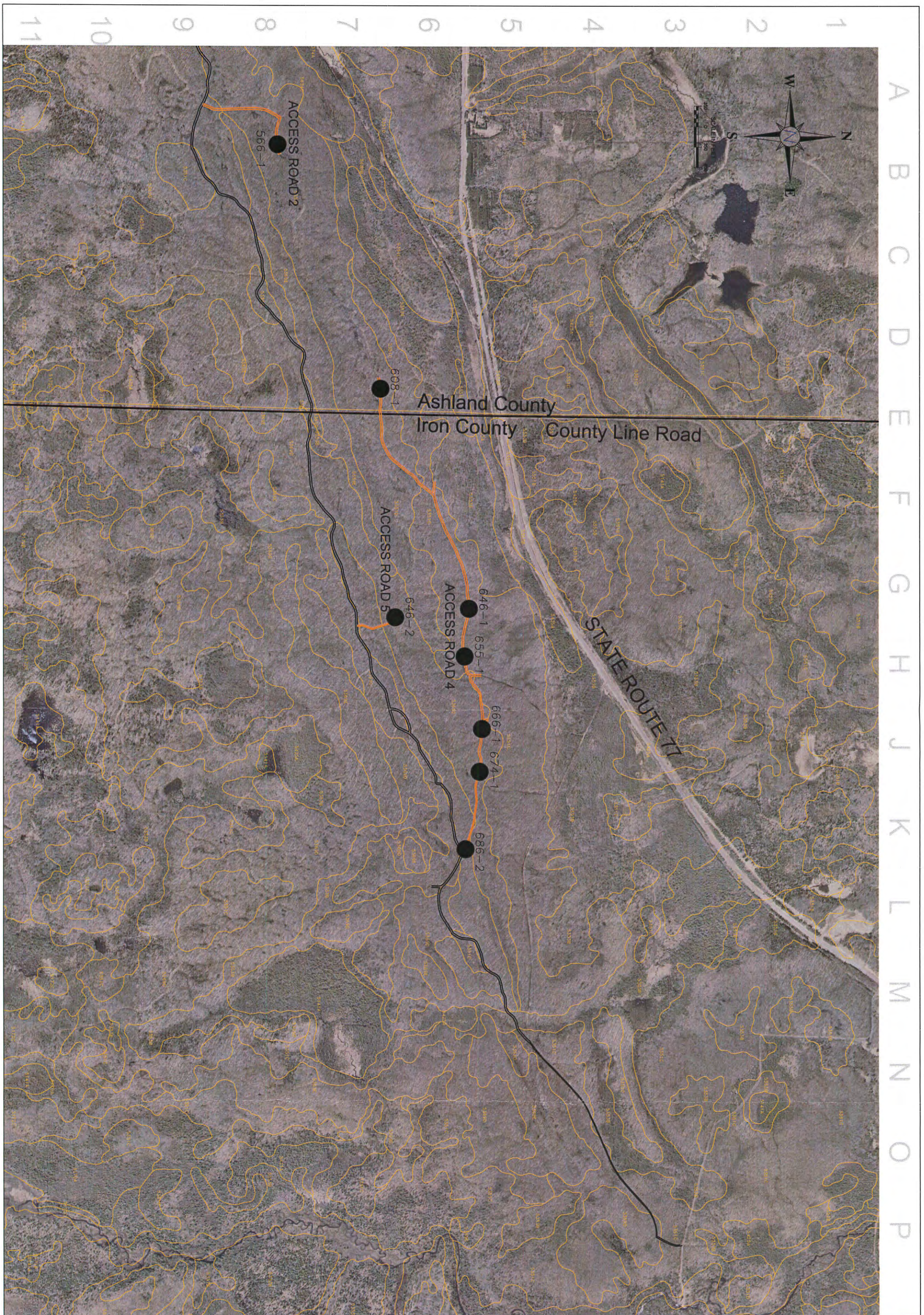
DRAWN BY: NLB

DATE: 12/30/13

SCALE: 1"=700'

WISCONSIN WETLAND INVENTORY MAP

GOGEBIC TACONITE, LLC
ASHLAND AND IRON COUNTY
WISCONSIN




| | | | | |
|---|---|---|---|---|
| SOIL SURVEY MAP | APPROVED BY: AMM | THIS DRAWING AND ALL INFORMATION CONTAINED THEREON IS THE PROPERTY OF WETLANDS & WATERWAYS LLC. AND SHALL NOT BE COPIED OR USED EXCEPT FOR THE PURPOSE FOR WHICH IT IS FURNISHED. | Wetlands & Waterways LLC | PROJECT NUMBER: 129 |
| | DRAWN BY: NLB | | | FIGURE NO. 4 |
| GOGEBIC TACONITE, LLC<br>ASHLAND AND IRON COUNTY<br>WISCONSIN | DATE: 12/30/13 | | | |
| | SCALE: 1"=700' | | | |

Wetlands & Waterways

# APPENDIX A – FIELD DATA SHEETS

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 2 **City/County:** Tonw of Morse, Ashland Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 1-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 1 **T.** T44N **R.** R2W

**Landform (hillslope, terrace, etc.):** Toeslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.316730 **Long.:** 90.569732 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

### Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** | Yes ◉ No ○ |
| **Hydric Soil Present?** | Yes ◉ No ○ | | |
| **Wetland Hydrology Present?** | Yes ◉ No ○ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils are problematic because the adjacent drainageway deposits new soils over hydric soils but a test indicator was applied and it is evident based on other infomration including hydrology, vegetation and topographic position that this location is wetland. Despite recent ATV disturbance, this area was considered to have new normal circumstances and was evaluated based on the current conditions.

### Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): -6 | **Wetland Hydrology Present?** Yes ◉ No ○ |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water flow through this wetland is from a drainageway on the south side of the wetland that flows onto the road pooling in tire ruts and compacted areas. Conditions are much wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 1-1

| Tree Stratum (Plot size: 15' x 240') | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Fraxinus nigra | 15 | ☑ | 50.0% | FACW |
| 2. Acer saccharum | 15 | ☑ | 50.0% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 30 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' x 60') | | | | |
| 1. Acer saccharum | 20 | ☑ | 44.4% | FACU |
| 2. Prunus virginiana | 15 | ☑ | 33.3% | FACU |
| 3. Fraxinus nigra | 10 | ☑ | 22.2% | FACW |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 45 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex crinita | 50 | ☑ | 50.0% | OBL |
| 2. Osmunda cinnamomea | 20 | ☑ | 20.0% | FACW |
| 3. Onoclea sensibilis | 10 | ☐ | 10.0% | FACW |
| 4. Rubus pubescens | 10 | ☐ | 10.0% | FACW |
| 5. Rubus idaeus | 5 | ☐ | 5.0% | FAC |
| 6. Equisetum arvense | 5 | ☐ | 5.0% | FAC |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 100 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 15' x 240') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 57.1% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 50 | x 1 = | 50 |
| FACW species | 65 | x 2 = | 130 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 50 | x 4 = | 200 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 175 (A) | | 410 (B) |

Prevalence Index = B/A = 2.343

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 1-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-6 | 7.5YR | 3/3 | 100% | - | - | - | - | - | Sandy Loam | |
| 6-9 | N | 2/0 | 100% | - | - | - | - | - | Muck | buried |
| 9-20+ | 7.5YR | 3/2 | 100% | - | - | - | - | - | Loamy Sand | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☑ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

Muck soils appear to be buried by soils that have washed over the road from the adjacent stream.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 2 **City/County:** Town of Morse, Ashland Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Up 1-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 1 **T.** T44N **R.** R2W

**Landform (hillslope, terrace, etc.):** Footslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.316663 **Long.:** 90.569716 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

### Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions were much wetter than normal at the time of the visit based on the Palmer Drought Index and other available information. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural and mining roads in this location and current ATV traffic, both of which of which have resulted in water flowing off the hillside and pooling in ruts and compacted depressional aras along the roads. Soils are disturbed within roadways and areas that were likely not wetlands prior to disturbance which now hold water and developed hydric soils. Most upland sample points were conducted on the edges of the roads in undisturbed reference sites and are much more representative of the original site conditions. The disturbed areas are considered to have new normal circumstances and were evaluated based on current conditions.

### Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 1-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 60 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 60 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 35 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 35 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Erythronium americanum | 30 | ☑ | 66.7% | UPL |
| 2. Acer saccharum | 10 | ☑ | 22.2% | FACU |
| 3. Cardamine concatenata | 5 | ☐ | 11.1% | FACU |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 45 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 110 | x 4 = | 440 | |
| UPL species | 30 | x 5 = | 150 | |
| Column Totals: | 140 | (A) | 590 | (B) |

Prevalence Index = B/A = 4.214

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 1-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-4 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Silt Loam | |
| 4-5 | 7.5YR | 5/3 | 100% | - | - | - | - | - | Silt Loam | |
| 5-8 | 7.5YR | 3/3 | 100% | - | - | - | - | - | Silt Loam | |
| 8-20+ | 7.5YR | 3/4 | 100% | - | - | - | - | - | Silt Loam | |
| | | | | | | | | | | |
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| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 2 **City/County:** Tonw of Morse, Ashland Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 1B-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range: S.** 1 **T.** T44N **R.** R2W

**Landform (hillslope, terrace, etc.):** Toeslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.316730 **Long.:** 90.569732 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

### Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** | Yes ◉ No ○ |
| **Hydric Soil Present?** | Yes ◉ No ○ | | |
| **Wetland Hydrology Present?** | Yes ◉ No ○ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils are problematic because the adjacent drainageway deposits new soils over hydric soils but a test indicator was applied and it is evident based on other infomration including hydrology, vegetation and topographic position that this location is wetland. Despite recent ATV disturbance, this area was considered to have new normal circumstances and was evaluated based on the current conditions.

### Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): | -6 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): | 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are much wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 1B-1

| Tree Stratum (Plot size: 15' x 240') | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Fraxinus nigra | 15 | ☑ | 50.0% | FACW |
| 2. Acer saccharum | 15 | ☑ | 50.0% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 30 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' x 60') | | | | |
| 1. Acer saccharum | 20 | ☑ | 44.4% | FACU |
| 2. Prunus virginiana | 15 | ☑ | 33.3% | FACU |
| 3. Fraxinus nigra | 10 | ☑ | 22.2% | FACW |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 45 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex crinita | 50 | ☑ | 50.0% | OBL |
| 2. Osmunda cinnamomea | 20 | ☑ | 20.0% | FACW |
| 3. Onoclea sensibilis | 10 | ☐ | 10.0% | FACW |
| 4. Rubus pubescens | 10 | ☐ | 10.0% | FACW |
| 5. Rubus idaeus | 5 | ☐ | 5.0% | FAC |
| 6. Equisetum arvense | 5 | ☐ | 5.0% | FAC |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 100 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 15' x 240') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 57.1% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 50 | x 1 = | 50 | |
| FACW species | 65 | x 2 = | 130 | |
| FAC species | 10 | x 3 = | 30 | |
| FACU species | 50 | x 4 = | 200 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 175 | (A) | 410 | (B) |

Prevalence Index = B/A = 2.343

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 1B-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-6 | 7.5YR | 3/2 | 95% | 7.5YR | 4/6 | 5% | C | M | Loam | |
| 6-20+ | 7.5YR | 3/1 | 90% | 7.5YR | 4/6 | 10% | C | M | Loamy Sand | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

Muck soils appear to be buried by soils that have washed over the road from the adjacent stream.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 2 **City/County:** Town of Morse, Ashland Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 2-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 1 **T.** T44N **R.** R2W

**Landform (hillslope, terrace, etc.):** Toeslope **Local relief (concave, convex, none):** concave **Slope:** 1.0 % / 0.6 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.318581 **Long.:** 90.569300 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent ATV disturbance, this area is considered to have new normal circumstances because the road was constructed many years ago and hydric conditions likely began to develop at that time.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ◉ | No ○ | Depth (inches): 1 | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A small drainageway flows through this wetland. The road and associated rutting does not appear to have altered this wetland or drainageway as significantly as in some areas of the site. The drainageway continues to flow across the road and this area appears to naturally be wetland regardless of the historical silvicultural activities. Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 2-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Fraxinus nigra | 20 | ☑ | 66.7% | FACW |
| 2. Acer saccharum | 10 | ☑ | 33.3% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 30 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Fraxinus nigra | 5 | ☑ | 100.0% | FACW |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 5 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Anemone canadensis | 25 | ☑ | 25.0% | FACW |
| 2. Rubus idaeus | 25 | ☑ | 25.0% | FAC |
| 3. Equisetum arvense | 20 | ☑ | 20.0% | FAC |
| 4. Solidago gigantea | 10 | ☐ | 10.0% | FACW |
| 5. Onoclea sensibilis | 10 | ☐ | 10.0% | FACW |
| 6. Schoenoplectus tabernaemontani | 10 | ☐ | 10.0% | OBL |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 100 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 10 | x 1 = | 10 |
| FACW species | 70 | x 2 = | 140 |
| FAC species | 45 | x 3 = | 135 |
| FACU species | 10 | x 4 = | 40 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 135 (A) | | 325 (B) |

