United States Department of Agriculture

Forest Service

Greenlight Wisconsin LLC Prospecting Permit

Greenlight Wisconsin LLC has applied to the Bureau of Land Management (BLM) for a prospecting permit for hardrock minerals on the Chequamegon-Nicolet National Forest (Forest) in Taylor County. Exploration of the Bend Deposit is needed to determine the extent, character, and value of the deposit.

This document is not the completed environmental review. It is created to seek input from you to aid in designing the project and associated environmental review. This document is your opportunity to review our proposed action and provide comments that might guide us in the completion of an environmental review document for the Greenlight Metals Project Area.

The legal description for the area is: Township 33N, Ranges 2W, Sec 34 and 35

The project area is located on both sides of FR 112 (North Road) in the Town of Westboro, approximately seven miles north of Perkinstown, WI.

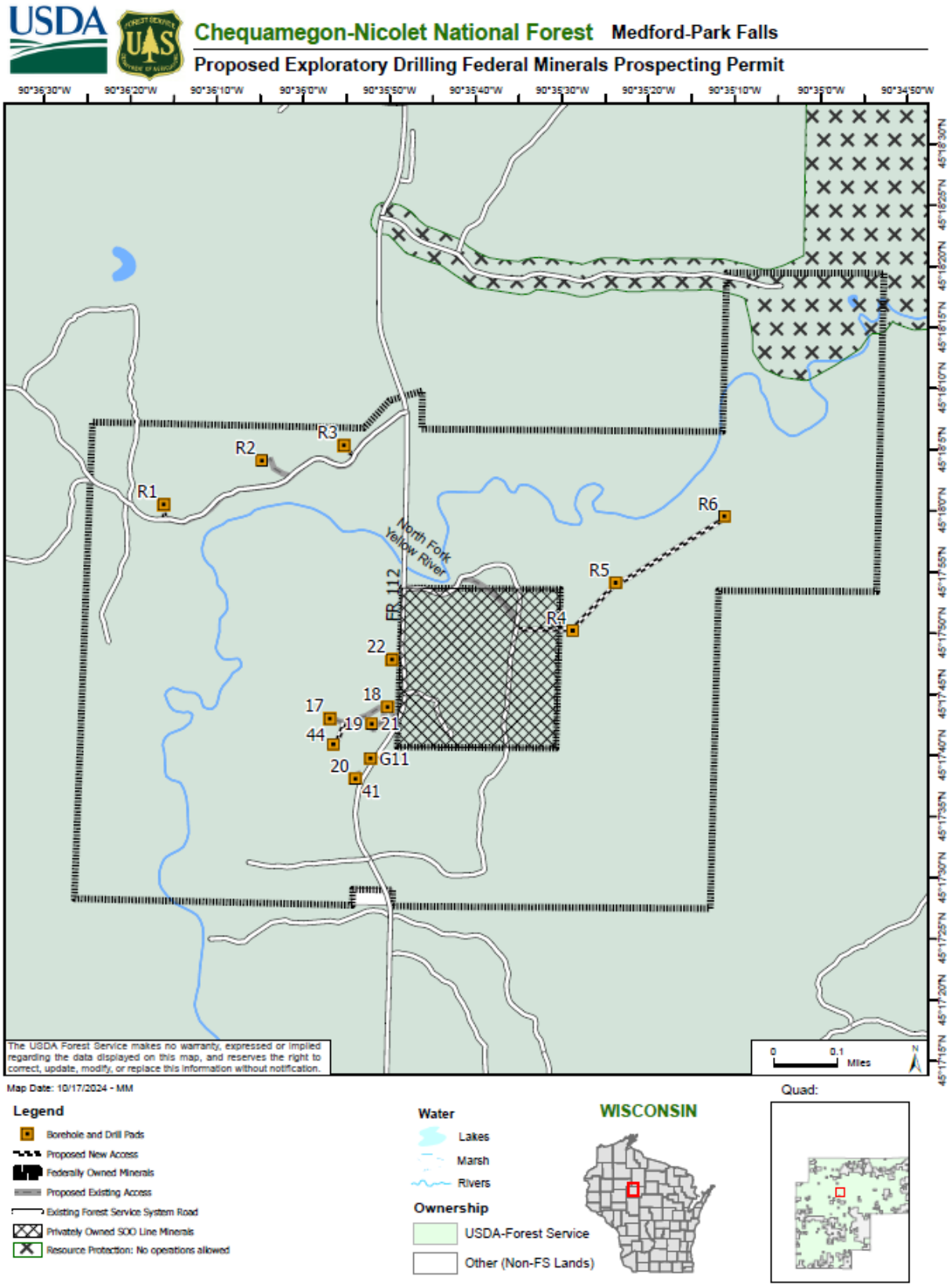

Figure 1. Project Map

Background Information for the Project Area (Why here, why now?)

