

**United States Department of the Interior  
Bureau of Land Management  
Northeastern States District Office  
LLESM03200**

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# **Environmental Assessment**

NEPA #: DOI-BLM-ES-030-2018-0002-EA

## **Addition of Terms and Conditions for Renewal of Hardrock Leases, MNES-001352 and MNES-001353**

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**Date:** May 2019

**Type of Action:** Hardrock Mineral Lease Renewal

**Serial Number:** MNES 001352 and MNES 001353

**Location:** Superior National Forest, Lake and St. Louis Counties, Minnesota

**Project Acreage:** Approximately 4,864.78 acres

**Proponent Address:** 380 St. Peter Street, Ste. 370, St. Paul, MN 55102

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## **Acronyms**

AQI - Air Quality Index

BWCAW - Boundary Waters Canoe Area Wilderness

BLM - Bureau of Land Management

EA - environmental assessment

OHV - off-highway vehicle

PRLA - preference-right lease application

SKA - South Kawishiwi Association, LLC

SNF - Superior National Forest

TMM- Twin Metals Minnesota, LLC

## CHAPTER 1 – INTRODUCTION

### Background

The Bureau of Land Management (BLM) first issued hardrock mineral leases MNES 01352 and MNES 01353 to the International Nickel Company in 1966. These leases encompass approximately 4,865 acres of Federal minerals in the Superior National Forest (SNF) in Lake and St. Louis Counties, Minnesota (Figure 1).

The leases are under Federal surface managed by the SNF, except for approximately 250 acres of private surface, which was acquired in 2010 by the South Kawishiwi Association, LLC (SKA) through a land exchange with the Forest Service. The SKA acquired the land subject to the terms and conditions of the existing lease MNES 001352.

The leases are currently held by Franconia Minerals (US) LLC, a wholly owned subsidiary of Twin Metals Minnesota LLC (collectively TMM or lessee). Leases MNES 01352 and MNES 01353 currently contain identical terms and conditions, including the lessee's right to a non-discretionary third renewal of the leases for ten-years under such terms and conditions as the Secretary of the Interior, acting through the BLM, may prescribe. The Forest Service, as the surface management agency, may also propose new or adjusted stipulations at renewal to protect surface resources.

TMM's predecessors in interest timely filed for two previous renewals of leases MNES 01352 and MNES 01353, and the BLM renewed the leases in 1989 and 2004. The lessee submitted its application to renew the leases for a third time in 2012. Renewal of these leases is governed by the relevant statutes, the BLM's regulations at 43 C.F.R. Subpart 3511, and the relevant prior lease terms. The lessee is currently in good standing.

In December 2017, the United States Department of the Interior's Office of the Solicitor issued a legal opinion (M-37049<sup>1</sup>) concluding that the original 1966 leases provide Twin Metals with a non-discretionary right to a third renewal, subject to readjusted terms and conditions as allowed by the 1966 leases. The opinion concluded further

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<sup>1</sup> Available at <https://www.doi.gov/sites/doi.gov/files/uploads/m-37049.pdf>

that, while the United States maintains discretion to impose reasonable new or readjusted terms, conditions, and stipulations in the lease renewal agreements, the

Figure 1: Approximate Location of Leases to be Renewed



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



BLM does not have discretion to deny the renewal application. The BLM is now processing the lessee's renewal application to issue the non-discretionary third renewal of the leases. However, while the BLM must issue the lease renewal, the BLM retains the discretion to impose reasonable new terms and conditions in this third lease renewal, and here proposes to update the terms and conditions in accordance with the current regulations and to include additional stipulations to further protect the environment and surface resources, to update the royalty rate and to encourage diligent development.

Because the lessee has a right to this third renewal, the BLM does not have the discretion to decline to renew the leases. Therefore, the scope of analysis in this EA is limited to an analysis of the possible updating of the terms and conditions of the lease, and to an analysis of the addition of stipulations to further protect the environment and surface resources. If, in the future, the lessee decides to explore for or develop the mineral resources governed by these leases, the lessee will be required to submit a proposed plan of operation to the BLM. The BLM and the Forest Service (as the surface managing agency) will evaluate the proposal in compliance with the National Environmental Policy Act and other applicable laws, regulations, and procedures governing this type of plan evaluation.

### **Purpose and Need of the Proposed Action**

In accordance with the Federal Land Policy and Management Act of 1976, as amended, the BLM manages public land on the basis of multiple use and sustained yield. The agency accepts and reviews applications for the development of Federal mineral resources where land use plans designate those lands as available for mining. To facilitate environmentally responsible minerals development and to meet all applicable environmental laws and regulations, the BLM and any surface managing agency involved consider operational and surface use stipulations to include in mineral leases to protect natural and cultural resources that may be affected by any future mineral exploration or development activities. As a non-discretionary right in accordance with the prior lease terms, the BLM will grant the lessee a third renewal in this action. However, the BLM and the Forest Service, the surface managing agency here, retain the authority to add reasonable new stipulations to the leases, as well as to reasonably adjust existing terms and conditions to meet all regulatory requirements.



The purpose of the Proposed Action is, therefore, for BLM to grant the leases with the appropriate readjustment of terms, conditions, and stipulations that the BLM and Forest Service deem appropriate for resource protection. The need of the Proposed Action is to fulfill the legal obligation provided in the original 1966 leases to grant a third renewal, under the terms, conditions, and stipulations that the BLM and Forest Service may prescribe for protection of the surface lands and natural resources in the area.

### **Decision to be Made**

The BLM's proposed action analyzed here is solely whether to issue the renewed leases with the same terms and conditions as were included in the 2004 leases, and thus maintain the status quo, or to renew the leases with added and readjusted terms, conditions, and stipulations that the BLM and the Forest Service deem appropriate for the conservation and protection of natural and cultural resources, under the Proposed Action.

The Proposed Action does not authorize any mine plan of operations or allow any specific surface use, nor does it include any reauthorization of or change to any prior-approved plan of operations or authorize future plans of operations for exploration and development of minerals on the leased lands. If, in the future, the lessee decides to explore for or develop the mineral resources governed by these leases, the lessee will be required to submit a proposed plan of operation to the BLM. The BLM and the Forest Service (as the surface managing agency) will evaluate the proposal in compliance with the National Environmental Policy Act and other applicable laws, regulations, and procedures governing this type of plan evaluation.