Prevalence Index = B/A = 2.407

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 2-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-5 | 7.5YR | 3/2 | 100% | - | - | - | - | - | gravelly sandy loam | |
| 5-9 | 7.5YR | 3/1 | 90% | 7.5YR | 3/1 | 10% | C | M | gravelly sandy loam | |
| 9-20+ | 7.5YR | 3/1 | 90% | 7.5YR | 3/4 | 10% | C | M | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 2 **City/County:** Town of Morse, Ashland Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 2-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 1 T. T44N R. R2W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.318516 **Long.:** 90.569264 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Herbaceous vegetation is predominantly wool grass within the roadways. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 2-1

| **Tree Stratum** (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 30 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 30 | | **= Total Cover** | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Fraxinus pennsylvanica | 20 | ☑ | 66.7% | FACW |
| 2. Acer saccharum | 10 | ☑ | 33.3% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 30 | | **= Total Cover** | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Cardamine concatenata | 25 | ☑ | 33.3% | FACU |
| 2. Lonicera tatarica | 20 | ☑ | 26.7% | FACU |
| 3. Ribes cynosbati | 15 | ☑ | 20.0% | FACU |
| 4. Rubus idaeus | 10 | ☐ | 13.3% | FAC |
| 5. Allium tricoccum | 5 | ☐ | 6.7% | FACU |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 75 | | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 20 | x 2 = | 40 | |
| FAC species | 10 | x 3 = | 30 | |
| FACU species | 105 | x 4 = | 420 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 135 | (A) | 490 | (B) |

Prevalence Index = B/A = 3.630

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 2-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 0-10 | 7.5YR | 2.5/2 | 100% | - | - | - | - | Silt Loam | |
| 10-20+ | 7.5YR | 3/2 | 100% | - | - | - | - | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 2 **City/County:** Town of Morse, Ashland Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 3-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range: S.** 1 **T.** T44N **R.** R2W

**Landform (hillslope, terrace, etc.):** Road cut on shoulder slope **Local relief (concave, convex, none):** concave **Slope:** 1.0 % / 0.6 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.318763 **Long.:** 90.567273 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were also problematic here due to shallow rock preventing full soil profile viewing. Despite recent ATV disturbance this area is considered to have new normal circumstances since the roadway was constructed so many years ago and hydric conditions likely began to develop then in areas that were not originally wetland.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): -6 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This wetland appears to be completely confined to the road. Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 3-1

| Tree Stratum (Plot size: 15' x 240' ) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Fraxinus nigra | 10 | ☑ | 66.7% | FACW |
| 2. Betula alleghaniensis | 5 | ☑ | 33.3% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 15 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' x 60' ) | | | | |
| 1. Fraxinus nigra | 10 | ☑ | 100.0% | FACW |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 10 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius ) | | | | |
| 1. Carex crinita | 30 | ☑ | 37.5% | OBL |
| 2. Rubus idaeus | 10 | ☑ | 12.5% | FAC |
| 3. Impatiens capensis | 10 | ☑ | 12.5% | FACW |
| 4. Osmunda cinnamomea | 10 | ☑ | 12.5% | FACW |
| 5. Rubus idaeus ssp. strigosus | 10 | ☑ | 12.5% | FACW |
| 6. Schoenoplectus tabernaemontani | 5 | ☐ | 6.3% | OBL |
| 7. Onoclea sensibilis | 5 | ☐ | 6.3% | FACW |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 80 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 15' x 240' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 35 | x 1 = | 35 | |
| FACW species | 55 | x 2 = | 110 | |
| FAC species | 15 | x 3 = | 45 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 105 | (A) | 190 | (B) |

Prevalence Index = B/A = 1.810

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 3-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR | 3/2 | 90% | 7.5YR | 3/4 | 10% | C | M | Silt Loam | |
| 7-9 | 7.5YR | 3/2 | 80% | 5YR | 3/4 | 20% | C | M | gravelly loam | |
| 9+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils : [3]**

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 9

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

despite shallow rock, soils were evidently hydric and hydric vegetation, presence of several wetland hydrology indicators and topographic position supported this determination.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 2 **City/County:** Town of Morse, Ashland Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Up 3-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 1 **T.** T44N **R.** R2W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 3.0 % / 1.7 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.318736 **Long.:** 90.567210 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas were considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): -14 | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 3-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 30 | ☑ | 85.7% | FACU |
| 2. Quercus rubra | 5 | ☐ | 14.3% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 35 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Quercus rubra | 20 | ☑ | 50.0% | FACU |
| 2. Betula alleghaniensis | 10 | ☑ | 25.0% | FAC |
| 3. Fraxinus pennsylvanica | 10 | ☑ | 25.0% | FACW |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 40 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Erythronium americanum | 15 | ☑ | 25.0% | UPL |
| 2. Acer saccharum | 10 | ☑ | 16.7% | FACU |
| 3. Betula alleghaniensis | 10 | ☑ | 16.7% | FAC |
| 4. Carex pensylvanica | 10 | ☑ | 16.7% | UPL |
| 5. Quercus rubra | 5 | ☐ | 8.3% | FACU |
| 6. Dryopteris intermedia | 5 | ☐ | 8.3% | FAC |
| 7. Cardamine concatenata | 5 | ☐ | 8.3% | FACU |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 60 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 37.5% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 10 | x 2 = | 20 | |
| FAC species | 25 | x 3 = | 75 | |
| FACU species | 75 | x 4 = | 300 | |
| UPL species | 25 | x 5 = | 125 | |
| Column Totals: | 135 | (A) | 520 | (B) |

Prevalence Index = B/A = 3.852

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 3-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-9 | 7.5YR | 3/1 | 100% | - | - | - | - | - | Silt Loam | |
| 9-13 | 7.5YR | 2.5/52 | 100% | - | - | - | - | - | Silt Loam | |
| 13-20+ | 7.5YR | 2.5/3 | 100% | - | - | - | - | - | Sandy Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 2 **City/County:** Town of Morse, Ashland Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 4-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 1 **T.** T44N **R.** R2W

**Landform (hillslope, terrace, etc.):** Road cut at toeslope **Local relief (concave, convex, none):** concave **Slope:** 1.0 % / 0.6 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.318777 **Long.:** 90.566932 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

### Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** | Yes ◉ No ○ |
| **Hydric Soil Present?** | Yes ◉ No ○ | | |
| **Wetland Hydrology Present?** | Yes ◉ No ○ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent disturbance from ATVs this area is considered to have new normal circumstances since the road was built so many years ago and hydric conditions likely began to develop then.

### Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): | 0 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): | 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This wetland appears to be completely confined to the road. Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 4-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Fraxinus nigra | 5 | ☑ | 100.0% | FACW |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 5 | | = Total Cover | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex crinita | 35 | ☑ | 28.7% | OBL |
| 2. Rubus idaeus | 25 | ☑ | 20.5% | FAC |
| 3. Rubus pubescens | 25 | ☑ | 20.5% | FACW |
| 4. Osmunda cinnamomea | 10 | ☐ | 8.2% | FACW |
| 5. Impatiens capensis | 10 | ☐ | 8.2% | FACW |
| 6. Onoclea sensibilis | 10 | ☐ | 8.2% | FACW |
| 7. Acer rubrum | 5 | ☐ | 4.1% | FAC |
| 8. Fraxinus nigra | 2 | ☐ | 1.6% | FACW |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 122 | | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 35 | x 1 = | 35 |
| FACW species | 62 | x 2 = | 124 |
| FAC species | 30 | x 3 = | 90 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 127 (A) | | 249 (B) |

Prevalence Index = B/A = 1.961

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 4-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-4 | 7.5YR | 3/2 | 95% | 7.5YR | 4/6 | 5% | C | M | Sandy Loam | |
| 4-20+ | 7.5YR | 4/3 | 70% | 7.5YR | 4/6 | 30% | C | M | Loamy Sand | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 2 **City/County:** Town of Morse, Ashland Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Up 4-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range: S.** 1 **T.** T44N **R.** R2W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.318723 **Long.:** 90.567053 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were problematic in this location due to shallow rock preventing full soil profile viewing. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas were considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 4-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 60 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 60 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Quercus rubra | 10 | ☑ | 66.7% | FACU |
| 2. Fraxinus pennsylvanica | 5 | ☑ | 33.3% | FACW |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 15 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Hieracium aurantiacum | 25 | ☑ | 41.7% | UPL |
| 2. Erythronium americanum | 15 | ☑ | 25.0% | UPL |
| 3. Lonicera tatarica | 10 | ☐ | 16.7% | FACU |
| 4. Acer saccharum | 10 | ☐ | 16.7% | FACU |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 60 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 5 | x 2 = | 10 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 90 | x 4 = | 360 | |
| UPL species | 40 | x 5 = | 200 | |
| Column Totals: | 135 | (A) | 570 | (B) |

Prevalence Index = B/A = 4.222

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 4-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 0-9 | 7.5YR | 3/3 | 100% | - | - | - | - | Silt Loam | |
| 9+ | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 9

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

Despite shallow rock, soils were evidently upland and topographic position, lack of hydrology indicators in a very wet season and upland vegetation support than this location is upland.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Morse, Ashland Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 5-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 1 **T.** T44N **R.** R2W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 1.0 % / 0.6 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.323715 **Long.:** 90.549823 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ○ | No ◉ | **Is the Sampled Area within a Wetland?** Yes ○ No ◉ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were also problematic here due to shallow rock preventing full soil profile viewing. Also, flowing water can be problematic in soils because it prevents redox features from forming due to oxygenated soils. Despite recent ATV disturbance, this area is considered to have new normal circumstances since the road was constructed many years ago.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A small drainageway flows through this wetland. The road and associated rutting does not appear to have altered this wetland or drainageway as significantly as in some areas of the site. The drainageway continues to flow across the road and this area appears to naturally be a wetland. Conditions are much wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 5-1

| Tree Stratum (Plot size: 40' x 35') | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Betula alleghaniensis | 10 | ☑ | 100.0% | FAC |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 10 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Fraxinus nigra | 5 | ☑ | 50.0% | FACW |
| 2. Acer rubrum | 5 | ☑ | 50.0% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 10 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Scirpus cyperinus | 30 | ☑ | 31.6% | OBL |
| 2. Onoclea sensibilis | 20 | ☑ | 21.1% | FACW |
| 3. Rubus idaeus | 20 | ☑ | 21.1% | FAC |
| 4. Onoclea sensibilis | 10 | ☐ | 10.5% | FACW |
| 5. Schoenoplectus tabernaemontani | 10 | ☐ | 10.5% | OBL |
| 6. Equisetum arvense | 5 | ☐ | 5.3% | FAC |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 95 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 40' x 35') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 40 | x 1 = | 40 | |
| FACW species | 35 | x 2 = | 70 | |
| FAC species | 40 | x 3 = | 120 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 115 | (A) | 230 | (B) |

Prevalence Index = B/A = 2.000

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 5-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-4 | 7.5YR | 3/1 | 100% | - | - | - | - | - | Silt Loam | |
| 4+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☑ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 4

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

Despite shallow rock preventing full viewing of the soil profile, this location met the TF12 Hydric Soils Indicator and obvious wetland hydrology and vegetation along with topographic position and wetlands on each side of the road supported the determination of wetland.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Morse, Ashland Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 5-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 1 T. T44N R. R2W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.323734 **Long.:** 90.549883 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were problematic in this location due to shallow rock preventing full soil profile viewing. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas were considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 5-1

| **Tree Stratum** (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 60 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 60 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Betula alleghaniensis | 25 | ☑ | 55.6% | FAC |
| 2. Acer saccharum | 15 | ☑ | 33.3% | FACU |
| 3. Quercus rubra | 5 | ☐ | 11.1% | FACU |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 45 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Acer saccharum | 25 | ☑ | 26.3% | FACU |
| 2. Erythronium americanum | 20 | ☑ | 21.1% | UPL |
| 3. Eurybia macrophylla | 15 | ☑ | 15.8% | UPL |
| 4. Rubus idaeus | 15 | ☑ | 15.8% | FAC |
| 5. Tilia americana | 10 | ☐ | 10.5% | FACU |
| 6. Betula alleghaniensis | 10 | ☐ | 10.5% | FAC |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 95 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 28.6% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 50 | x 3 = | 150 | |
| FACU species | 115 | x 4 = | 460 | |
| UPL species | 35 | x 5 = | 175 | |
| Column Totals: | 200 | (A) | 785 | (B) |

Prevalence Index = B/A = 3.925

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 5-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR | 3/2 | 100% | - | - | - | - | Silt Loam | |
| 7-9 | 7.5YR | 3/3 | 100% | - | - | - | - | Silt Loam | |
| 9+ | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 9

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

Despite shallow rock, soils were evidently upland and topographic position, lack of hydrology indicators in a very wet season and upland vegetation support than this location is upland.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Wet 6-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 1.0 % / 0.6 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.323732 **Long.:** 90.548463 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were also problematic here due to shallow rock preventing full soil profile viewing. Despite recent ATV disturbance this area is considered to have new normal circumstances since this road was constructed many years ago.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This wetland appears to be completely confined to the road. Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 6-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer rubrum | 10 | ☑ | 100.0% | FAC |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 10 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 5 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 5 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Scirpus cyperinus | 50 | ☑ | 45.5% | OBL |
| 2. Rubus idaeus | 20 | ☑ | 18.2% | FAC |
| 3. Equisetum arvense | 15 | ☐ | 13.6% | FAC |
| 4. Matteuccia struthiopteris | 15 | ☐ | 13.6% | FAC |
| 5. Rubus pubescens | 10 | ☐ | 9.1% | FACW |
| 6. | | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 110 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 50 | x 1 = | 50 | |
| FACW species | 10 | x 2 = | 20 | |
| FAC species | 60 | x 3 = | 180 | |
| FACU species | 5 | x 4 = | 20 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 125 | (A) | 270 | (B) |

Prevalence Index = B/A = 2.160

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 6-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Sandy Loam | |
| 7-11 | 7.5YR | 3/2 | 85% | 7.5YR | 4/6 | 15% | C | M | Sandy Loam | |
| 11+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 11