The Bend Deposit is a copper sulfide deposit located on the Medford-Parks Falls Ranger District of the Chequamegon-Nicolet National Forest (Forest) in Taylor County Wisconsin. The Bend Deposit is located along the North Fork of the Yellow River and North Road (Forest Road (FR) 112) approximately 15 miles northwest of Medford, Wisconsin.

The Bend Deposit has attracted interest from multiple mineral exploration companies since the 1980s. Exploratory drilling has been conducted on the deposit multiple times, with the latest occurring in 2012. Greenlight Wisconsin LLC (Greenlight) is the most recent mineral exploration company to show interest in the deposit. Greenlight is seeking to obtain a prospecting permit from the Bureau of Land Management (BLM) to conduct diamond drilling prospecting to better understand and delineate the deposit.

The deposit consists of two separate mineral ownerships, the Soo Line 40 is 40 acres of privately owned minerals with the Federal government owning the surface. The remainder of the deposit consists of both federally owned minerals and surface. This environmental review pertains to the federally owned minerals and surface.

Need for Action (Why Are We Doing This?)

Greenlight has applied to the BLM for a prospecting permit for hardrock minerals on a 519-acre area of the federally owned Bend Deposit. The United States Forest Service (USFS) is the steward of the federally owned surface. Per 43 CFR 3503.20(b) the USFS has consent authority for mineral permitting and leasing on their lands. For these lands, the BLM "must have written consent from the surface management agency before we issue permits or leases."

The BLM is charged with managing mineral estate under federal land. Additionally, some federal land is available for leasing under the Mining and Mineral Policy of 1970 which states "foster and encourage private enterprise in the development of economically sound and stable industries, and in the orderly and economic development of domestic resources to help assure satisfactory action of industrial, security, and environmental needs."

Goal 2.6 of the Forest's 2004 Land and Resource Management Plan is to contribute toward satisfying demand for mineral and energy resources through environmentally responsible development on National Forest System lands. Objective 2.6 ensures reclamation provisions and environmental protection measures of operating plans and surface use plans of operation are to current standard regulations for in field operations (2004 LRMP).

If the BLM permit (WIES 58013) is approved, Greenlight's Plan of Operation indicates the company will drill 15 core holes on USFS land, producing approximately 17,186 feet of core samples. Thirteen drill pads will be constructed, which will disturb approximately 0.93 acres of ground surface and require construction of 0.4 miles of temporary roads, and utilization of 0.9 miles of existing roads.

Proposed Action

Drilling Methods

Greenlight is proposing to drill 15 core holes using diamond coring operations. These operations start by drilling a steel casing with a diameter of 4.83 inches or 3.87 inches through the glacial overburden until it is 5 to 10 feet into solid bedrock. The coring operations then employs a diamond bit with a diameter of

2.98 or 3.78 inches attached to a string of hollow steel rods. Each drill rod is 10 feet long and is added to the rod string as the drill advances through the casing and into subsurface bedrock formations. A rock core is fed into the steel rod tube as the drill operates, this core is retrieved by a wire line mechanism and emptied every 10 feet during drilling operations. Borehole hole orientations may vary from vertical to inclined and will range from 350 feet to 2,000 feet in depth.

Equipment

Greenlight proposes to utilize contractors to conduct diamond core drilling operations. A standard skid, wheeled, or tract-mounted diamond-bit core drill rig will be used for drilling. These types of drill rigs are eight to 10 feet wide during transport to the site. Support equipment will include a skid-mounted rod tray, a D-4 or comparable dozer and/or excavator, and a two-or three axle flatbed truck for transporting water, pipe, and other equipment. Four-wheel-drive pickups and/or tracked bobcat will be used to transport personnel and service the drill rig.