### **Scope of Analysis**

Because the Proposed Action does not authorize (or reauthorize or change) any plan of operations or allow any specific surface use, for exploration for and development of minerals on the leased lands, this EA does not include a detailed analysis of the development of a mine on these leases, or other exploration related surface uses. Impacts from any future development, such as transboundary impacts, are also not analyzed here. Rather, the analysis is limited to the impacts of the lease renewals with the same terms and conditions as were included in the 2004 leases (under the No-Action Alternative) or with adjusted terms, conditions, and stipulations that the BLM

and Forest Service deem appropriate for the conservation and protection of natural and cultural resources.

### **Relationship to Plans, Statutes, Regulations, and Other Analyses**

The Proposed Action is in conformance with the *Superior National Forest Land and Resource Management Plan*, as amended (Forest Plan) (USDA Forest Service, 2004). The Forest Plan provides for exploration (prospecting) and development (mining) of minerals in an environmentally sound manner in the SNF, outside of the BWCAW and the Mining Protection Area. The leased lands are within the SNF, and outside of the BWCAW and the Mining Protection Area. The Proposed Action's lease renewal terms, conditions, and stipulations take into consideration the resource management goals and objectives established through the Forest Plan.

The Proposed Action and No-Action Alternative are in conformance with the BLM's *Minnesota Management Framework Plan* (MMFP), approved September 1982, available at <https://go.usa.gov/xPWUB>. The MMFP determined that the BLM would encourage applications for prospecting and leasing of the federally owned mineral estate. The MMFP, which was developed in coordination with State and local governments and with public participation, provides the land use plan foundation for making federally managed subsurface mineral resources available for development, working in collaboration with the surface management agency, the Forest Service.

Mineral development on Federal lands in Minnesota is governed by multiple statutes and regulations, including the following:

- Act of June 30, 1950, which authorizes the BLM to permit prospecting and development of hardrock minerals on the public domain lands within the national forests of Minnesota with the consent of the Forest Service (16 U.S.C. § 508b)
- 16 U.S.C. § 520 and the Reorganization Plan No. 3 of 1946, Section 402, which collectively authorize the BLM to permit prospecting and development of mineral resources on acquired lands within the national forests of the United States with the consent of the Forest Service
- Federal Land Policy and Management Act of 1976, as amended (43 U.S.C. §§ 1701 *et seq.*)

- Title 5, Subchapter II, § 558(c) of the Administrative Procedure Act of 1946 (5 U.S.C. § 558(c))
- Title 43 Code of Federal Regulations §§ 3500 *et seq.* - Leasing of Solid Minerals other than Coal and Oil Shale

The current BLM regulations that govern the process for renewing the leases are set forth in 43 C.F.R. § 3511. These regulations establish that the BLM may issue additional ten-year renewals beyond this third renewal.

### **Public Participation**

This environmental assessment (EA) was available for comment from December 20, 2018, through January 30, 2019. The BLM received 38,905 responses, including submissions through the ePlanning website, emails sent to BLM staff, and letters, postcards, and other written materials sent to the BLM and the Department of the Interior. Senders included individuals, for-profit companies, non-profit organizations, municipal, state, and federal government bodies, and tribal entities.

The majority of the comments expressed opposition to renewing the federal hardrock leases. These opposing comments generally cited ecological degradation of the Boundary Waters Canoe Areas Wilderness and its watershed and socio-economic degradation as reasons for this opposition. A few comments focused on the clarity and suitability of the draft EA or the proposed stipulations. A summary of the comments and the BLM's responses to substantive comments can be found in Appendix C.

The primary changes to the EA as a result of public input are as follows:

- The BLM clarified Chapters 1 and 2 as to the purpose and need for the Proposed Action and the scope of the analysis.
- The BLM clarified Table 1 and much of Chapter 3 on the expected impacts of changing the terms, conditions, and stipulations.
- The BLM modified the stipulation allowing for tribal resource surveys, providing for a 45-day window for coordinating and scheduling surveys.
- The BLM added a stipulation stating that the agencies will invite the Chippewa Bands to recommend reclamation practices following exploration activities.

- The Forest Service modified the surface stipulations for clarity and internal consistency.

Hardrock mineral exploration is not new to northeastern Minnesota. The BLM is also utilizing comments from previous public processes regarding mineral leasing and related activities. In addition to the public participation for this EA, in December 2018 through January 2019, the Forest Service also conducted public outreach in 2016 and collected public comments regarding its proposed consent to the lease renewals. The Forest Service held two listening sessions in July 2016, in Duluth and Ely, Minnesota. Members of the public submitted approximately 30,000 responses, which included about 29,000 form letters and 1,600 unique responses, such as original letters and spoken comments. The BLM elected to utilize these comments to inform the analysis within this EA.

Most of the comments received by the Forest Service in 2016 were similar to the comments that the BLM received on this EA. In 2016 and in the current situation, most of the comments focused on economics, ecology, and the connections between the two. Topics of concern in economics included employment and income produced by mining and potential threats to the jobs and income produced by nature-based tourism. Ecological concerns articulated by commenters included the sensitivity of the pristine and valuable waters, ecosystems, and scenic beauty of the area, especially of the Boundary Waters Canoe Area Wilderness (BWCAW) and the potential threats that mining posed to those resources. Potential threats included impacts to water quality such as the potential for acid mine drainage, damages to wetlands, and additional concerns regarding past and potential pollution.

In 1987, at the time of the first renewal, the Forest Service sought public involvement, not as to whether the leases should be renewed, but rather as to whether any new stipulations needed to be added to the leases at renewal. The action in 1987 is very similar to the current Proposed Action. The Forest Service solicited comments through notices published in local newspapers, radio interviews, and by directly contacting people. A total of five members of the public responded. Four members of the public asked for additional information and after it was sent, did not comment further. One member of the public opposed the issuance of the lease renewal and claimed tribal ownership of the minerals in the leased area. Because the Scope of Analysis was not

for whether to renew, but for the determination as to whether new stipulations should be added, the Forest Service provided a copy of the lease and other relevant information to the respondent. After providing the information the respondent provided no additional comments.