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

Despite shallow rock, soils were assumed to be hydric based on hydric vegetation, presence of several wetland hydrology indicators and topographic position which supported this determination.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 6-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.323716 **Long.:** 90.548418 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas were considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 6-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 60 | ☑ | 75.0% | FACU |
| 2. Tilia americana | 10 | ☐ | 12.5% | FACU |
| 3. Ostrya virginiana | 10 | ☐ | 12.5% | FACU |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 80 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 50 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 50 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Acer saccharum | 25 | ☑ | 55.6% | FACU |
| 2. Cardamine concatenata | 15 | ☑ | 33.3% | FACU |
| 3. Erythronium americanum | 5 | ☐ | 11.1% | UPL |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 45 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 170 | x 4 = | 680 | |
| UPL species | 5 | x 5 = | 25 | |
| Column Totals: | 175 | (A) | 705 | (B) |

Prevalence Index = B/A = 4.029

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 6-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-6 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Silt Loam | |
| 6-20+ | 7.5YR | 3/4 | 100% | - | - | - | - | - | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Wet 7-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 1.0 % / 0.6 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.323740 **Long.:** 90.548138 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** | Yes ◉ No ○ |
| **Hydric Soil Present?** | Yes ◉ No ○ | | |
| **Wetland Hydrology Present?** | Yes ◉ No ○ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were also problematic here due to shallow rock preventing full soil profile viewing. Despite recent ATV disturbance this area was considered to have new normal circumstances since the road was constructed many years ago.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This wetland appears to be completely confined to the road. Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 7-1

| Tree Stratum (Plot size: 30' x 25') | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 30' x 25') | | | | |
| 1. Acer saccharum | 2 | ☐ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 2 | | = Total Cover | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Scirpus cyperinus | 60 | ☑ | 66.7% | OBL |
| 2. Equisetum arvense | 20 | ☑ | 22.2% | FAC |
| 3. Rubus idaeus | 10 | ☐ | 11.1% | FAC |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 90 | | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30' x 25') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 60 | x 1 = | 60 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 30 | x 3 = | 90 |
| FACU species | 2 | x 4 = | 8 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 92 (A) | | 158 (B) |

Prevalence Index = B/A = 1.717

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 7-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Sandy Loam | |
| 7-11 | 7.5YR | 3/2 | 85% | 7.5YR | 4/6 | 15% | C | M | Sandy Loam | |
| 11+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 11

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

Despite shallow rock, soils are evidently hydric and based on hydric vegetation, presence of several wetland hydrology indicators and topographic position which supported this determination.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 7-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.323735 **Long.:** 90.548129 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were also problematic in this location due to shallow rock preventing full soil profile viewing. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas were considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 7-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 40 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 40 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 30 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 30 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Cardamine concatenata | 25 | ☑ | 29.4% | FACU |
| 2. Erythronium americanum | 25 | ☑ | 29.4% | UPL |
| 3. Acer saccharum | 20 | ☑ | 23.5% | FACU |
| 4. Dryopteris intermedia | 10 | ☐ | 11.8% | FAC |
| 5. Rubus idaeus | 5 | ☐ | 5.9% | FAC |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 85 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 15 | x 3 = | 45 | |
| FACU species | 115 | x 4 = | 460 | |
| UPL species | 25 | x 5 = | 125 | |
| Column Totals: | 155 | (A) | 630 | (B) |

Prevalence Index = B/A = 4.065

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 7-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-3 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Silt Loam | |
| 3-8 | 7.5YR | 4/4 | 100% | - | - | - | - | - | Silt Loam | |
| 8+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 8

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

Despite shallow rock, soils were evidently upland and topographic position, lack of hydrology indicators in a very wet season and upland vegetation support than this location is upland.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 8-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** Toeslope **Local relief (concave, convex, none):** concave **Slope:** 3.0 % / 1.7 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.323835 **Long.:** 90.547220 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were also problematic here due to shallow rock preventing full soil profile viewing. Also, flowing water can prevent redox features from forming due to oxygenated soils. Despite recent ATV disturbance, this area is considered to have new normal circumstances since the road was constructed many years ago.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A small drainageway flows through this wetland. The road and associated rutting does not appear to have altered this wetland or drainageway as significantly as in some areas of the site. The drainageway continues to flow across the road and this area appears to be natural prior to the road construction. Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 8-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 40' x 25') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | **= Total Cover** | | |
| **Sapling/Shrub Stratum** (Plot size: 40' x 25') | | | | |
| 1. Tilia americana | 2 | ☐ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 2 | **= Total Cover** | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Scirpus cyperinus | 30 | ☑ | 54.5% | OBL |
| 2. Rubus idaeus | 25 | ☑ | 45.5% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 55 | **= Total Cover** | | |
| **Woody Vine Stratum** (Plot size: 40' x 25') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | **= Total Cover** | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 30 | x 1 = | 30 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 25 | x 3 = | 75 | |
| FACU species | 2 | x 4 = | 8 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 57 | (A) | 113 | (B) |

Prevalence Index = B/A = 1.982

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 8-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-12 | 7.5YR | 3/1 | 60% | 7.5YR | 4/6 | 40% | C | M | Sandy Loam | |
| 12+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils : [3]**

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☑ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 12

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

Despite shallow rock, soils are evidently hydric and based on hydric vegetation, presence of several wetland hydrology indicators and topographic position which supported this determination.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Up 8-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range: S.** 6 **T.** T44N **R.** R1W

**Landform (hillslope, terrace, etc.):** Footslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.323836 **Long.:** 90.547288 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressoinal areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were problematic in this location due to shallow rock preventing full soil profile viewing. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas were considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 8-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 30 | ☑ | 75.0% | FACU |
| 2. Tilia americana | 10 | ☑ | 25.0% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 40 | | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Ostrya virginiana | 10 | ☑ | 66.7% | FACU |
| 2. Acer saccharum | 5 | ☑ | 33.3% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 15 | | = Total Cover | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Maianthemum canadense | 40 | ☑ | 54.8% | FACU |
| 2. Acer saccharum | 15 | ☑ | 20.5% | FACU |
| 3. Tilia americana | 10 | ☐ | 13.7% | FACU |
| 4. Eurybia macrophylla | 5 | ☐ | 6.8% | UPL |
| 5. Viola pubescens | 3 | ☐ | 4.1% | FACU |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 73 | | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 123 | x 4 = | 492 | |
| UPL species | 5 | x 5 = | 25 | |
| Column Totals: | 128 | (A) | 517 | (B) |

Prevalence Index = B/A = 4.039

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 8-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-10 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Silt Loam | |
| 10-12 | 7.5YR | 4/4 | 100% | - | - | - | - | - | Silt Loam | |
| 12+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 12

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

Despite shallow rock, soils were evidently upland and topographic position, lack of hydrology indicators in a very wet season and upland vegetation support than this location is upland.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 9-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 6 **T.** T44N **R.** R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 3.0 % / 1.7 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.323911 **Long.:** 90.546836 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent ATV disturbance, this area is considered to have new normal circumstances because the road was constructed many years ago.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Flowing water is present but appears to be an upland drainage that feeds the wetland hydrology from upslope. Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 9-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 40' x 25' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | **= Total Cover** | | |
| **Sapling/Shrub Stratum** (Plot size: 40' x 25' ) | | | | |
| 1. Fraxinus nigra | 5 | ☑ | 100.0% | FACW |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 5 | **= Total Cover** | | |
| **Herb Stratum** (Plot size: 5' radius ) | | | | |
| 1. Scirpus cyperinus | 30 | ☑ | 35.3% | OBL |
| 2. Rubus idaeus | 30 | ☑ | 35.3% | FAC |
| 3. Osmunda claytoniana | 15 | ☐ | 17.6% | FAC |
| 4. Equisetum arvense | 10 | ☐ | 11.8% | FAC |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 85 | **= Total Cover** | | |
| **Woody Vine Stratum** (Plot size: 40' x 25' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | **= Total Cover** | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 30 | x 1 = | 30 | |
| FACW species | 5 | x 2 = | 10 | |
| FAC species | 55 | x 3 = | 165 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 90 | (A) | 205 | (B) |

Prevalence Index = B/A = 2.278

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 9-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR | 2.5/2 | - | - | - | - | - | - | Sandy Loam | |
| 7-10 | 7.5YR | 3/1 | - | - | - | - | - | - | Sandy Loam | |
| 10-20+ | 7.5YR | 3/1 | 85% | 7.5YR | 3/4 | 15% | C | M | Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils : [3]**

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 9-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.323931 **Long.:** 90.546787 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas were considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 9-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 75 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 75 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 30 | ☑ | 75.0% | FACU |
| 2. Ostrya virginiana | 10 | ☑ | 25.0% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 40 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Acer saccharum | 30 | ☑ | 42.9% | FACU |
| 2. Cardamine concatenata | 25 | ☑ | 35.7% | FACU |
| 3. Allium tricoccum | 10 | ☐ | 14.3% | FACU |
| 4. Uvularia sessilifolia | 5 | ☐ | 7.1% | FACU |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 70 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 185 | x 4 = | 740 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 185 | (A) | 740 | (B) |

Prevalence Index = B/A = 4.000

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 9-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-4 | 7.5YR | 2.5/2 | 100% | - | - | - | - | - | Silt Loam | |
| 4-20+ | 7.5YR | 3/4 | 100% | - | - | - | - | - | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Wet 10-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 3.0 % / 1.7 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.324113 **Long.:** 90.546360 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** | Yes ◉ No ○ |
| **Hydric Soil Present?** | Yes ◉ No ○ | | |
| **Wetland Hydrology Present?** | Yes ◉ No ○ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to poo in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent ATV traffic, the disturbed areas are considered to have new normal circumstances because the original construction of these roads occurred long ago and development of hydric soils began many years ago as well.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ○ No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ No ○ | Depth (inches): 0 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Several small upland drainages flow into and out of this wetland. The drainages were mostly dry at the time of the visit but the wetland area had pooled water in the lowest lying areas. Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 10-1

| Tree Stratum (Plot size: 20' x 180') | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15' x 60') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex crinita | 35 | ☑ | 41.2% | OBL |
| 2. Onoclea sensibilis | 15 | ☑ | 17.6% | FACW |
| 3. Impatiens capensis | 15 | ☑ | 17.6% | FACW |
| 4. Equisetum arvense | 10 | ☐ | 11.8% | FAC |
| 5. Rubus idaeus | 10 | ☐ | 11.8% | FAC |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 85 | | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 20' x 180') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 35 | x 1 = | 35 | |
| FACW species | 30 | x 2 = | 60 | |
| FAC species | 20 | x 3 = | 60 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 85 | (A) | 155 | (B) |

Prevalence Index = B/A = 1.824

**Hydrophytic Vegetation Indicators:**

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 10-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-3 | 7.5YR | 3/1 | 100% | - | - | - | - | - | Silt Loam | |
| 3-7 | 7.5YR | 3/1 | 80% | 7.5YR | 3/4 | 20% | C | M | Silt Loam | |
| 7-12 | 7.5YR | 2.5/1 | 100% | - | - | - | - | - | Silt Loam | |
| 12+ | 7.5YR | 4/4 | 100% | - | - | - | - | - | Sandy Loam | |
| | | | | | | | | | | |
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[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Up 10-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 6 **T.** T44N **R.** R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.324051 **Long.:** 90.546417 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 18 to 35% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

### Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions were much wetter than normal at the time of the visit based on the Palmer Drought Index and other available information. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural and mining roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads which now hold water and have developed hydric soils in many areas. Most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. The disturbed areas are considered to have new normal circumstances and the site was evaluated based on current conditions.

### Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 10-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 35 | ☑ | 70.0% | FACU |
| 2. Tilia americana | 15 | ☑ | 30.0% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 50 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Tilia americana | 20 | ☑ | 66.7% | FACU |
| 2. Betula alleghaniensis | 10 | ☑ | 33.3% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 30 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Maianthemum canadense | 25 | ☑ | 35.7% | FACU |
| 2. Cardamine concatenata | 20 | ☑ | 28.6% | FACU |
| 3. Acer saccharum | 15 | ☑ | 21.4% | FACU |
| 4. Taraxacum officinale | 10 | ☐ | 14.3% | FACU |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 70 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 14.3% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 140 | x 4 = | 560 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 150 (A) | | 590 (B) |

Prevalence Index = B/A = 3.933

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 10-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-4 | 7.5YR | 3/1 | 100% | - | - | - | - | - | silt | |
| 4-9 | 7.5YR | 3/2 | 100% | - | - | - | - | - | silt | |
| 9-20+ | 7.5YR | 3/4 | 100% | - | - | - | - | - | Silt Loam | |
| | | | | | | | | | | |
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[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 11-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range: S.** 6 **T.** T44N **R.** R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 3.0 % / 1.7 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.326336 **Long.:** 90.542942 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were also problematic due to shallow rock preventing full viewing of soil profile. Despite recent disturbance from ATV's, this area was considered to have new normal circumstances since the road was constructed many years ago and hydric conditions began to form long ago.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): | -3 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): | 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This wetland appears to be completely confined to the road. Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 11-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 20' x 180' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |
| **Sapling/Shrub Stratum** (Plot size: 15' x 60' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |
| **Herb Stratum** (Plot size: 5' radius ) | | | | |
| 1. Carex crinita | 30 | ☑ | 66.7% | OBL |
| 2. Impatiens capensis | 10 | ☑ | 22.2% | FACW |
| 3. Rubus idaeus | 5 | ☐ | 11.1% | FAC |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 45 | | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 20' x 180' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 30 | x 1 = | 30 | |
| FACW species | 10 | x 2 = | 20 | |
| FAC species | 5 | x 3 = | 15 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 45 (A) | | 65 | (B) |

Prevalence Index = B/A = 1.444

**Hydrophytic Vegetation Indicators:**

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 11-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-8 | 7.5YR | 3/2 | 75% | 7.5YR | 4/4 | 25% | C | M | Silt Loam | |
| 8+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 8

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

Despite shallow rock, soils were evidently hydric and hydric vegetation, presence of several wetland hydrology indicators and topographic position supported this determination.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Up 11-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 6 **T.** T44N **R.** R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.326315 **Long.:** 90.542872 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ | No ◉ | |
| **Hydric Soil Present?** | Yes ○ | No ◉ | **Is the Sampled Area within a Wetland?** Yes ○ No ◉ |
| **Wetland Hydrology Present?** | Yes ○ | No ◉ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions are wetter than normal based on the Palmer Drought Index and other available information. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. The disturbed areas are considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 11-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 50 | ☑ | 83.3% | FACU |
| 2. Tilia americana | 10 | ☐ | 16.7% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 60 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 10 | ☑ | 40.0% | FACU |
| 2. Fraxinus pennsylvanica | 10 | ☑ | 40.0% | FACW |
| 3. Ostrya virginiana | 5 | ☑ | 20.0% | FACU |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 25 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Erythronium americanum | 60 | ☑ | 52.2% | UPL |
| 2. Acer saccharum | 20 | ☐ | 17.4% | FACU |
| 3. Rubus idaeus | 10 | ☐ | 8.7% | FAC |
| 4. Tilia americana | 10 | ☐ | 8.7% | FACU |
| 5. Onoclea sensibilis | 5 | ☐ | 4.3% | FACW |
| 6. Cardamine concatenata | 5 | ☐ | 4.3% | FACU |
| 7. Acer rubrum | 5 | ☐ | 4.3% | FAC |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 115 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 15 | x 2 = | 30 |
| FAC species | 15 | x 3 = | 45 |
| FACU species | 110 | x 4 = | 440 |
| UPL species | 60 | x 5 = | 300 |
| Column Totals: | 200 (A) | | 815 (B) |

Prevalence Index = B/A = 4.075

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 11-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Silt Loam | |
| 7-9 | 7.5YR | 4/2 | 100% | - | - | - | - | - | Silt Loam | |
| 9-20+ | 7.5YR | 4/4 | 100% | - | - | - | - | - | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Wet 12-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** Road cut/footslope **Local relief (concave, convex, none):** concave **Slope:** 3.0 % / 1.7 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.326472 **Long.:** 90.542354 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent ATV disturbance, this area was considered to have new normal circumstances because the road was constructed many years ago and hydric conditions likely began to form at that time.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): -2 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This wetland appears to be completely confined to the road except for west end of the wetland where a stream flows through. Conditions are much wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 12-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 20' x 180' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |
| **Sapling/Shrub Stratum** (Plot size: 15' x 60' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |
| **Herb Stratum** (Plot size: 5' radius ) | | | | |
| 1. Carex crinita | 50 | ☑ | 50.0% | OBL |
| 2. Impatiens capensis | 20 | ☑ | 20.0% | FACW |
| 3. Rubus idaeus | 15 | ☐ | 15.0% | FAC |
| 4. Solidago gigantea | 10 | ☐ | 10.0% | FACW |
| 5. Onoclea sensibilis | 5 | ☐ | 5.0% | FACW |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 100 | | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 20' x 180' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 50 | x 1 = | 50 | |
| FACW species | 35 | x 2 = | 70 | |
| FAC species | 15 | x 3 = | 45 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 100 | (A) | 165 | (B) |

Prevalence Index = B/A = 1.650

**Hydrophytic Vegetation Indicators:**

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 12-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-10 | 7.5YR | 3/1 | 95% | 7.5YR | 4/3 | 5% | C | M | Silt Loam | |
| 10-20+ | 7.5YR | 3/4 | 100% | - | - | - | - | - | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 12-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.326461 **Long.:** 90.542406 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ | No ◉ | |
| **Hydric Soil Present?** | Yes ○ | No ◉ | **Is the Sampled Area within a Wetland?** Yes ○ No ◉ |
| **Wetland Hydrology Present?** | Yes ○ | No ◉ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available information. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. The disturbed areas are considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 12-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 40 | ☑ | 66.7% | FACU |
| 2. Ostrya virginiana | 20 | ☑ | 33.3% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 60 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 15 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 15 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Erythronium americanum | 30 | ☑ | 30.0% | UPL |
| 2. Acer saccharum | 20 | ☑ | 20.0% | FACU |
| 3. Rubus idaeus | 15 | ☑ | 15.0% | FAC |
| 4. Phegopteris connectilis | 15 | ☑ | 15.0% | FACU |
| 5. Osmunda claytoniana | 10 | ☐ | 10.0% | FAC |
| 6. Lonicera canadensis | 10 | ☐ | 10.0% | FACU |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 100 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 14.3% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 25 | x 3 = | 75 | |
| FACU species | 120 | x 4 = | 480 | |
| UPL species | 30 | x 5 = | 150 | |
| Column Totals: | 175 | (A) | 705 | (B) |

Prevalence Index = B/A = 4.029

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 12-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-10 | 7.5YR | 3/3 | 100% | - | - | - | - | - | Silt Loam | |
| 10-20+ | 7.5YR | 3/4 | 100% | - | - | - | - | - | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Wet 13-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 31 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 3.0 % / 1.7 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327259 **Long.:** 90.540028 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils are also problematic due to shallow rock that prevents full viewing of soil profile. Despite being significantly disturbed, this area is considered to have new normal circumstances and was evaluated as such.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): -2 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data. This wetland in confined to the roadway.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 13-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex crinita | 30 | ☑ | 46.2% | OBL |
| 2. Onoclea sensibilis | 15 | ☑ | 23.1% | FACW |
| 3. Impatiens capensis | 10 | ☐ | 15.4% | FACW |
| 4. Fragaria virginiana | 5 | ☐ | 7.7% | FACU |
| 5. Equisetum arvense | 5 | ☐ | 7.7% | FAC |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 65 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 30 | x 1 = | 30 | |
| FACW species | 25 | x 2 = | 50 | |
| FAC species | 5 | x 3 = | 15 | |
| FACU species | 5 | x 4 = | 20 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 65 (A) | | 115 | (B) |

Prevalence Index = B/A = 1.769

**Hydrophytic Vegetation Indicators:**

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 13-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-10 | 7.5YR | 4/3 | 70% | 7.5YR | 4/6 | 30% | C | M | Silt Loam | |
| 10+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 10

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

Despite shallow rock and high matrix soils, soils were assumed hydric based on topographic position, lack of hydrology indicators in a very wet season and upland vegetation supporting this determination.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 13-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 31 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327930 **Long.:** 90.540063 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available information. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 13-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 60 | ☑ | 85.7% | FACU |
| 2. Tilia americana | 10 | ☐ | 14.3% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 70 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 30 | ☑ | 75.0% | FACU |
| 2. Quercus rubra | 5 | ☐ | 12.5% | FACU |
| 3. Tilia americana | 5 | ☐ | 12.5% | FACU |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 40 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Erythronium americanum | 50 | ☑ | 66.7% | UPL |
| 2. Gymnocarpium dryopteris | 15 | ☑ | 20.0% | FACU |
| 3. Eurybia macrophylla | 5 | ☐ | 6.7% | UPL |
| 4. Osmunda claytoniana | 5 | ☐ | 6.7% | FAC |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 75 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 125 | x 4 = | 500 |
| UPL species | 55 | x 5 = | 275 |
| Column Totals: | 185 (A) | | 790 (B) |

Prevalence Index = B/A = 4.270

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 13-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-6 | 7.5YR | 2.5/2 | 100% | - | - | - | - | - | Silt | |
| 6-9 | 7.5YR | 4/3 | 100% | - | - | - | - | - | silt | |
| 9-20+ | 7.5YR | 4/4 | 100% | - | - | - | - | - | Silt | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

# WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Wet 14-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 31 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327811 **Long.:** 90.537572 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are also disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent disturbance from ATVs, this area is considered to have new normal circumstances because the roadway was constructed many years ago and hydric conditions likely began to form at that time.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | | |
|---|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): | -2 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): | 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data. Several small upland drainages flow into and out of this wetland, most of them dry at the time of the site visit.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 14-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 20' x 180') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' x 60') | | | | |
| 1. Fraxinus nigra | 10 | ☑ | 100.0% | FACW |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 10 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex crinita | 40 | ☑ | 72.7% | OBL |
| 2. Impatiens capensis | 15 | ☑ | 27.3% | FACW |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 55 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 20' x 180') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 40 | x 1 = | 40 | |
| FACW species | 25 | x 2 = | 50 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 65 | (A) | 90 | (B) |

Prevalence Index = B/A = 1.385

**Hydrophytic Vegetation Indicators:**

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 14-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-2 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Silt Loam | |
| 2-20+ | 7.5YR | 3/2 | 85% | 7.5YR | 4/6 | 15% | C | M | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 30-May-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 14-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 31 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327847 **Long.:** 90.537550 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions are wetter than normal based on the Palmer Drought Index and other available information. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 14-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 65 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 65 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 30 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 30 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Erythronium americanum | 60 | ☑ | 60.0% | UPL |
| 2. Acer saccharum | 25 | ☑ | 25.0% | FACU |
| 3. Caulophyllum thalictroides | 10 | ☐ | 10.0% | UPL |
| 4. Cardamine concatenata | 5 | ☐ | 5.0% | FACU |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 100 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 125 | x 4 = | 500 | |
| UPL species | 70 | x 5 = | 350 | |
| Column Totals: | 195 | (A) | 850 | (B) |

Prevalence Index = B/A = 4.359

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 14-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 0-6 | 7.5YR | 3/2 | 100% | - | - | - | - | Silt Loam | |
| 6-20+ | 7.5YR | 3/4 | 100% | - | - | - | - | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 15-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 31 **T.** T45N **R.** R1W

**Landform (hillslope, terrace, etc.):** Road cut/toeslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327830 **Long.:** 90.536845 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent ATV disturbance, this area is considered to have new normal circumstances because the roadway was constructed many years ago and hydric conditions likely began to develop at that time.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): -8 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Several small upland drainages flow into and out of this wetland which were dry at the time of the visit. Conditions are much wetter than normal for this time of year based on the Palmer Drought Index and other avalable climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 15-1

| **Tree Stratum** (Plot size: 80' x 40') | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex crinita | 50 | ☑ | 55.6% | OBL |
| 2. Impatiens capensis | 15 | ☐ | 16.7% | FACW |
| 3. Onoclea sensibilis | 15 | ☐ | 16.7% | FACW |
| 4. Solidago gigantea | 10 | ☐ | 11.1% | FACW |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 90 | | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 80' x 40') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| | Total % Cover of: | | Multiply by: | |
|---|---|---|---|---|
| OBL species | 50 | x 1 = | 50 | |
| FACW species | 40 | x 2 = | 80 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 90 | (A) | 130 | (B) |

Prevalence Index = B/A = 1.444

**Hydrophytic Vegetation Indicators:**

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 15-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-8 | 7.5YR | 2.5/2 | 85% | 7.5YR | 4/4 | 15% | C | M | Sandy Loam | |
| 8-20+ | 7.5YR | 3/3 | 100% | - | - | - | - | - | Loamy Sand | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 15-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 31 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327801 **Long.:** 90.536908 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available information. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 15-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 50 | ☑ | 71.4% | FACU |
| 2. Acer rubrum | 10 | ☐ | 14.3% | FAC |
| 3. Tilia americana | 10 | ☐ | 14.3% | FACU |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 70 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 15 | ☑ | 42.9% | FACU |
| 2. Tilia americana | 10 | ☑ | 28.6% | FACU |
| 3. Fraxinus pennsylvanica | 5 | ☐ | 14.3% | FACW |
| 4. Ostrya virginiana | 5 | ☐ | 14.3% | FACU |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 35 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Erythronium americanum | 50 | ☑ | 50.0% | UPL |
| 2. Acer saccharum | 30 | ☑ | 30.0% | FACU |
| 3. Malanthemum canadense | 10 | ☐ | 10.0% | FACU |
| 4. Caulophyllum thalictroides | 10 | ☐ | 10.0% | UPL |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 100 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 5 | x 2 = | 10 | |
| FAC species | 10 | x 3 = | 30 | |
| FACU species | 130 | x 4 = | 520 | |
| UPL species | 60 | x 5 = | 300 | |
| Column Totals: | 205 (A) | | 860 | (B) |

Prevalence Index = B/A = 4.195

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 15-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR | 3/1 | 100% | - | - | - | - | - | Sandy Loam | |
| 7-20+ | 7.5YR | 3/3 | 100% | - | - | - | - | - | Sandy Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 16-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 31 **T.** T45N **R.** R1W

**Landform (hillslope, terrace, etc.):** Road cut/toeslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327560 **Long.:** 90.534201 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** | Yes ◉ No ○ |
| **Hydric Soil Present?** | Yes ◉ No ○ | | |
| **Wetland Hydrology Present?** | Yes ◉ No ○ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils are also problematic due to shallow rock preventing full viewing of the soil profile. Despite this area being recently disturbed by ATVs, the roadway is considered to have new normal circumstances because it was constructed many years ago and hydric condtiions likely began to form at that time.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): -8 | **Wetland Hydrology Present?** Yes ◉ No ○ |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A small upland drainage enters this wetland and a small upland drainage leaves this wetland but both were dry at the time of the visit. Conditions are much wetter than normal for this time of year based on the Palmer Drought Index and other available information.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 16-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex crinita | 50 | ☑ | 83.3% | OBL |
| 2. Impatiens capensis | 5 | ☐ | 8.3% | FACW |
| 3. Equisetum arvense | 5 | ☐ | 8.3% | FAC |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 60 | | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 50 | x 1 = | 50 | |
| FACW species | 5 | x 2 = | 10 | |
| FAC species | 5 | x 3 = | 15 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 60 (A) | | 75 | (B) |