Water Source and Use

Water for drilling would be taken from the North Fork of the Yellow River where it crosses FR 112, and collected in a 1,000-gallon, truck mounted, water tank and water pump with double screens. Greenlight anticipates withdrawing up to 12,000 gallons a day during drilling (maximum rate/typically much less). Total water withdrawal will be recorded. Absorbent mats will be used during pumping to catch oil and other mechanical fluid spills from the water truck. If needed, a silt sock will be installed to prevent sediment from migrating into the river. The plan of operations does not propose discharging water into the river.

Surface water treated with chlorine bleach as prescribed in Wis. Adm. Code s NR 812.11(14) would be the main drilling fluid. Depending on the drilling conditions, water will be treated with bentonite clay and E-Z mud. During drilling the drilling fluids are pumped into the drill rods to lubricate and cool the drill bit, and to flush rock cuttings out of the drill hole. The fluid and cuttings return to the surface and are directed into the sump or recirculation tank. The drilling fluid is reused throughout the drilling process, supplemented by additional water and additives as necessary.

Upon completion of the drill hole, drill cuttings and sediment within the sump or recirculation tank will settle and the decanted water will be pumped into the water truck for use at other drilling locations. Residual water at the end of the drilling program will be allowed to drain into the subsoil as described below in sump abandonment. Greenlight will obtain a dewatering permit from the Wisconsin Department of Natural Resources (WDNR) before leftover water is disposed of.

Access and Site Preparation

Drill sites will be accessed using FR 112 and existing forest trails/roads to the extent practical. If required, existing and temporary roads will be cleared to approximately 10-feet wide of existing vegetation, stumps, large boulders, and other debris. Drill sites will be removed of brush and small trees, and an area of approximately 50’x 62.5’ will be cleared to accommodate the drill rig, ancillary equipment, support vehicles and the sump

Drill site and temporary road extensions will be selected in a way that minimizes soil disturbances and avoids the removal of mature trees. No fill or installation of culverts are proposed.

Following road and site prep, a sump pit or cuttings pit (a small pit for recirculation of drilling fluid and collection of drill cuttings) will be excavated at the site using a backhoe. Sump pits will measure 20-feet

by 20 ft x 10 ft deep at maximum. In some cases where more than one drill hole is planned for a site a second sump will be construction. Small sump pits measuring 5 ft x 5 ft x 5 ft deep may be constructed for disposing of residual drill water at the end of the project within the boundaries of the site. Excavated soils will be separated and stockpiled for use in refilling the sump. The sump will be lined with a plastic liner with enough liner to fold over on the cuttings when drilling is complete. Any sumps that are excavated and found to intersect the water table will not be used and will be refilled.

Erosion control measures such as silt fences and silt socks will be placed between exposed earth and waterways/wetlands. Tarps and certified weed free straw may also be used to limit soil erosion especially stocked topsoil. If drilling is paused, erosion control measures will be evaluated, new measures added if needed and be monitored on a weekly basis or following a precipitation event of half an inch or more. If rutting occurs and exceeds a 6-inch depth by 10-feet long, the road will be closed until it is repaired, or ground conditions improve. Repairs will be done by back-blading with a dozer or similar equipment.

Before equipment is brought to the site it will be clean and free of weeds, debris, and mud from previous sites.

Frozen Ground Access and Site Preparation

Preparation of sites and roads in wetland environments will occur during frozen ground conditions, when there is six inches of frost depth, or sufficient frost to prevent rutting. To ensure sufficient frost depth, sites will be cleared of snow, or the snow will be compacted using a D4 dozer. In some cases, a snowmobile may be used in place of a dozer. If conditions make ground conditions unfavorable, operations will be suspended until favorable conditions return.

Proposed drill sites R1 through R6 and temporary access roads (see Figure 1) are located in wetland environments and all work will be required to occur during winter months. In wetland conditions a recirculation tank will be used instead of a sump. When a recirculation tank is used, a small depression about three-feet diameter and 1.5-feet deep is created at the base of the drill collar. The depression will be lined with bentonite or a liner which will be removed/disposed of when drilling is complete. Water from the drilling is pumped from the depression to the tank and the cuttings are allowed to settle and later disposed of in a viable sump at an upland site.