This analysis does not extend to the anticipated economic effects of the renewal of the leases, such as effects on employment, and indirect effects, such as a declining tourism sector, for three reasons. First, changes to the tourism economy would occur only if pollution, noise, and other effects that may result from mining occurred to an extent that would cause a measurable decline in tourism. These potential effects are outside of the scope of this analysis for the reasons explained in those relevant sections. Second, potential economic stimulus from construction and operation of a mine would depend heavily on the mine's design, extent of mine automation, and the rate of mining, the details of which are not known at this time. Third, the focus of this EA is on the addition of stipulations for natural resource protection. The application of these stipulations is not expected to have a meaningful impact on the level of economic activities – hiring workers and contractors, buying materials, etc. – that the lessee is carrying out in its mineral exploration activities.

As discussed above in the Decision to be Made section, the reader should note that because the Proposed Action does not authorize, reauthorize, or change any mine plan of operations, this EA does not include a detailed analysis of the development of a mine on these leases. Rather, the scope of the analysis is limited to the impacts of preserving the terms and conditions that were included in the 2004 or modifying them for the protection of natural and cultural resources.

## CHAPTER 2 – PROPOSED ACTION

### Proposed Action

The BLM proposes to readjust some of the terms and conditions of leases MNES 01352 and MNES 01353 and to add stipulations, applicable to any future exploration, drilling, and other surface use activities to protect the environment and surface resources. This document analyzes the proposed terms, conditions, and stipulations to the extent that they have the potential to affect the human environment. Some of the readjusted terms, such as the royalty schedule, do not have the potential to affect the human environment and are therefore not analyzed here. A complete list of proposed terms, conditions, and stipulations analyzed in this assessment is provided in Appendix A. Table 1 compares the Proposed Action and the No Action Alternative. Under both the Proposed Action and the No-Action Alternative, the BLM will renew the leases, which is a non-discretionary action under the terms of the 1966 leases. As such, the scope of this EA is to provide analysis of the impacts the BLM expects to occur as a result of the new or readjusted terms, conditions, and stipulations, and a comparison of those impacts to the impacts expected under the existing terms and conditions of the No-Action Alternative. The relationship between the Proposed Action and other activities, such as forest management and potential mineral development, is addressed in Chapter 4.

### No-Action Alternative

Under the No-Action Alternative, the BLM would renew leases MNES 01352 and MNES 01353 under the same terms and conditions as approved in 2004. See Table 1.

### Comparison of Alternatives

Table 1 compares the original standard terms and stipulations to those being considered under the Proposed Action. These include the standard requirements on the lease form as well as the special stipulations that are added to the lease form to protect resources of particular interest. For example, while the standard lease form contains the general requirement to minimize “impacts to land, air, and water,”<sup>2</sup> a special stipulation would restrict or prohibit certain activities that may pose a threat to

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<sup>2</sup> Form 3520-7, Section 6, available at [https://www.blm.gov/sites/blm.gov/files/uploads/Services\\_National-Operations-Center\\_Eforms\\_Fluid-and-Solid-Minerals\\_3520-007.pdf](https://www.blm.gov/sites/blm.gov/files/uploads/Services_National-Operations-Center_Eforms_Fluid-and-Solid-Minerals_3520-007.pdf)

land, air, or water. One special stipulation that is proposed in the Proposed Action prohibits the use or disruption of waters on National Forest System lands without additional authorization. See Appendix A, section 14(i)(4).

The leases that were issued in 1966 did not use the BLM's then-current standard lease form. Rather, the BLM drafted a unique lease document that borrowed from the standard lease form but did not contain all of its standard conditions. For this renewal of the leases, the BLM will use a modified version of the current standard lease form (3520-7), and add to it the special stipulations that are listed in Appendix A. The previous lease documents will not be included in the lease renewal agreements and will no longer be in effect. The entire lease form being considered for each lease in the Proposed Action is attached in Appendix E and F.

A prominent difference between the original terms and those in the Proposed Action is the restriction on use of leased lands. The terms of the 1966 leases restrict open-pit mining, except with special approval, whereas the proposed stipulation prohibits this method outright. (Section 14(i)(6)). Further, unlike under the existing terms, the Proposed Action's siting stipulation restricts surface use on National Forest System lands only to lands and uses that are approved by the Forest Service and necessary for the purpose of protecting human health and safety, conducting technical investigations or resource monitoring, or implementing approved operating plans. The existing terms under the No-Action alternative designate the Forest Supervisor as the Authorized Officer responsible for approving operating plans. The proposed stipulations require that all operations must be done in accordance with an operating plan approved by both the BLM and Forest Service, and must be consistent with all applicable statutory and regulatory requirements, including all requirements deemed necessary to protect the lands and surface resources, including hydrological resources. The proposed stipulations also state that the lessee's right to mine and produce the minerals is contingent upon both the BLM and the Forest Service approving a mine plan of operations that meets all statutory and regulatory requirements and appropriately mitigates environmental impacts. Furthermore, unlike under the existing terms, the proposed stipulations also state that the BLM reserves the right to disapprove a mining plan of operation if it does not meet the requirements in the lease terms and the applicable statutes or regulations. Other resource-specific

differences between the Proposed Action and the No-Action Alternative are described below in their respective sections.

### **Alternative Considered but not Analyzed**

The BLM did not analyze a no-lease-renewal alternative because the current lease renewal is a non-discretionary action. Because the BLM is required to renew the specific leases, not renewing leases is not a viable option.

The BLM did not analyze in detail the exploration for minerals or the development of a mine on these leases. That analysis is outside the scope of this EA, which focuses on options for the non-discretionary renewal of the leases. Any proposal to develop a mine will require the lessee to submit a plan of operations to the BLM. The BLM, along with the Forest Service as the Surface Managing Agency, would then evaluate the proposal and its potential environmental impacts.

The BLM and the Forest Service considered but did not analyze including a no-surface occupancy provision in the lease renewals. Because Twin Metals currently plans to build an underground mine with an entry point on private surface, prohibiting all surface occupancy on Federal Forest Service lands was considered as an option. However, applicable Federal and State laws will require the mine operator to install safety features, such as ventilation shafts and emergency escape routes, including on Federal surface. In addition, Twin Metals has described a need for surface use for further hydrological testing and other technical investigations to inform the mine plan, as well as possible access roads and power lines for the mine operation. For these reasons, a no-surface occupancy provision was not carried forward for analysis.