Prevalence Index = B/A = 1.250

**Hydrophytic Vegetation Indicators:**

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 16-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR | 3/1 | 85% | 7.5YR | 4/4 | 15% | C | M | Loam | |
| 7+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils : [3]**

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☑ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 7

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

Despite shallow rock, soils were evidently hydric and hydric vegetation, presence of several wetland hydrology indicators and topographic position supported this determination.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Up 16-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 31 **T.** T45N **R.** R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327542 **Long.:** 90.534081 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic information. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumsances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 16-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 70 | ☑ | 77.8% | FACU |
| 2. Betula alleghaniensis | 10 | ☐ | 11.1% | FAC |
| 3. Ostrya virginiana | 10 | ☐ | 11.1% | FACU |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 90 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 30 | ☑ | 75.0% | FACU |
| 2. Ostrya virginiana | 10 | ☑ | 25.0% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 40 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Erythronium americanum | 60 | ☑ | 60.0% | UPL |
| 2. Cardamine concatenata | 20 | ☑ | 20.0% | FACU |
| 3. Acer saccharum | 10 | ☐ | 10.0% | FACU |
| 4. Fraxinus pennsylvanica | 10 | ☐ | 10.0% | FACW |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 100 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 10 | x 2 = | 20 | |
| FAC species | 10 | x 3 = | 30 | |
| FACU species | 150 | x 4 = | 600 | |
| UPL species | 60 | x 5 = | 300 | |
| Column Totals: | 230 (A) | | 950 | (B) |

Prevalence Index = B/A = 4.130

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 16-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Loam | |
| 7-20+ | 7.5YR | 3/3 | 100% | - | - | - | - | - | Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

# WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 17-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 31 **T.** T45N **R.** R1W

**Landform (hillslope, terrace, etc.):** Road cut/toeslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327685 **Long.:** 90.532505 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** PEM1/PFO1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ○ | No ◉ | **Is the Sampled Area within a Wetland?** Yes ○ No ◉ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are also problematic due to shallow rock preventing full viewing of the soil profile. The roadway area is disturbed be recent ATV traffic but historic road work created most of the disturbance so the area is considered to have new normal circumstances. This area appears to be a natural forested wetland with a drainageway leading north from it where a culvert was installed many years ago.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This area is a natural wetland that flows across the road with PFO1 wetland on the south side and a drainageway on the north side. Wetland was classified as a PFO1 outside of roadway but PEM1 within roadway. Conditions are wetter than normal based on the Palmer Drought Index and other available information.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 17-1

| **Tree Stratum** (Plot size: 70 ' x 20' ) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Fraxinus nigra | 40 | ☑ | 66.7% | FACW |
| 2. Acer saccharum | 20 | ☑ | 33.3% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 60 | | **= Total Cover** | |
| **Sapling/Shrub Stratum** (Plot size: 70' x 20' ) | | | | |
| 1. Fraxinus nigra | 10 | ☑ | 50.0% | FACW |
| 2. Betula alleghaniensis | 5 | ☑ | 25.0% | FAC |
| 3. Quercus alba | 5 | ☑ | 25.0% | FACU |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 20 | | **= Total Cover** | |
| **Herb Stratum** (Plot size: 5' radius ) | | | | |
| 1. Caltha palustris | 25 | ☑ | 45.5% | OBL |
| 2. Carex cristatella | 15 | ☑ | 27.3% | FACW |
| 3. Impatiens capensis | 15 | ☑ | 27.3% | FACW |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 55 | | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 70' x 20' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 25 | x 1 = | 25 | |
| FACW species | 80 | x 2 = | 160 | |
| FAC species | 5 | x 3 = | 15 | |
| FACU species | 25 | x 4 = | 100 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 135 | (A) | 300 | (B) |

Prevalence Index = B/A = 2.222

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 17-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-4 | 7.5YR | 3/1 | - | - | - | - | - | - | Loam | |
| 4+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☑ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 4

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

Despite shallow rock and lack of redox, soils met TF12 Hydric Soils Indicator and vegetation and hydrology also supported this determination as wetland.

# WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 17-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 31 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** Footslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327670 **Long.:** 90.532451 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils are naturally problematic in this location due to shallow rock preventing full soil profile viewing. However, despite the problematic soils and disturbed conditions, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumtances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

Sampling Point: Up 17-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 60 | ☑ | 85.7% | FACU |
| 2. Quercus rubra | 10 | ☐ | 14.3% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 70 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Fraxinus pennsylvanica | 5 | ☑ | 50.0% | FACW |
| 2. Quercus rubra | 5 | ☑ | 50.0% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 10 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Erythronium americanum | 50 | ☑ | 47.6% | UPL |
| 2. Carex crinita | 15 | ☑ | 14.3% | OBL |
| 3. Osmunda claytoniana | 15 | ☑ | 14.3% | FAC |
| 4. Hieracium aurantiacum | 10 | ☐ | 9.5% | UPL |
| 5. Tilia americana | 10 | ☐ | 9.5% | FACU |
| 6. Dryopteris intermedia | 5 | ☐ | 4.8% | FAC |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 105 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 15 | x 1 = | 15 | |
| FACW species | 5 | x 2 = | 10 | |
| FAC species | 20 | x 3 = | 60 | |
| FACU species | 85 | x 4 = | 340 | |
| UPL species | 60 | x 5 = | 300 | |
| Column Totals: | 185 | (A) | 725 | (B) |

Prevalence Index = B/A = 3.919

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

Tied for dominants but does not meet FAC-neutral test even if non dominants are considered

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 17-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 0-6 | 7.5YR | 2.5/2 | 100% | - | - | - | - | Loam | |
| 6-8 | 7.5YR | 3/3 | 100% | - | - | - | - | Loam | |
| 8+ | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 8

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

Despite shallow rock, soils were evidently upland and topographic position, lack of hydrology indicators in a very wet season and upland vegetation support than this location is upland.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 18-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 31 **T.** T45N **R.** R1W

**Landform (hillslope, terrace, etc.):** Road cut/toeslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327913 **Long.:** 90.531405 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** | Yes ◉ No ○ |
| **Hydric Soil Present?** | Yes ◉ No ○ | | |
| **Wetland Hydrology Present?** | Yes ◉ No ○ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are also problematic due to shallow rock preventing full viewing of the soil profile as well as sandy soils that lacked redox features but hydric soils were assumed based on all other indicators. Despite recent ATV disturbance, the roadway area and adjacent areas are considered to have new normal circumanstances since the road was constructed many years ago.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ◉ No ○ | Depth (inches): | 3 |
| Water Table Present? | Yes ◉ No ○ | Depth (inches): | 0 |
| Saturation Present? (includes capillary fringe) | Yes ◉ No ○ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This area appears to be part of a larger wetland that goes beyond the road area. Conditions are wetter than normal based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 18-1

| Tree Stratum (Plot size: 65' x 40') | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Fraxinus nigra | 30 | ☑ | 75.0% | FACW |
| 2. Betula alleghaniensis | 10 | ☑ | 25.0% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 40 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 2 | ☐ | 50.0% | FACU |
| 2. Betula alleghaniensis | 2 | ☐ | 50.0% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 4 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex crinita | 30 | ☑ | 25.0% | OBL |
| 2. Myosotis scorpioides | 25 | ☑ | 20.8% | OBL |
| 3. Schoenoplectus tabernaemontani | 20 | ☑ | 16.7% | OBL |
| 4. Equisetum arvense | 15 | ☐ | 12.5% | FAC |
| 5. Carex cristatella | 10 | ☐ | 8.3% | FACW |
| 6. Impatiens capensis | 5 | ☐ | 4.2% | FACW |
| 7. Onoclea sensibilis | 5 | ☐ | 4.2% | FACW |
| 8. Rumex obtusifolius | 5 | ☐ | 4.2% | FAC |
| 9. Barbarea vulgaris | 5 | ☐ | 4.2% | FAC |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 120 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 65' x 40') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 75 | x 1 = | 75 |
| FACW species | 50 | x 2 = | 100 |
| FAC species | 37 | x 3 = | 111 |
| FACU species | 2 | x 4 = | 8 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 164 (A) | | 294 (B) |

Prevalence Index = B/A = 1.793

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 18-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR 3/2 | - | - | - | - | - | Sandy Loam | |
| 7-10 | 7.5YR 3/3 | - | - | - | - | - | Loamy Sand | |
| 10+ | - - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 10

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

Despite shallow rock and lack of redox features, soils were assumed to be hydric based on hydric vegetation, presence of several wetland hydrology indicators and topographic position which supported this determination.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 18-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 31 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.327862 **Long.:** 90.531430 **Datum:** WGS84

**Soil Map Unit Name:** Gogebic Silt Loam, 6 to 18% slopes, very stony, rocky **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other climatic data. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were also problematic in this location due to shallow rock preventing full soil profile viewing. However, despite the problematic soils and disturbed roadway, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumstances and were evaluated as such.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 18-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 20 | ☑ | 36.4% | FACU |
| 2. Quercus rubra | 20 | ☑ | 36.4% | FACU |
| 3. Ostrya virginiana | 15 | ☑ | 27.3% | FACU |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 55 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Ostrya virginiana | 20 | ☑ | 57.1% | FACU |
| 2. Acer saccharum | 15 | ☑ | 42.9% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 35 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Gymnocarpium dryopteris | 40 | ☑ | 57.1% | FACU |
| 2. Acer saccharum | 15 | ☑ | 21.4% | FACU |
| 3. Allium tricoccum | 10 | ☐ | 14.3% | FACU |
| 4. Eurybia macrophylla | 5 | ☐ | 7.1% | UPL |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 70 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 155 | x 4 = | 620 | |
| UPL species | 5 | x 5 = | 25 | |
| Column Totals: | 160 | (A) | 645 | (B) |

Prevalence Index = B/A = 4.031

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

Tied for dominants but does not meet FAC-neutral test even if non dominants are considered

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 18-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Loam | |
| 7-9 | 7.5YR | 3/3 | 100% | - | - | - | - | - | Loam | |
| 9+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils : [3]**

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 9

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

Despite shallow rock, soils were evidently upland and topographic position, lack of hydrology indicators in a very wet season and upland vegetation support than this location is upland.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 19-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range: S.** 31 **T.** T45N **R.** R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.328372 **Long.:** 90.529978 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

### Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** | Yes ◉ No ○ |
| **Hydric Soil Present?** | Yes ◉ No ○ | | |
| **Wetland Hydrology Present?** | Yes ◉ No ○ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent ATV disturbance this area is considered to have new normal circumstances because the road was constructed many years ago and hydric conditions likely began to develop at that time.

### Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A small drainageway flows out of this wetland on the west end and was dry at the time of the visit but it appears water enters the road from a seep in the road cut.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 19-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex crinita | 50 | ☑ | 66.7% | OBL |
| 2. Equisetum arvense | 10 | ☐ | 13.3% | FAC |
| 3. Rumex obtusifolius | 10 | ☐ | 13.3% | FAC |
| 4. Impatiens capensis | 5 | ☐ | 6.7% | FACW |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 75 | | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 50 | x 1 = | 50 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 20 | x 3 = | 60 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 75 (A) | | 120 (B) |

Prevalence Index = B/A = 1.600

**Hydrophytic Vegetation Indicators:**

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 19-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-6 | 7.5YR | 2.5/1 | 95% | 7.5YR | 4/6 | 5% | C | M | Sandy Loam | |
| | | | 50% | 7.5YR | 4/2 | 45% | D | M | | |
| 6-20+ | 7.5YR | 4/3 | 100% | - | - | - | - | - | Loamy Sand | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☑ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

# WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 19-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 31 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.328360 **Long.:** 90.529927 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions are wetter than normal based on the Palmer Drought Index and other available climatic data. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were problematic in this location due to shallow rock preventing full soil profile viewing. However, despite the problematic soils and disturbed roadway, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 19-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 70 | ☑ | 93.3% | FACU |
| 2. Fraxinus pennsylvanica | 5 | ☐ | 6.7% | FACW |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 75 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 50 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 50 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Allium tricoccum | 30 | ☑ | 33.3% | FACU |
| 2. Acer saccharum | 20 | ☑ | 22.2% | FACU |
| 3. Cardamine concatenata | 15 | ☐ | 16.7% | FACU |
| 4. Maianthemum canadense | 15 | ☐ | 16.7% | FACU |
| 5. Tilia americana | 10 | ☐ | 11.1% | FACU |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 90 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 5 | x 2 = | 10 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 210 | x 4 = | 840 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 215 | (A) | 850 | (B) |

Prevalence Index = B/A = 3.953

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

Tied for dominants but does not meet FAC-neutral test even if non dominants are considered

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 19-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-5 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Loam | |
| 5-6 | 5YR | 3/3 | 100% | - | - | - | - | - | Loam | |
| 6+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 6