Project Footprint and Disturbance

Greenlight estimates the total footprint of the proposed drilling program to be approximately 1.51 acres, including the construction of 13 proposed drill sites (0.93 acres), 2,233-feet of newly constructed temporary access roads/trails (0.51 acres) and 0.673 acres of potential disturbance associated with laydown and staging areas located along existing forest roads/trails adjacent to the FR 112. No ground disturbance is planned along newly constructed temporary access routes to drill sites located in wetlands as the roads will be constructed during frozen ground conditions. Disturbance at wetland drill sites will be limited to the ground immediately around the collar and an area of 10 ft x 15 ft (0.03 acres).

Drillhole and Sump Abandonment

On reaching the target depth for drilling, the core will be analyzed to determine if downhole geophysics will be pursued in the future. If they are to be pursued, the hole will be temporary abandoned and if not, permanently closed. Both permanent closure and temporary abandonment will follow WDNR regulations. Temporarily abandoned casing will be capped and made watertight with a 5 foot surface extension added.

Permanent Drill Hole Abandonment

Permanent abandonment of drill holes requires filling the entire hole from bottom to top with concrete or cement. The abandonment procedure includes the cement being pumped down each hole through a conductor pipe (drill rods). Rods will be removed concurrently with the filling of the drill holes with the bottom of the rods kept below the surface of the cement throughout the operation. When cement is pumped under water by a conductor pipe, the bottom end of the conductor pipe will be submerged in the cement at all times.

Cement is mixed at the rate of one 94-pound bag of cement to six-gallons of water. An appropriate amount of cement (at a rate of one 94-pound bag to 1.28 cubic foot of open hole) will be used to abandon the drill holes. The drilling contractor will record amounts of cement and water used in their daily reports. Drill hole specifications including diameter and length of tooling used during drilling and cement mixing ratios and quantities will be provided in the final abandonment forms for each drill hole.

Temporary Drill Hole Abandonment

Temporary abandoned drill sites will have their surface casing capped (watertight threaded or welded cap) and they will be maintained in a safe and secure manner until the hole is permanently abandoned. Each temporarily abandoned hole will be marked by a 5 foot casing extension that is plainly visible. Based on timing constraints for contracting with both a geophysical crew and drill operator for permanent abandonment of the holes, temporarily abandoned holes may remain open (in accordance with Wis. Adm. Codes) for up to two years.

Sump Abandonment

Prior to final abandonment of the sumps, the cuttings and bentonite will be allowed to settle to the bottom of the pit for a minimum of 12 hours. Decanted water will be removed from the sump and will either be pumped into water tanks for re-use in the drilling process or pumped into the sump, along the outside of the liner, and allowed to drain into the unconsolidated subsoil. If there is insufficient room available to accommodate the water on the outside of the liner, and the water will not be reused in the drilling process, a small sump (approximately 5 ft x 5 ft x 5 ft) will be excavated with a backhoe to contain the residual water. The additional sump will be constructed within the extent of the drill site and sub-soil and topsoil will be segregated and stockpiled separately for backfilling and reclamation purposes, respectively. The water will be allowed to drain sufficiently into the unconsolidated subsoil to prevent overflow prior to being backfilled.

The WDNR requires that a dewatering permit be acquired prior to dewatering drilling sumps. Greenlight will not commence drilling operations until the permit is approved. Greenlight will provide notice to the USFS and BLM once the permit is received.

Once the water is removed, cement will be added to the cuttings contained within the liner as prescribed in WDNR rule NR130.110 (2) (a) 2. Cement will be added at a rate of two 94-pound bags of cement to every three cubic feet of bedrock cuttings generated (on a solid rock basis – hole volume minus core volume) to achieve an approximate mix of three parts bedrock cuttings to one part cement. Cement additions will be mixed with the cuttings using the bucket of a backhoe. The previously discussed layer of subsoil added to the bottom of the liner, and the subsoil generated during the casing of the drill hole will provide a buffer between the cuttings and the liner to prevent damage to the liner while mixing occurs. Greenlight will monitor the cement/cuttings mixture to ensure proper solidification prior to backfilling the sump.

Once the cuttings/cement mixture is prepared, the sump liner will be folded over top of the cuttings and will be disposed of "in-place" during backfilling with stockpiled subsoil/topsoil placed on top as described in Wis. Adm. Code s. NR130.110 (2) a 2.