Table 1: Summary Comparison between the No-Action Stipulations (1966 lease terms) and Proposed Action Stipulations

Original Terms (No-Action Alternative)	New Terms (Proposed Action)
<b>Restrictions on Siting – more restrictive under Proposed Action</b>	
<ul style="list-style-type: none"> <li>• No use within 400 feet of shorelines without written approval</li> <li>• No land disturbance within 200 feet of any building</li> </ul>	<ul style="list-style-type: none"> <li>• Limit occupancy to that which is necessary for safe operations<sup>3</sup></li> <li>• Obtain Forest Service permission for proposed sites<sup>3</sup></li> <li>• Surface occupancy restricted to specially-approved uses for protection of human health and safety, resource monitoring, conducting technical investigations, and other activities specifically approved in a mine plan of operations.<sup>3</sup></li> </ul>
<b>Operating Plan Requirements – more restrictive under Proposed Action</b>	
<p>No operations are authorized without a written, approved plan that describes the following:</p> <ul style="list-style-type: none"> <li>● location of areas to be occupied or cleared of vegetation</li> <li>● methods</li> <li>● soil conservation practices</li> <li>● water pollution prevention practices</li> <li>● fire/explosives safety plan</li> <li>● reclamation plan</li> </ul>	<p>Provisions in Stipulation Section 14(a)</p> <ul style="list-style-type: none"> <li>• Any and all operations to be conducted under this lease must be done in accordance with a plan of operations approved in writing by the lessor and the Forest Service before such operations begin, consistent with applicable agency regulations.</li> <li>• The approved operating plan will include any appropriate provisions the lessor and the Forest Service determine are needed to maintain proper administration of the lands and surface resources, including hydrological resources.</li> <li>• Any and all operations conducted in advance of approval of</li> </ul>

<sup>3</sup> Stipulation Section 14(i)(1).

Original Terms (No-Action Alternative)	New Terms (Proposed Action)
<p><b>Even though the original lease form required less information in operating plans, the current regulations apply to any activity proposed on a lease.</b></p>	<p>an original, revised, or amended operating plan, or which are not in accord with an approved plan, constitute violations of the terms of this lease.</p> <ul style="list-style-type: none"> <li>• Lessee's right to mine and produce the minerals is contingent upon both the Lessor and the surface managing agency approving a mine plan of operations that appropriately mitigates environmental impacts.</li> <li>• Lessor reserves the right to disapprove the mine plan of operations if it does not meet the requirements in the lease terms and the applicable statutes and regulations.</li> </ul> <p>Have an approved plan of operations, which is described in 43 CFR §3592.1 and includes the following:</p> <ul style="list-style-type: none"> <li>● location and general conditions, including maps showing topography, drainage, major cultural features</li> <li>● methods</li> <li>● soil conservation plan</li> <li>● water pollution prevention plan</li> <li>● fire prevention plan</li> <li>● reclamation plan</li> <li>● quantity of water to be used</li> <li>● contaminants that may enter waters</li> <li>● design of necessary impoundment to control runoff, reduce erosion and prevent water contamination</li> <li>● subsidence prevention plan</li> <li>● air pollution prevention plan</li> </ul>

Original Terms (No-Action Alternative)	New Terms (Proposed Action)
	<ul style="list-style-type: none"> <li>● fish and wildlife protection plan</li> <li>● public health and safety plan</li> </ul>
<b>General Resource Protection – more restrictive under Proposed Action</b>	
<ul style="list-style-type: none"> <li>● Protect timber, crops, livestock, and improvements</li> </ul>	<ul style="list-style-type: none"> <li>● Exercise reasonable diligence to protect life, health, property, mineral or water resources<sup>4</sup></li> <li>● Conduct all operations to minimize impacts to land, air, water and to cultural, biological, visual, mineral, and other resources and other uses and users<sup>4</sup></li> <li>● Comply with requirements of the SNF Land and Resource Management Plan and any additional terms and conditions prescribed by the Forest Service<sup>5</sup></li> <li>● Lessee responsible for damages due to caving or subsidence of NFS lands<sup>6</sup></li> </ul>
<b>Watershed Protection – more restrictive under Proposed Action</b>	
<ul style="list-style-type: none"> <li>● Do everything reasonably necessary to prevent or reduce erosion, water pollution</li> </ul> <p><b>Even though the proposed special stipulations require</b></p>	<ul style="list-style-type: none"> <li>● Comply with the Clean Water Act on any action that requires Forest Service authorization<sup>7</sup></li> </ul>

<sup>4</sup> Lease form Section 6.

<sup>5</sup> Stipulation Section 14(i)(3).

<sup>6</sup> Stipulation Section 14(i)(6).

<sup>7</sup> Stipulation Section 14(i)(5).

Original Terms (No-Action Alternative)	New Terms (Proposed Action)
<p><b>compliance with the Clean Water Act, this would apply even without the special stipulation.</b></p>	<ul style="list-style-type: none"> <li>• Obtain Forest Service authorization to use or disrupt surface water or groundwater; comply with all other applicable Federal, state, and local laws and regulatory requirements<sup>8</sup></li> </ul>
<p><b>Reclamation – more restrictive under Proposed Action</b></p>	
<ul style="list-style-type: none"> <li>• Fence or fill sumps, ditches, or other excavations</li> <li>• Reclaim land to a condition approved by Authorized Officer and bury pipelines</li> <li>• Remove all equipment from lease within a year of termination</li> </ul>	<ul style="list-style-type: none"> <li>• Reclaim all lands, remove debris, repair onsite and offsite damage caused by lease activities, repair roads and trails</li> <li>• Submit a reclamation schedule for Forest Service approval within 90 days of completion.</li> </ul>
<p><b>Prohibited Practices – more restrictive under Proposed Action</b></p>	
<ul style="list-style-type: none"> <li>• No strip-mining, rim-cutting, or open-pit mining without prior written approval and agreement to conditions</li> <li>• Smoking or building cooking fires during times of high fire danger</li> <li>• No smelting</li> </ul>	<ul style="list-style-type: none"> <li>• No strip-mining, rim-cutting, or open-pit mining<sup>9</sup></li> </ul>

<sup>8</sup> Stipulation Section 14(i)(4).

<sup>9</sup> Stipulation Section 14(i)(6).