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

Despite shallow rock, soils were evidently upland and topographic position, lack of hydrology indicators in a very wet season and upland vegetation support than this location is upland.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 20-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 31 **T.** T45N **R.** R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.328494 **Long.:** 90.529484 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** | Yes ◉ No ○ |
| **Hydric Soil Present?** | Yes ◉ No ○ | | |
| **Wetland Hydrology Present?** | Yes ◉ No ○ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent ATV disturbance, this area is considered to have new normal circumstances because the road was constructed many years ago and hydric conditions likely began to form at that time.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A small drainageway flows out of this wetland and was dry at the time of the visit but it appears water enters the road from a seep in the road cut.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 20-1

| Tree Stratum (Plot size: 40' x 25') | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 40' x 25') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex crinita | 30 | ☑ | 50.0% | OBL |
| 2. Impatiens capensis | 15 | ☑ | 25.0% | FACW |
| 3. Mentha arvensis | 10 | ☐ | 16.7% | FACW |
| 4. Rumex obtusifolius | 5 | ☐ | 8.3% | FAC |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 60 | | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 40' x 25') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 30 | x 1 = | 30 | |
| FACW species | 25 | x 2 = | 50 | |
| FAC species | 5 | x 3 = | 15 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 60 | (A) | 95 | (B) |

Prevalence Index = B/A = 1.583

**Hydrophytic Vegetation Indicators:**

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 20-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-6 | 7.5YR | 3/1 | 90% | 7.5YR | 3/4 | 10% | C | M | Silt Loam | |
| 6-20+ | 7.5YR | 3/3 | 100% | - | - | - | - | - | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 20-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 31 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.328490 **Long.:** 90.529430 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and othe available climatic data. Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils were also problematic in in this location due to shallow rock preventing full soil profile viewing. Despite the problematic soils and disturbed roadway, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 20-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 70 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 70 | = Total Cover | | |

| Sapling/Shrub Stratum (Plot size: 15' radius) | | | | |
|---|---|---|---|---|
| 1. Acer saccharum | 40 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 40 | = Total Cover | | |

| Herb Stratum (Plot size: 5' radius) | | | | |
|---|---|---|---|---|
| 1. Allium tricoccum | 50 | ☑ | 71.4% | FACU |
| 2. Acer saccharum | 15 | ☑ | 21.4% | FACU |
| 3. Cardamine concatenata | 5 | ☐ | 7.1% | FACU |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 70 | = Total Cover | | |

| Woody Vine Stratum (Plot size: 30' radius) | | | | |
|---|---|---|---|---|
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 180 | x 4 = | 720 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 180 | (A) | 720 | (B) |

Prevalence Index = B/A = 4.000

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

Tied for dominants but does not meet FAC-neutral test even if non dominants are considered

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 20-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-9 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Silt Loam | |
| 9-20+ | 7.5YR | 3/3 | 100% | - | - | - | - | - | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Wet 21-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 32 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.328528 **Long.:** 90.528618 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** | Yes ◉ No ○ |
| **Hydric Soil Present?** | Yes ◉ No ○ | | |
| **Wetland Hydrology Present?** | Yes ◉ No ○ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent ATV disturbance, this area is considered to have new normal circumstances because the road was constructed many years ago and hydric conditions likely began to develop at that time.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A small drainageway flows into and out of this wetland. Conditions are much wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 21-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 20' x 180' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' x 60' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius ) | | | | |
| 1. Equisetum arvense | 20 | ☑ | 44.4% | FAC |
| 2. Carex crinita | 15 | ☑ | 33.3% | OBL |
| 3. Barbarea vulgaris | 5 | ☐ | 11.1% | FAC |
| 4. Matteuccia struthiopteris | 5 | ☐ | 11.1% | FAC |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 45 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 20' x 180' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 15 | x 1 = | 15 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 30 | x 3 = | 90 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 45 (A) | | 105 | (B) |

Prevalence Index = B/A = 2.333

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 21-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-8 | 7.5YR | 3/1 | 90% | 7.5YR | 4/4 | 10% | C | M | Silt Loam | |
| 8-20+ | 7.5YR | 3/2 | 80% | 7.5YR | 4/4 | 20% | C | M | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

# WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Up 21-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 32 **T.** T45N **R.** R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.328510 **Long.:** 90.528546 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

Sampling Point: Up 21-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 80 | ☑ | 84.2% | FACU |
| 2. Tilia americana | 10 | ☐ | 10.5% | FACU |
| 3. Ostrya virginiana | 5 | ☐ | 5.3% | FACU |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 95 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 40 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 40 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Allium tricoccum | 25 | ☑ | 41.7% | FACU |
| 2. Acer saccharum | 25 | ☑ | 41.7% | FACU |
| 3. Dryopteris intermedia | 5 | ☐ | 8.3% | FAC |
| 4. Uvularia sessilifolia | 5 | ☐ | 8.3% | FACU |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 60 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 190 | x 4 = | 760 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 195 (A) | | 775 (B) |

Prevalence Index = B/A = 3.974

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

Tied for dominants but does not meet FAC-neutral test even if non dominants are considered

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 21-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-7 | 7.5YR | 2.5/3 | 100% | - | - | - | - | - | Loam | |
| 7-20+ | 7.5YR | 3/4 | 100% | - | - | - | - | - | Sandy Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 22-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range: S.** 32 **T.** T45N **R.** R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.328364 **Long.:** 90.524714 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** | Yes ◉ No ○ |
| **Hydric Soil Present?** | Yes ◉ No ○ | | |
| **Wetland Hydrology Present?** | Yes ◉ No ○ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to poo in tire ruts and compacted depressional areas along the roads. Soils are also problematic due to shallow rock that prevents full viewing of soil profile. Despite recent ATV disturbance, this area is considered to have new normal circumstances because the road was constructed many years ago.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A small drainagewayl flows into this wetland but the water seems to pool in the roadway and it was not evident if water sheet flows out of the roadway. This area appears to naturally be wetland based primarily on muck soils and hydrology.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 22-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 55' x 30' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | **= Total Cover** | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius ) | | | | |
| 1. Acer saccharum | 10 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 10 | **= Total Cover** | | |
| **Herb Stratum** (Plot size: 5' radius ) | | | | |
| 1. Carex crinita | 40 | ☑ | 61.5% | OBL |
| 2. Rumex altissimus | 15 | ☑ | 23.1% | FACW |
| 3. Fraxinus nigra | 5 | ☐ | 7.7% | FACW |
| 4. Rubus idaeus | 5 | ☐ | 7.7% | FAC |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 65 | **= Total Cover** | | |
| **Woody Vine Stratum** (Plot size: 55' x 30' ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | **= Total Cover** | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 40 | x 1 = | 40 | |
| FACW species | 20 | x 2 = | 40 | |
| FAC species | 5 | x 3 = | 15 | |
| FACU species | 10 | x 4 = | 40 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 75 (A) | | 135 | (B) |

Prevalence Index = B/A = 1.800

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 22-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | N 2/0 | 100% | - | - | - | - | Muck | |
| 5+ | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- [x] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [ ] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Sandy Muck Mineral (S1)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) (LRR R, MLRA 149B)
- [ ] Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- [ ] Thin Dark Surface (S9) (LRR R, MLRA 149B)
- [ ] Loamy Mucky Mineral (F1) LRR K, L)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- [ ] 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- [ ] Coast Prairie Redox (A16) (LRR K, L, R)
- [ ] 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- [ ] Dark Surface (S7) (LRR K, L, M)
- [ ] Polyvalue Below Surface (S8) (LRR K, L)
- [ ] Thin Dark Surface (S9) (LRR K, L)
- [ ] Iron-Manganese Masses (F12) (LRR K, L, R)
- [ ] Piedmont Floodplain Soils (F19) (MLRA 149B)
- [ ] Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- [ ] Red Parent Material (F21)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 5

**Hydric Soil Present?** Yes (●) No ( )

Remarks:

Despite shallow rock, soils were assumed to be hydric based on hydric vegetation, presence of several wetland hydrology indicators and topographic position which supported this determination.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 22-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 32 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.328368 **Long.:** 90.524642 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas were considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ○ No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 22-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 60 | ☑ | 75.0% | FACU |
| 2. Tilia americana | 20 | ☑ | 25.0% | FACU |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 80 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 50 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 50 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Acer saccharum | 60 | ☑ | 44.4% | FACU |
| 2. Erythronium americanum | 35 | ☑ | 25.9% | UPL |
| 3. Cardamine concatenata | 30 | ☑ | 22.2% | FACU |
| 4. Caulophyllum thalictroides | 10 | ☐ | 7.4% | UPL |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 135 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 0 | x 3 = | 0 | |
| FACU species | 220 | x 4 = | 880 | |
| UPL species | 45 | x 5 = | 225 | |
| Column Totals: | 265 | (A) | 1105 | (B) |

Prevalence Index = B/A = 4.170

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

Tied for dominants but does not meet FAC-neutral test even if non dominants are considered

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 22-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 0-11 | 7.5YR | 3/2 | 100% | - | - | - | - | Loam | |
| 11-20+ | 7.5YR | 3/3 | 100% | - | - | - | - | Sandy Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 5 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** **Wet 23-1**

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** **S.** 6 **T.** T44N **R.** R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.324340 **Long.:** 90.535859 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils are also problematic due to shallow rock that prevents full viewing of soil profile. Despite recent ATV disturbance, this area is considered to have new normal circumstances because the roadway was constructed many years ago.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☑ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 | |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | **Wetland Hydrology Present?** Yes ◉ No ○ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This wetland appears to be isolated but the west end of this wetland was not delineated since no access was required beyond this point. Conditions are much wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 23-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 40' x 90') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex lacustris | 50 | ☑ | 62.5% | OBL |
| 2. Acer saccharum | 10 | ☐ | 12.5% | FACU |
| 3. Impatiens capensis | 5 | ☐ | 6.3% | FACW |
| 4. Rumex altissimus | 5 | ☐ | 6.3% | FACW |
| 5. Osmunda claytoniana | 5 | ☐ | 6.3% | FAC |
| 6. Onoclea sensibilis | 5 | ☐ | 6.3% | FACW |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 80 | | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 40' x 90') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 50 | x 1 = | 50 | |
| FACW species | 15 | x 2 = | 30 | |
| FAC species | 5 | x 3 = | 15 | |
| FACU species | 10 | x 4 = | 40 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 80 | (A) | 135 | (B) |

Prevalence Index = B/A = 1.688

**Hydrophytic Vegetation Indicators:**

- ☑ **Rapid Test for Hydrophytic Vegetation**
- ☑ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 23-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-4 | 7.5YR | 3/2 | 80% | 7.5YR | 3/4 | 20% | C | M | Silt Loam | |
| 4+ | - | - | - | - | - | - | - | - | Rock | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: Rock

Depth (inches): 4

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

Despite shallow rock, soils were assumed to be hydric based on hydric vegetation, presence of several wetland hydrology indicators and topographic position which supported this determination.

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 5 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 23-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.324289 **Long.:** 90.535748 **Datum:**

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ | No ◉ | |
| **Hydric Soil Present?** | Yes ○ | No ◉ | **Is the Sampled Area within a Wetland?** Yes ○ No ◉ |
| **Wetland Hydrology Present?** | Yes ○ | No ◉ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, most upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 23-1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. Acer saccharum | 50 | ☑ | 71.4% | FACU |
| 2. Betula alleghaniensis | 10 | ☐ | 14.3% | FAC |
| 3. Fraxinus pennsylvanica | 10 | ☐ | 14.3% | FACW |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 70 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 50 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 50 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Acer saccharum | 50 | ☑ | 47.6% | FACU |
| 2. Erythronium americanum | 25 | ☑ | 23.8% | UPL |
| 3. Rubus idaeus | 15 | ☐ | 14.3% | FAC |
| 4. Cardamine concatenata | 10 | ☐ | 9.5% | FACU |
| 5. Caulophyllum thalictroides | 5 | ☐ | 4.8% | UPL |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 105 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 10 | x 2 = | 20 |
| FAC species | 25 | x 3 = | 75 |
| FACU species | 160 | x 4 = | 640 |
| UPL species | 30 | x 5 = | 150 |
| Column Totals: | 225 (A) | | 885 (B) |

Prevalence Index = B/A = 3.933

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

Tied for dominants but does not meet FAC-neutral test even if non dominants are considered

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 23-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-4 | 7.5YR | 3/2 | 100% | - | - | - | - | - | Loam | |
| 4-20+ | 7.5YR | 3/4 | 100% | - | - | - | - | - | Silt Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 5 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Wet 24-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.32429 **Long.:** 90.53500 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** PEM1

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ◉ | No ○ | |
| **Hydric Soil Present?** | Yes ◉ | No ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| **Wetland Hydrology Present?** | Yes ◉ | No ○ | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent ATV disturbance, this area is considered to have new normal circumstances because the road was constructed many years ago.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): -5 | **Wetland Hydrology Present?** Yes ◉ No ○ |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 | |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This wetland appears to be isolated but the west end of this wetland was not delineated since no access is required beyond this point. Conditions are much wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Wet 24-1

| **Tree Stratum** (Plot size: 60' x 20') | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |
| **Sapling/Shrub Stratum** (Plot size: 15' x 60') | | | | |
| 1. Acer saccharum | 10 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 10 | | **= Total Cover** | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Carex lacustris | 60 | ☑ | 57.1% | OBL |
| 2. Matteuccia struthiopteris | 20 | ☐ | 19.0% | FAC |
| 3. Onoclea sensibilis | 10 | ☐ | 9.5% | FACW |
| 4. Impatiens capensis | 10 | ☐ | 9.5% | FACW |
| 5. Equisetum arvense | 5 | ☐ | 4.8% | FAC |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 105 | | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 60' x 20') | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | **= Total Cover** | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 60 | x 1 = | 60 | |
| FACW species | 20 | x 2 = | 40 | |
| FAC species | 25 | x 3 = | 75 | |
| FACU species | 10 | x 4 = | 40 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 115 | (A) | 215 | (B) |