If temperatures are too cold during winter drilling and the water freezes before the cutting and bentonite settle out, final abandonment will be postponed to the following spring. Completed lined sump pits will be fenced for safety, and the liner will be folded and secured over the contained cutting to ensure water does not inundate the contained cuttings until final disposal and backfilling can be completed.

Reclamation

After removal of the drill rig and closing of the sump, restoration will begin. The plan of operations contains several steps:

1) All solid and liquid waste (trash, drill rods, empty drums, wood, plastic, etc.) will be removed from the project area by the drilling contractor and disposed of in accordance with State of Wisconsin waste management rules.

2) Reclamation of the sumps will be completed per procedures outlined in Wis. Adm. Code s. NR130.110 (2) (a) 2 as discussed in section 1.6. Once the sump area is backfilled and leveled, stockpiled topsoil will be spread across the sump area and the site will be reseeded and mulched using certified weed free straw.

Disturbed areas within the drill site and along access roads will be reclaimed as follows:

a) Disturbed and rutted areas will be backbladed and graded to preexisting conditions.
b) Where necessary, areas will be raked by hand and topsoil will be evenly distributed over disturbed areas.
c) Cement will be removed from drill collars of permanently abandoned drill holes.
d) Threaded, water-tight caps will be placed on temporarily abandoned drill holes.
e) Brush and small timber will be scattered.
f) Pruning seal will be applied to scrapes on effected trees.
g) All equipment will be removed from staging area, drill sites, access roads, etc.
h) Seed and mulch will be applied to all disturbed areas; Greenlight ensures that weed-free straw and seed will be used in all applications.
i)The main access roads will be blocked with large boulders to prevent unauthorized vehicular access.

3) Areas of soil disturbance will be revegetated by seeding and mulching to prevent the transport of sediment by air/water and will include stabilization of access routes and drill sites via WDNR/USFS—approved, non-invasive seed mixtures and placement of weed and seed free straw over the disturbed areas.

i. Once disturbed areas are successfully stabilized, active Best Management Practices (BMP) such as silt socks and/or silt fencing, will be removed and disposed of off-site.

Operational Timeline

Greenlight cannot begin work prior to receiving their prospecting permit and other required permits. All work is expected to take approximately one year according to their Plan of Operations. This includes

mobilization, site preparation, drilling, temporary and/or permanent drill hole abandonment, and full/ partial site reclamation. Additionally, work may take place in two phases, a spring/summer phase and a fall/winter phase.

No Action Alternative

Under the No Action Alternative, the USFS would not consent to the issuance of a prospecting permit, and the BLM would reject Greenlight's application. As such, no access roads or exploration drilling would take place on the National Forest Service lands.

Forest Plan Direction

This project will follow the Forest's 2004 Land and Resource Management Plan (Forest Plan) standards and guidelines and its associated Final Environmental Impact Statement. An interdisciplinary team review of all Forest Plan standards and guidelines is being conducted for this project. Additional project design features may also be included to protect forest resources.

Consideration of Resource Effects

An interdisciplinary team consisting of resource specialists in wildlife, fisheries, aquatics, soils, plants, fire/fuels, cultural, and timber resources assessed the proposed action. Resources considered in the project design include the following:

- **Threatened and Endangered Species (T&E) and Regional Forester Sensitive Species (RFSS):** This project will follow Forest Plan requirements to minimize potential impacts to T&E and RFSS species; therefore, no issues or concerns are anticipated.
- **Aquatic resources:** The project is designed to follow BMPs for the protection of water quality in compliance with the Clean Water Act (Forest Plan, p. 2-1) and Wisconsin's Forestry BMPs. https://dnr.wisconsin.gov/topic/forestmanagement/bmp
- **Heritage resources:** Cultural resource surveys are complete, and protective measures are in place. If other cultural resources are discovered during project implementation, all activities within the vicinity of the discovery area will cease until an assessment of the discovery is completed.

Responsible Official

The Forest Service official responsible for this decision is Forest Supervisor, Janelle Crocker. Forest Supervisor Crocker will determine whether or not to provide consent to the BLM to issue a federal hard rock mineral prospecting permit with stipulations for the use and protection of forest resources.

The BLM official responsible for the decision to issue a permit is Pamela A. Mathis, District Manager, Northeastern States District. Ms. Mathis will determine whether or not to issue the permit (WIES 58013) with terms, conditions, and stipulations based on USFS consent.