Original Terms (No-Action Alternative)	New Terms (Proposed Action)
<b>Tribal Historic Preservation – more restrictive under Proposed Action</b>	
	<ul style="list-style-type: none"> <li>• Tribes retaining usufructuary rights may conduct cultural surveys from a Native American perspective prior to any proposed ground disturbance.<sup>10</sup></li> <li>• Lessee must consider opportunities to enhance usufructuary rights during reclamation planning.</li> </ul>

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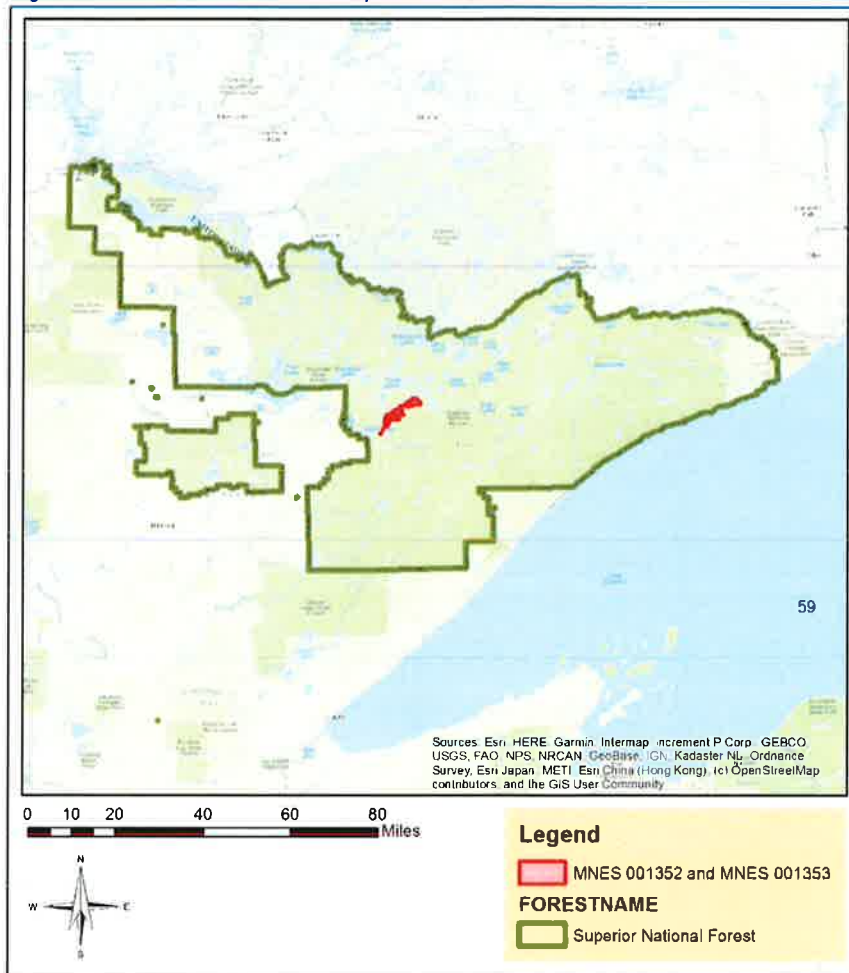
<sup>10</sup> Stipulation Section 14(e).

## CHAPTER 3 – ENVIRONMENTAL EFFECTS

### Introduction

Most of the leased area falls within the *General Forest Management Area*, as described in the Forest Plan, while the shores of Birch Lake are in the *Recreation Use in a Scenic Landscape Management Area*, as described in the 2004 Forest Plan. The General Forest Management Area is widespread throughout the SNF and is composed of a

Figure 2. Lease locations within Superior National Forest.



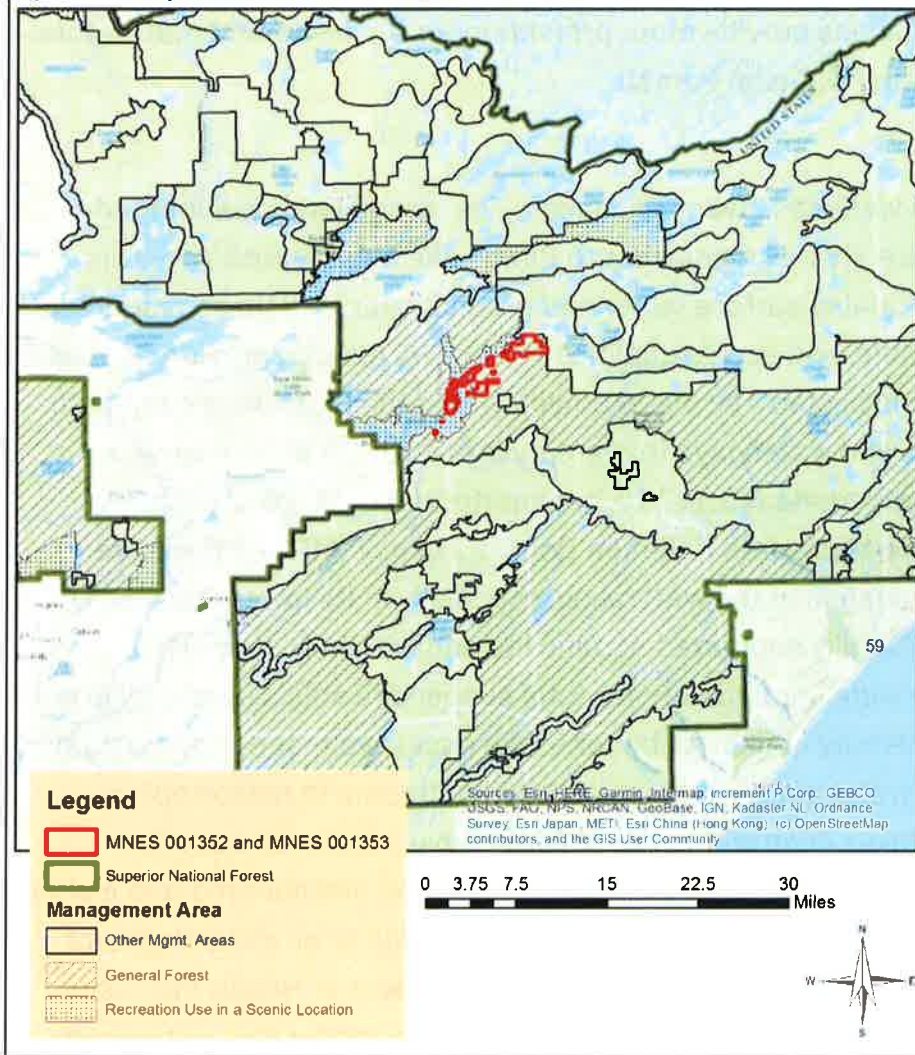
mix of vegetation types and physical settings. As compared to the other management areas, the General Forest Management Area contains the highest amount of young forest and largest permissible timber harvest units. The Recreation Use in a Scenic Landscape Management Area in this portion of the SNF includes the area adjacent to Birch Lake and the South Kawishiwi River. The emphasis in this management area is on providing for various types of recreational

activities. Recreational use in this management area is supported by high-standard roads and other developed facilities.