Prevalence Index = B/A = 1.870

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☑ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☑ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

**Remarks: (Include photo numbers here or on a separate sheet.)**

Plot sizes were altered to fit road area being evaluated.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Wet 24-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-6 | 7.5YR | 3/2 | 85% | 7.5YR | 4/4 | 15% | C | M | Silt Loam | |
| 6-20+ | 7.5YR | 4/3 | 100% | - | - | - | - | - | silt | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

# WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 5 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** Up 24-1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 6 T. T44N R. R1W

**Landform (hillslope, terrace, etc.):** backslope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.32425 **Long.:** 90.53519 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Hydric Soil Present?** Yes ○ No ◉

**Wetland Hydrology Present?** Yes ○ No ◉

**Is the Sampled Area within a Wetland?** Yes ○ No ◉

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed within the roadways and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite the roadway being disturbed, the upland sample points were conducted on the edges of the road at undisturbed reference sites and are much more representative of the original site conditions. Disturbed areas are considered to have new normal circumstances.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Conditions are wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** Up 24-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Acer saccharum | 60 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 60 | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. Acer saccharum | 50 | ☑ | 100.0% | FACU |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 50 | = Total Cover | | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Cardamine concatenata | 50 | ☑ | 41.7% | FACU |
| 2. Matteuccia struthiopteris | 35 | ☑ | 29.2% | FAC |
| 3. Acer saccharum | 20 | ☐ | 16.7% | FACU |
| 4. Erythronium americanum | 15 | ☐ | 12.5% | UPL |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 120 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 0 | x 2 = | 0 | |
| FAC species | 35 | x 3 = | 105 | |
| FACU species | 180 | x 4 = | 720 | |
| UPL species | 15 | x 5 = | 75 | |
| Column Totals: | 230 (A) | | 900 | (B) |

Prevalence Index = B/A = 3.913

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

**Definitions of Vegetation Strata:**

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

Tied for dominants but does not meet FAC-neutral test even if non dominants are considered

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** Up 24-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-8 | 7.5YR | 2.5/2 | 100% | - | - | - | - | - | Loam | |
| 8-20+ | 7.5YR | 3/4 | 100% | - | - | - | - | - | Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** SB1

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 32 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.328474 **Long.:** 90.527227 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☑ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Soils are also problematic due to shallow rock that prevents full viewing of soil profile. Despite the problematic soils and disturbed roadway, the upland sample point was conducted in a less disturbed area off to the edge of the roadway in an area likely more representative of normal conditions. Disturbed areas were evaluated as having new normal conditions. Regulatory agents reviewed this location and agreed it was not wetland.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ○ No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This area was looked at closer on a second visit and much more upland vegetation emerged and the site was much drier than other areas being identified as wetlands. Conditions are wetter than normal for this time of year but despite the wet conditions this area was still dry.

## VEGETATION - Use scientific names of plants

**Sampling Point:** SB1

| Tree Stratum (Plot size: 30' radius) | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Plantago major | 25 | ☑ | 25.0% | FACU |
| 2. Carex crinita | 20 | ☑ | 20.0% | OBL |
| 3. Matteuccia struthiopteris | 15 | ☑ | 15.0% | FAC |
| 4. Arctium minus | 15 | ☑ | 15.0% | FACU |
| 5. Carex gracillima | 10 | ☐ | 10.0% | FACU |
| 6. Rubus idaeus | 5 | ☐ | 5.0% | FAC |
| 7. Caulophyllum thalictroides | 5 | ☐ | 5.0% | UPL |
| 8. Rumex altissimus | 5 | ☐ | 5.0% | FACW |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 100 | | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 20 | x 1 = | 20 | |
| FACW species | 5 | x 2 = | 10 | |
| FAC species | 20 | x 3 = | 60 | |
| FACU species | 50 | x 4 = | 200 | |
| UPL species | 5 | x 5 = | 25 | |
| Column Totals: | 100 (A) | | 315 | (B) |

Prevalence Index = B/A = 3.150

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

Tied for dominants but does not meet FAC-neutral test even if non dominants are considered

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** SB1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-6 | 7.5YR | 4/3 | 80% | 7.5YR | 3/4 | 20% | C | M | Silt Loam | |
| 6-8 | 10YR | 4/4 | 90% | - | - | - | - | - | Silt Loam | mixed with 7.5YR 4/3 |
| 8-20+ | 7.5YR | 3/3 | 90% | 7.5YR | 3/4 | 10% | C | M | Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

Redox features were observed at this location but in a high chroma matrix and did not meet hydric soil indicators

## WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

**Project/Site:** Gogebic Taconite - Access Road 4 **City/County:** Town of Anderson, Iron Co. **Sampling Date:** 03-Jun-13

**Applicant/Owner:** Gogebic Taconite **State:** WI **Sampling Point:** SB2

**Investigator(s):** Ann Michalski, WDNR Prof. Assured **Section, Township, Range:** S. 32 T. T45N R. R1W

**Landform (hillslope, terrace, etc.):** Road cut on backslope **Local relief (concave, convex, none):** concave **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR K **Lat.:** 46.328429 **Long.:** 90.525152 **Datum:** WGS84

**Soil Map Unit Name:** Dishno-Gogebic-Peshekee-Rock Outcrop Complex, 18-35%, very stony **NWI classification:** Upland

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ○ No ◉ **(If no, explain in Remarks.)**

**Are Vegetation** ☑ **, Soil** ☑ **, or Hydrology** ☑ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

## Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc

| | | | |
|---|---|---|---|
| **Hydrophytic Vegetation Present?** | Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** | Yes ○ No ◉ |
| **Hydric Soil Present?** | Yes ○ No ◉ | | |
| **Wetland Hydrology Present?** | Yes ○ No ◉ | | |

**Remarks: (Explain alternative procedures here or in a separate report.)**

Vegetation, soil and hydrology are significantly disturbed from historic silvicultural roads in this location and current ATV traffic, both of which have resulted in water flowing off the hillside to pool in tire ruts and compacted depressional areas along the roads. Soils are disturbed and areas that were likely not wetland prior to construction of the roads now hold water and have developed hydric soils in many areas. Despite recent ATV disturbance this area was considered to have new normal circumstances since the road was constructed many years ago. Regulatory agents review this location and agreed that it is not wetland.

## Hydrology

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

**Field Observations:**

| | | | | |
|---|---|---|---|---|
| Surface Water Present? | Yes ○ | No ◉ | Depth (inches): | |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): | |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): | **Wetland Hydrology Present?** Yes ○ No ◉ |

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

This wetland appears to be completely confined to the road. This area was evaluated on a second visit due to it being questionable as to if it met wetland criteria since it was much drier than other identified wetlands. Much more upland vegetation emerged by the second visit and the soils did not meet hydric soil criteria. Hydric soils are met only in certain locations and overall the area is very gravelly and does not have hydric soils. Conditions are much wetter than normal for this time of year based on the Palmer Drought Index and other available climatic data.

## VEGETATION - Use scientific names of plants

**Sampling Point:** SB2

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 15' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |
| **Herb Stratum** (Plot size: 5' radius) | | | | |
| 1. Onoclea sensibilis | 25 | ☑ | 33.3% | FACW |
| 2. Fragaria virginiana | 20 | ☑ | 26.7% | FACU |
| 3. Osmunda claytoniana | 15 | ☑ | 20.0% | FAC |
| 4. Solidago altissima | 15 | ☑ | 20.0% | FACU |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| | 75 | | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30 ' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| | 0 | | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 25 | x 2 = | 50 | |
| FAC species | 15 | x 3 = | 45 | |
| FACU species | 35 | x 4 = | 140 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 75 | (A) | 235 | (B) |

Prevalence Index = B/A = 3.133

**Hydrophytic Vegetation Indicators:**

- ☐ **Rapid Test for Hydrophytic Vegetation**
- ☐ **Dominance Test is > 50%**
- ☐ **Prevalence Index is ≤3.0** [1]
- ☐ **Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.**

### Definitions of Vegetation Strata:

Tree - Woody plants, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1m) tall..

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ○ No ◉

**Remarks: (Include photo numbers here or on a separate sheet.)**

This location is tied for dominants. Based on lack of hydrolgy during a wet season this area is not considered wetland.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## Soil

**Sampling Point:** SB2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-5 | 7.5YR | 3/3 | 90% | 7.5YR | 4/4 | 10% | C | M | Sandy Loam | Mixed with 7.5 yr 3/2 chroma |
| 5-7 | 10YR | 4/4 | 100% | - | - | - | - | - | sand | |
| 7-20+ | 7.5YR | 2.5/3 | 100% | - | - | - | - | - | Loam | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (LRR R, MLRA 149B)
- ☐ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- ☐ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- ☐ Loamy Mucky Mineral (F1) LRR K, L)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

**Indicators for Problematic Hydric Soils :** [3]

- ☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- ☐ Dark Surface (S7) (LRR K, L, M)
- ☐ Polyvalue Below Surface (S8) (LRR K, L)
- ☐ Thin Dark Surface (S9) (LRR K, L)
- ☐ Iron-Manganese Masses (F12) (LRR K, L, R)
- ☐ Piedmont Floodplain Soils (F19) (MLRA 149B)
- ☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: _____

Depth (inches): _____

**Hydric Soil Present?** Yes ○ No ◉

Remarks:

Wetlands & Waterways

# APPENDIX B – SITE PHOTOGRAPHS

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 1 - Looking North

Wetland 1 - Looking North

Wetland 1 - Looking South

Wetland 1 - Looking Southwest

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Upland Adjacent to Wetland 1 on South Side

Drainageway on Southeast Side of Wetland 1

Drainageway in Wetland 1 Where it Flows Onto Road - Looking North

Wetland 2 - Looking West

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 2 and Upland Boundary - Looking Northeast

Drainageway Wetland 2 - Looking East

Drainageway on Southeast Side
of Wetland 2 - Looking Southeast

Wetland 3 - Looking East

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 3 - Looking East

Wetland 3 - Looking West

West end of Wetland 3 - Looking West

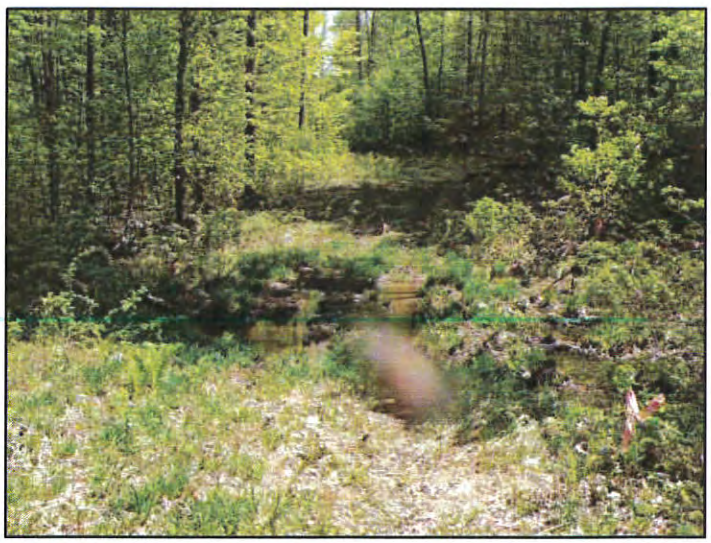
Upland Between Wetland 3 and 4 - Looking East

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 4 - Looking East

Wetland 4 - Looking East

Wetland 4 and Upland Boundary - Looking West



Wetland 5 - Looking East

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Drainageway in Wetland 5 - Looking North

Drainageway in Wetland 5 - Looking South

Wetland 6 - Looking East

Wetland 6 - Looking West

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 7 - Looking East

Wetland 7 - Looking West

Wetland 8 - Looking East

Drainageway in Wetland 8 - Looking North

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Drainageway in Wetland 8 - Looking South

Wetland 9 - Looking Northeast

Wetland 9 - Looking Southwest

Wetland 10 - Looking Northeast

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 10 - Looking Southwest

Wetland 10 - Looking Southwest

East End of Wetland 10 - Looking Southwest

East End of Wetland 10 - Looking Southwest

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 11 - Looking East

Wetland 11 - Looking West

Wetland 12 - Looking East

Wetland 12 - Looking West

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 12 at Drainageway Crossing - Looking East

Drainageway in Wetland 12 - Looking North

Drainageway in Wetland 12 - Looking South

Wetland 13 - Looking Southwest

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 14 - Looking West

Wetland 14 - Looking West

Wetland 14 - Looking West

Central Drainageway in Wetland 14 - Looking North

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Dry Drainageway on West End of Wetland 14 - Looking South

East Drainageway in Wetland 14 - Looking South

Eastern Drainageway in Wetland 14 - Looking North

Middle Drainageway in Wetland 14 - Looking South

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 15 - Looking East

Wetland 15 - Looking West

Dry Drainageway on North Side of Wetland 15

Dry Drainageway on South Side of Wetland 15

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 16 - Looking East

Wetland 16 - Looking West

Drainageway Flowing Out of Wetland 16 - Looking North

Dry Drainageway on North Side of Wetland 16

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Drainageway on South Side of Wetland 16

Wetland 17 - Looking East

Wetland 17 - Looking West

Drainageway at Road Crossing in
Wetland 17 - Looking East

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Drainageway on East Side of Wetland 17
Flowing Into Wetland - Looking South