Additional authorizations for mineral exploration or development operations would require the lessee to submit additional plans and information for BLM approval and

would be subject to additional environmental review. Neither the Proposed Action alternative nor the No-Action alternative would result in commercial mining without substantial additional environmental review. Rather, the lessee would be required to obtain additional authorizations from the BLM and the Forest Service before conducting exploration or development activities on these leases. The BLM, along with

Figure 3. Management areas and the leases.



the Forest Service as the Surface Managing Agency, will evaluate any such proposals with a detailed analysis of the proposal and the relevant scientific information about the impacts of the proposal on the environment.

Under the Proposed Action’s stipulations at Section 14(a), “[a]ny and all operations to be conducted under this lease must be done in accordance with a plan of

operations approved in writing by the lessor and the Forest Service before such operations begin, consistent with applicable agency regulations. The approved operating plan will include any appropriate provisions the lessor and the Forest Service determine are needed to maintain proper administration of the lands and surface resources, including hydrological resources. Any and all operations conducted in advance of approval of an original, revised, or amended operating plan, or which are not in accord with an approved plan, constitute violations of the terms of this lease.”

This provision differs from the No-Action alternative, in that the Authorized Officer, the Forest Supervisor, must approve any operating plan. This section clarifies the role of the Forest Service in approving all plans of operations. The BLM and Forest Service must both approve a plan of operations that appropriately mitigates environmental impacts. In addition, section 14 explicitly states that the BLM has the right to disapprove any operating plan that does not meet statutory or regulatory requirements. These provisions provide more protection for the environmental, natural and cultural resources of the National Forest.

### **Water Resources**

The leased lands contain wetlands, rivers, and lakes. The leased lands are located within the Rainy River watershed and adjacent to Birch Lake and the BWCAW. This watershed contains high-quality surface water and groundwater, and these resources support the fisheries, wildlife, and scenic qualities in the BWCAW and provide the basis for a local tourist economic sector. The water quality within the BWCAW is subject to influence by the wetlands and waterways that empty into it (USDA Forest Service, 2012, Federal Prospecting Permits EIS, p. 119, hereinafter USDA FS 2012 EIS). According to data from the Minnesota Pollution Control Agency (MPCA), there are elevated levels of contamination in the watershed, especially in its lower reaches. Of the assessed streams, 97% fully supported aquatic life and 92% fully supported aquatic recreation. There were impairments for total suspended solids, *Escherichia coli* (harmful bacteria), and mercury in fish. All but one lake assessed met eutrophication standards and had good water quality that indicated oligotrophic to mesotrophic conditions. A number of lakes deep within the BWCAW have supported aquatic recreation based on Secchi transparency standards. However, one hundred and eighty-eight lakes had existing aquatic consumption impairments due to an exceedance of standards for mercury in fish tissue. The Minnesota Department of Health has issued numerous fish consumption advisories for specific lakes throughout this watershed (MPCA 2017).

Protections for water resources are very similar under both the Proposed Action and the No-Action Alternative. Some of the differences between the No-Action terms and the new proposed stipulations have no practical impact on water resource conservation because various laws, regulations, and policies are in effect and govern regardless of the stipulations applied. For example, the proposed stipulations specify



compliance with the Clean Water Act, which has been in effect since 1972. The BLM expects no measurable difference in any potential impacts to water quality or water resources between the Proposed Action and the No-Action Alternative, primarily because the state and Federal laws, regulations, and policies that protect water resources have been and are in effect under both alternatives. These laws, regulations and policies, in addition to any conditions of approval on future plans of operations, will continue to guide site-specific practices that prevent contamination and protect aquatic habitats.

### **Cultural Resources**

The leased lands are located within the 1854 ceded territory where the Bois Forte Band of Chippewa, the Grand Portage Band of Lake Superior Chippewa, and The Fond du Lac Band of Lake Superior Chippewa retain rights to hunt, fish, and gather resources like wild rice, berries, and other items. These treaty rights are collectively called *usufructuary* rights. Most of the leased area has had some form of cultural resource survey, but very little of the area has been intensively surveyed with shovel testing occurring at five- to 15-meter intervals. Six known archaeological sites are located within or adjacent to the boundaries of leases MNES 01352 and MNES 01353.

The Proposed Action would help the BLM to identify important cultural resources, in contrast to the No-Action Alternative. This is due primarily to the special stipulations that enable direct tribal surveying of lands proposed for surface-disturbing activity and ensure consideration of treaty rights when developing reclamation plans. The Proposed Action also includes a stipulation providing that “Prior to approving interim or final reclamation activities, the authorizing agency will invite the Bands to recommend reasonable reclamation practices, such as plant species to establish, that may enhance the Bands’ use of the reclaimed land.” This stipulation would allow for areas that are temporarily cleared for mineral exploration to be planted with plant species such as blueberries during reclamation, an important species to the Chippewa Bands. In this way, the Proposed Action provides an additional potential opportunity to enhance the Bands’ future use of the lands under their treaty rights, in comparison with the No-Action Alternative.

There are cultural resources that are not identified by cultural surveys conducted pursuant to the NHPA but that are important to the culture or Tribal rights of the Chippewa bands who dwell in northeastern Minnesota. These include, among other

things, wild rice and a sacred landform known as Mesabe Widjiu, which includes a linear array of hills near the Laurentian Divide. Wild rice has been a staple in the diet of the Ojibwe people since they emigrated to the region and carries historic and spiritual significance. Wild rice grows in clean, shallow, slow-moving waters. The importance of this cultural resource highlights the unity of cultural and natural resources. The proposed terms and conditions that protect water quality would also protect growing wild rice.

The Proposed Action involves only readjusted lease terms and conditions for a non-discretionary lease renewal, so it does not itself pose a threat to the Mesabe Widjiu. The primary potential threat to the Mesabe Widjiu from any future mineral activities would be any potential degradation of the visual aspect of the landform. However, the leases do not directly overlap the Mesabe Widjiu. By allowing the Bands to conduct tribal resource surveys, as put forward in the Proposed Action stipulations, the BLM would be more likely to predict, evaluate, and mitigate any visual or other potential impacts to the Mesabe Widjiu posed by activities under the leases than under the No-Action Alternative.

Under either the Proposed Action or the No-Action Alternative, project activities must also abide by general NHPA requirements, as well as section S-HR-9 of the Forest Plan, which requires the use of buffers around known cultural resources.

## **Noise**

There are multiple types of sounds in the SNF, ranging from rustling leaves to drilling, logging, helicopters and off-highway vehicles. A noise's ability to carry and become impactful depends upon time, duration, frequency, volume, land uses, and type of noise. An area's physical setting affects noise propagation. Trees with leaves on them muffle sounds, and tree cover reduces sound propagation by acting as a barrier to sound waves. Sound propagation may also be affected by topography. The SNF includes minor to moderate topographic variations, but does not include many high-profile features such as mountains, tall cliffs, or canyons. Hills and topographic features may present barriers to sound propagation, while on hilltops sound transmission may depend more on atmospheric absorption and geometric spreading (USDA FS 2012 EIS). Conversely, sound can travel farther over water than over land, due to the lack of barriers.

Individual noises are more noticeable in quiet places than in places with high background noise. Sounds in a place that is normally quiet and free of mechanical noise, such as a remote forest, are more likely to be impactful than in a place that is normally full of anthropomorphic noises, such as a busy city street.

The leased lands and surrounding areas include a variety of deciduous and coniferous forests, open habitats, and waterways. The non-wilderness portions of the SNF have ongoing prospecting activities that include drilling, vehicle traffic, logging, and other sources of mechanical noise from mineral, timber, recreational, and other types of activities. The BWCAW, to the north of MNES 01353, does not have logging or most other mechanical or motorized activities, nor is any prospecting currently proposed or being carried out in lease MNES 01353.

Both the original lease conditions and the proposed new stipulations require lessees to operate in accordance with BLM regulations and under plans that are approved by the Forest Service. Approvals of specific plans of operations may contain additional noise management conditions under either alternative.

The Proposed Action stipulations that prevent surface mining and restrict the size and locations of permissible mining activities, would limit the areas that may be affected by noise produced by on-lease activities to a greater extent than may be affected under the No-Action alternative.

## **Recreation**

The leased lands fall within the *semi-primitive, motorized and roaded-natural* recreation opportunity spectrum areas. The recreation opportunity spectrum is a classification tool used by the USFS to assess the existing and desired physical settings for recreational use in a given area. The tool involves assessing a site's accessibility, remoteness, management type, and other characteristics and ranking the area in one of six classes:

- Primitive
- Semi-primitive, non-motorized
- Semi-primitive, motorized
- Roded natural
- Rural
- Urban

The South Kawishiwi recreational residences, which are on private land that was acquired from the Forest Service, line the north edge of lease MNES 01352. Other developed recreation sites within the leases include a campground and Birch Lake access on the east side of Highway 1 and a campground, Birch Lake access, and hiking trail on the west side of Birch Lake.

Neither the original lease conditions of the No-Action Alternative nor the Proposed Action's special stipulations explicitly addresses the protection of recreational resources, such as trails or campsites. However, the terms and conditions under the Proposed Action provide more protection for recreational use of the landscape by restricting occupancy to only the areas and uses approved by the Forest Service and prohibiting land-intensive surface mining. The added restrictions on surface use in Stipulation Section 14 are expected to increase the protection of developed recreation sites, such as campgrounds. The prohibition of surface mining techniques will also reduce impacts from mining on dispersed recreational uses of the landscape by reducing the overall amount of surface disturbance from potential future mining.

### **Vegetation**

The Forest Plan lays out the desired forest composition, which is a mix of different types of vegetation, including young and old forests, even-aged and mixed stands, and open and shrubby habitat. The overall forest conditions are the result of many decades of various types of forest management, notably commercial logging in the 18th and 19th centuries and, more recently, wildfire suppression, timber management, and mineral exploration and other non-forestry activities that require clearing vegetation. Mineral exploration, including the creation of temporary roads and drill pads, has been ongoing throughout most of the duration of the two leases and under prospecting permits on other portions of the SNF. These activities have affected the forest composition far less than the habitat management of the forest as a whole, since these small, temporary clearings amount to just a small percentage of the total forest cover.

Stipulations under both the Proposed Action and the No-Action Alternative require lessees to protect timber resources, operate under approved plans, and reclaim disturbed areas. The original leases required lessees to protect timber and crops and to minimize watershed damage, which includes maintaining ground vegetation to the extent practicable. The proposed stipulations require the lessee to protect biological

resources, which would include any vegetation. These differences between the original lease and the stipulations in the Proposed Action are not expected to result in changes to vegetation management, primarily because plans of operation, whether under the Proposed Action or the No-Action Alternative, would be subject to Forest Service approval and would have to comply with the practices prescribed in the Forest Plan.

The primary difference between the No-Action Alternative and the Proposed Action, with respect to vegetation, is that, under the Proposed Action, stipulations restrict occupancy of the SNF to only the acreage approved by the Forest Service and prohibit land intensive surface mining. By restricting the amount of surface disturbance that may occur on the lease, the stipulations would ensure that only a minimum amount of vegetation is cleared on the SNF in the event of mining on the leases. In addition, while reclamation of disturbed surfaces is required under both the Proposed Action and No-Action alternatives, the Proposed Action includes the tribal stipulation inviting the Chippewa Bands to recommend beneficial plant species for revegetation.

### **Soils**

The sites host a wide variety of different soil types. Soil types range from mucky soils to boulders and rock outcrops. Slopes range from level ground to 70 percent. Some of the soils are flood-prone, typically those next to waterways (USDA Natural Resource Conservation Service, 2018). The Forest Plan restricts construction and drilling on most portions of the leases to frozen conditions or, in some cases, dry summer conditions to protect soils. These restrictions protect sensitive soils from excessive compaction and reduce erosion.

The Proposed Action provides more stringent requirements for the protection of soils than the No-Action Alternative original lease conditions, due to the restriction on surface occupancy and the prohibition of surface mining. These restrictions would limit soil impacts during the mineral development stages of a project on the leased lands.