Drainageway on West End of Wetland 17
Flowing Into Wetland - Looking South

Drainageway on West End of Wetland 17
Flowing Out of Wetland - Looking North

Wetland 18 - Looking East

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 18 - Looking West

Wetland 19 - Looking East

Wetland 19 - Looking West

Wetland 20 - Looking East

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 21 - Looking East

Wetland 21 - Looking East

Wetland 21 - Looking West

Wetland 22 - Looking East

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 22 - Looking West

Dry Drainageway on Northwest Side of Wetland 22

Dry Drainageway on Southeast Side of Wetland 22

Wetland 23 - Looking West

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

Wetland 24 - Looking North

SB1 Looking East

SB1 Looking West

SB2 Looking East

Gogebic Taconite, LLC
Wetland Delineation - Access Roads 2,4,& 5
Site Photos

SB2 Looking East

SB2 Looking West

# ATTACHMENT TO RESPONSE FOR s.295.44 (2)(e)

# CERTIFICATE OF LIABILITY INSURANCE

210173

# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 3/18/2013

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

| PRODUCER | CONTACT NAME: Cheryl Vandermosten | |
|---|---|---|
| Commercial Lines - (304) 327-3421 | PHONE (A/C, No, Ext): 865-450-1910 | FAX (A/C, No): 877-870-2914 |
| Wells Fargo Insurance Services of West Virginia Inc. | E-MAIL ADDRESS: cheryl.vandermosten@wellsfargo.com | |
| 320 Federal Street | INSURER(S) AFFORDING COVERAGE | NAIC # |
| Bluefield, WV 24701-3006 | INSURER A : Federal Insurance Company | 20281 |
| INSURED | INSURER B : | |
| Gogebic Taconite of Michigan, LLC | INSURER C : | |
| 402 Silver Street | INSURER D : | |
| | INSURER E : | |
| Hurley, WI 54534 | INSURER F : | |

**COVERAGES** **CERTIFICATE NUMBER:** 5745816 **REVISION NUMBER:** See below

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSR | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS | |
|---|---|---|---|---|---|---|---|---|
| A | GENERAL LIABILITY | | | 37114535 | 12/31/2012 | 12/31/2013 | EACH OCCURRENCE | $ 1,000,000 |
| | [X] COMMERCIAL GENERAL LIABILITY | | | | | | DAMAGE TO RENTED PREMISES (Ea occurrence) | $ 1,000,000 |
| | [ ] CLAIMS-MADE [X] OCCUR | | | | | | MED EXP (Any one person) | $ 10,000 |
| | | | | | | | PERSONAL & ADV INJURY | $ 1,000,000 |
| | | | | | | | GENERAL AGGREGATE | $ 2,000,000 |
| | GEN'L AGGREGATE LIMIT APPLIES PER: | | | | | | PRODUCTS - COMP/OP AGG | $ 2,000,000 |
| | [X] POLICY [ ] PRO-JECT [ ] LOC | | | | | | | $ |
| | AUTOMOBILE LIABILITY | | | | | | COMBINED SINGLE LIMIT (Ea accident) | $ |
| | [ ] ANY AUTO | | | | | | BODILY INJURY (Per person) | $ |
| | [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS | | | | | | BODILY INJURY (Per accident) | $ |
| | [ ] HIRED AUTOS [ ] NON-OWNED AUTOS | | | | | | PROPERTY DAMAGE (Per accident) | $ |
| | | | | | | | | $ |
| | [ ] UMBRELLA LIAB [ ] OCCUR | | | | | | EACH OCCURRENCE | $ |
| | [ ] EXCESS LIAB [ ] CLAIMS-MADE | | | | | | AGGREGATE | $ |
| | [ ] DED [ ] RETENTION $ | | | | | | | $ |
| | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N | | | | | | [ ] WC STATU-TORY LIMITS [ ] OTH-ER | |
| | ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] | N / A | | | | | E.L. EACH ACCIDENT | $ |
| | (Mandatory in NH) | | | | | | E.L. DISEASE - EA EMPLOYEE | $ |
| | If yes, describe under DESCRIPTION OF OPERATIONS below | | | | | | E.L. DISEASE - POLICY LIMIT | $ |
| | | | | | | | | |

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Evidence of insurance with respects to any and all permits held by the Named Insured (s)

**CERTIFICATE HOLDER**

Wisconsin Department of Natural Resources
101 S Webster Street
PO Box 7921
Madison, WI 53707

**CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

The ACORD name and logo are registered marks of ACORD

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ACORD 25 (2010/05)

(This certificate replaces certificate# 5460394 issued on 1/8/2013)

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# ATTACHMENT TO RESPONSE FOR s.295.44 (2)(f)

# BALANCE SHEET

Balance Sheet
As of 12/31/2012 — Gogebic Taconite, LLC (GTL)

| | | |
|---|---|---|
| **ASSETS** | | |
| Local Imprest Fund | | $45,579.34 |
| Petty Cash | | $915.57 |
| Other Prepaid Expenses | | $240,000.00 |
| Machinery/Equip/Buildings | | $13,064.46 |
| Accumulated Depreciation | | -$11,916.84 |
| | **TOTAL ASSETS** | $287,642.53 |
| **LIABILITIES** | | |
| Accrued Payroll Taxes | | $168.00 |
| Long-Term Debt | | $6,365,000.00 |
| | **TOTAL LIABILITIES** | $6,365,168.00 |
| **EQUITY** | | |
| Member Equity | | $1,175,000.00 |
| Retained Earnings | | -$7,252,525.47 |
| | **TOTAL EQUITY** | -$6,077,525.47 |
| | **TOTAL LIABILITY AND EQUITY** | $287,642.53 |

# ATTACHMENT TO RESPONSE FOR s.295.44 (3)

# SURETY BOND

DUPLICATE ORIGINAL

State of Wisconsin
Department of Natural Resources

# FERROUS METALLIC MINERAL EXPLORATION BOND

KNOW ALL PERSONS BY THESE PRESENTS, that GOGEBIC TACONITE, LLC (the Explorer)

of 402 HURLEY STREET, HURLEY, WI 54534 (Address), as Principal, and

U.S. SPECIALTY INSURANCE COMPANY (Name of Surety Company), a surety company organized and existing under the laws of the State of TEXAS and duly authorized to do surety business in the State of Wisconsin, as Surety, are held and firmly bound unto the State of Wisconsin Department of Natural Resources, as Obligee, in the penal sum of EIGHTY THOUSAND AND NO/100***** dollars ($ 80,000.00 ) for payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns jointly and severally.

WHEREAS, this bond is written to satisfy the requirements of section 295.44(3) Stats., to ensure compliance with the ferrous metallic mineral exploration licensing requirements, and shall inure to the benefit of the Obligee.

The insolvency or bankruptcy of the Principal shall not constitute a defense to the Surety with regard to any claim of liability on the obligation of this bond.

The Surety hereby waives notification of any failure on the part of the Principal or any successor in interest to faithfully comply with the requirements of s. 295 Stats. and lack of notice from the Obligee will not bar or limit recovery against the Surety.

This bond is effective on the 20TH day of DECEMBER, 2013, and shall continue in force until terminated as hereinafter provided. As long as any obligation of the Principal or any successor in interest for the ferrous metallic mineral exploration license exists, this bond shall not be cancelled by the Surety unless a replacement bond acceptable to the Obligee is provided to the Obligee. If the Surety proposes to cancel this bond, notice shall be provided to the Obligee and the Principal in writing by registered or certified mail not less than 90 days prior to the proposed cancellation date. Not less than 30 days prior to the expiration of the 90 day notice period, the Principal shall deliver to the Obligee a replacement bond. In the absence of the delivery of a replacement bond, all exploration shall cease.

Signed, sealed and dated this 20TH day of DECEMBER, 2013.

GOGEBIC TACONITE, LLC

William J Williams - PRESIDENT
Principal

CORPORATE SEAL

U.S. SPECIALTY INSURANCE COMPANY
Surety

Attorney in Fact JEREMY C. ROSE

Bond Number 1000904072

# POWER OF ATTORNEY

**AMERICAN CONTRACTORS INDEMNITY COMPANY U.S. SPECIALTY INSURANCE COMPANY**

KNOW ALL MEN BY THESE PRESENTS: That American Contractors Indemnity Company, a California corporation, and U.S. Specialty Insurance Company, a Texas corporation (collectively, the "Companies"), do by these presents make, constitute and appoint:

**Jeremy C. Rose, Richard C. Rose, Janice Fennell or Tara W. Mealer of Knoxville, Tennessee**

its true and lawful Attorney(s)-in-fact, each in their separate capacity if more than one is named above, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver **any and all bonds, recognizances, undertakings or other instruments or contracts of suretyship to include riders, amendments, and consents of surety, providing the bond penalty does not exceed** *******Seventy Five Million******* **Dollars ($** **75,000,000.00** **).**

This Power of Attorney shall expire without further action on March 18, 2015. This Power of Attorney is granted under and by authority of the following resolutions adopted by the Boards of Directors of the Companies:

*Be it Resolved,* that the President, any Vice-President, any Assistant Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

*Attorney-in-Fact* may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements or indemnity and other conditional or obligatory undertakings, including any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts, and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed end effected by the Corporate Secretary.

*Be it Resolved,* that the signature of any authorized officer and seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signature or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached.

IN WITNESS WHEREOF, The Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 3rd day of October, 2011.

**AMERICAN CONTRACTORS INDEMNITY COMPANY U.S. SPECIALTY INSURANCE COMPANY**

Corporate Seals

By: _____

**Daniel P. Aguilar, Vice President**

State of California

County of Los Angeles SS:

On this 3rd day of October, 2011, before me, Deborah Reese, a notary public, personally appeared Daniel P. Aguilar, Vice President of American Contractors Indemnity Company and U.S. Specialty Insurance Company who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal.

Signature Deborah Reese (Seal)

DEBORAH REESE
Commission # 1926048
Notary Public - California
Los Angeles County
My Comm. Expires Mar 18, 2015

I, Jeannie Lee, Assistant Secretary of American Contractors Indemnity Company and U.S. Specialty Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Los Angeles, California this 20TH day of DECEMBER, 2013

Corporate Seals

Bond No. 1000904072
Agency No. 16425

**Jeannie Lee, Assistant Secretary**

To inquire about this bond, please write to us at surety-bond-inquiry@hcc.com

# ATTACHMENT TO RESPONSE FOR s.295.44 (3)(d)

# RECLAMATION COST ESTIMATE

Gogebic Taconite, LLC
Exploration Project No. 2
Reclamation Cost Estimate
December 31, 2013

| Location | Activity | Number | Units | Unit Cost | Tot Cost | Location Cost |
|---|---|---|---|---|---|---|
| Grouting | Mobilization | 1 | lot | $3,000 | $3,000 | |
| | | | | | | $3,000 |
| 566-1 | Grout | 1429 | Feet | $3 | $4,287 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $5,242 |
| 566-2 | Grout | 330 | Feet | $3 | $990 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $1,945 |
| 584-2 | Grout | 500 | Feet | $3 | $1,500 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $2,455 |
| 594-2 | Grout | 1300 | Feet | $3 | $3,900 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $4,855 |
| 608-1 | Grout | 1465 | Feet | $3 | $4,395 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $5,350 |

| | |
|---|---|
| SubTotal Page 1 | $22,847 |

Gogebic Taconite, LLC
Exploration Project No. 2
Reclamation Cost Estimate
December 31, 2013

| | | | | | | |
|---|---|---|---|---|---|---|
| 646-1 | Grout | 800 | Feet | $3 | $2,400 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $3,355 |
| 646-2 | Grout | 700 | Feet | $3 | $2,100 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $3,055 |
| 646-2V | Grout | 600 | Feet | $3 | $1,800 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | | Hours D6 dozer | $110 | $0 | |
| | Seed | | Pounds Seed | $235 | $0 | |
| | Mulch | | Straw Bales | $10 | $0 | |
| | Seed Labor | | Hours Labor | $50 | $0 | |
| | TOTAL | | | | | $2,000 |
| 655-1 | Grout | 1000 | Feet | $3 | $3,000 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $3,955 |
| 655-3 | Grout | 350 | Feet | $3 | $1,050 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $2,005 |
| | | | | | SubTotal Page 2 | $14,370 |

Gogebic Taconite, LLC
Exploration Project No. 2
Reclamation Cost Estimate
December 31, 2013

| | | | | | | |
|---|---|---|---|---|---|---|
| 655-3V | Grout | 280 | Feet | $3 | $840 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 0 | Hours D6 dozer | $110 | $0 | |
| | Seed | 0 | Pounds Seed | $235 | $0 | |
| | Mulch | 0 | Straw Bales | $10 | $0 | |
| | Seed Labor | 0 | Hours Labor | $50 | $0 | |
| | TOTAL | | | | | $1,040 |
| 666-1 | Grout | 1000 | Feet | $3 | $3,000 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $3,955 |
| 674-1 | Grout | 920 | Feet | $3 | $2,760 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $3,715 |
| 674-2V | Grout | 700 | Feet | $3 | $2,100 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $3,055 |
| 686-2 | Grout | 600 | Feet | $3 | $1,800 | |
| | Pull Collar | 1 | lot | $200 | $200 | |
| | Regrading | 2 | Hours D6 dozer | $110 | $220 | |
| | Seed | 1 | Pounds Seed | $235 | $235 | |
| | Mulch | 10 | Straw Bales | $10 | $100 | |
| | Seed Labor | 4 | Hours Labor | $50 | $200 | |
| | TOTAL | | | | | $2,755 |

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| SubTotal Page 3 | $13,480 |

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| ***Total Reclamation Bond Amount =*** | $50,697 |