Under the No-Action Alternative, lessees would be required to address soils in their operating plans, take measures to prevent erosion or watershed degradation, and reclaim the land upon completion, but surface mining activities might have still been allowed under the No-Action Alternative.

## Air Quality

The Air Quality Index (AQI) was developed by the United States Environmental Protection Agency to provide a simple, uniform way to report daily air quality conditions. The AQI is calculated by converting measured pollutant concentrations to a uniform index, which is based upon peer reviewed scientific evidence of the health effects associated with a pollutant. The AQI categories are the following:

- **Good (0-50):** Current air quality is considered satisfactory and poses little or no health risk
- **Moderate (51-100):** Air quality is acceptable; however individuals who are very sensitive to air pollution may experience adverse health effects
- **Unhealthy for Sensitive Groups (101-150):** People with lung or heart disease, older adults, children, and people participating in activities that require heavy or extended exertion may experience adverse health effects.
- **Unhealthy (151-200):** Everyone may begin to experience adverse health effects and members of sensitive groups may experience more serious health effects.

The nearest air quality monitor is the Ely monitoring station. Air quality at the project site is generally listed as “good.” Between the years of 2001 to 2017 only 14 days of

*Table 2: Count of AQI Days- Ozone and PM2.5*

AQI Region	Year	Good	Moderate	Unhealthy for Sensitive Groups
Ely	2017	350	7	
	2015	349	14	1
	2014	345	11	
	2013	338	23	
	2012	321	33	1
	2011	316	33	3
	2010	313	29	
	2009	303	42	
	2008	323	36	
	2007	318	32	3
	2006	328	30	1
	2005	241	27	1
	2004	172	7	
	2003	163	14	
	2002	164	12	3
	2001	163	5	1

“bad air days” were recorded (MPCA, 2018). Currently the project site hosts mineral prospecting activities, which include the use of diesel emissions engines. The neighboring BWCAW is specially designated a Class I air quality area.

The Proposed Action is not expected to result in measurable changes in air quality as compared to the No-Action Alternative. This is because the lessee is required to comply with the current laws, regulations, and policies. The requirement under 43 C.F.R. §3592.1 for plans of operations to address air impacts would apply to proposed exploration activities under either the Proposed Action or the No-Action Alternative.

Neither the Proposed Action nor the No-Action Alternative would result in a direct increase in the amount of air pollutants emitted, as lessees would need to submit further plans of operations for approval before conducting further operations that would emit pollutants. The Proposed Action would not increase the likelihood of bad air days nor introduce additional haze or pollutants into the BWCAW. This is because, as stated in the Purpose and Need section of this document, this analysis is limited to the options for the non-discretionary renewal of these leases. Any proposal to develop a mine will require the lessee to submit a plan of operations to the BLM. If a plan of operations is submitted, the BLM, along with the Forest Service as the Surface Managing Agency, will evaluate the impacts of the proposal, including air quality impacts, on the environment.

### **Wildlife**

Species listed under the Endangered Species Act for the area in question include Canada lynx, gray wolf, and northern long-eared bat. Other species of interest to the public and to the agencies include several taxonomic or functional groupings, including migratory birds, raptors, reptiles and amphibians, and moose. The main difference between the Proposed Action and the No-Action Alternative with respect to wildlife is the greater restriction on surface disturbance posed by the proposed stipulations, which prohibit strip mining and open pit mining and place other limitations on surface use for mining activities. The inclusion of these proposed stipulations is expected to result in less negative impacts to wildlife under the Proposed Action than under the No-Action Alternative.

## CHAPTER 4 – CUMULATIVE IMPACTS

The Council of Environmental Quality regulations define cumulative impacts as follows:

*“the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” (40 CFR § 1508.7)*

Cumulative impacts are analyzed according to spatial boundaries that make sense for each resource and that yield a meaningful analysis. The boundaries are not required to be defined by a geographic radius (e.g. 1 mile) nor bound by arbitrary divisions (county line) unless it makes sense. The BLM utilized the following spatial boundaries:

- water quality and water resources – watershed, since impacts to waters accumulate downstream, combining the impacts of actions that share a watershed
- recreation – the general vicinity of the Proposed Action with shared use potential
- vegetation – the general vicinity of the Proposed Action due to the potential for vegetation dispersal and impacts that could inter-relate to other resource areas such as water quality
- air quality – air basin, since air quality impacts accumulate with those of other sources within the same basin
- noise – localized to the project site, with emphasis on audibility in BWCAW, since the wilderness character of the BWCAW is the primary concern regarding noise
- soils – localized to the project site and immediate surroundings, dependent upon topographical influences such as slope and stability
- cultural resources – 1854 Treaty area
- wildlife – the general vicinity of the Proposed Action due to the potential for species to scatter and re-locate, in the case of endangered species, other lands that are affected by Federal actions



The BLM analyzed identifiable effects to resources from other past, present, and reasonably foreseeable future actions within these spatial boundaries. See Appendix B. As part of the evaluation of cumulative impacts, the BLM reviewed nearby projects that occurred within the past five years or are planned to occur by 2023. This analysis is summarized in this section below, but is described in more detail in Appendix B.

Table 3: Projects Analyzed for Cumulative Effects

Activity	Timing	Potentially Affected Resources
Hardrock Mineral Prospecting	Present	Water Quality,
Northmet Mining Project and Land Exchange (outside Rainy River watershed)	Present	Cultural Resources,
Mining the Maturi Deposit	Future	Noise, Recreation,
TMM Minnesota Hydrogeologic Study	Future	Air Quality,
		Vegetation, Wildlife
Kimball, HiLo, Jeanette, and Beaver River projects - hazardous fuels reduction, vegetation management, wildlife habitat improvement	Future	
Tomalnga and Shokoshoe Projects - hazardous fuels reduction, vegetation management, wildlife habitat improvement, and road management	Present	
Barker, Mesabi, North Shore, and Pearl Restoration projects - hazardous fuels reduction, vegetation management, wildlife habitat improvement	Past (2014-2017)	Water Quality,
Mixed Use Motorized Use Project - allowing mixed use of passenger vehicles and ATVs on 5.25 miles of forest roads	Past (2015)	Noise, Recreation,
Prospector Loop Trail - add linkages to existing roads and trails to create a 75-mile OHV loop and connect areas	Past (2016)	Vegetation, Wildlife
Lake County Fiber Optic Network	Past (2014)	Vegetation, Wildlife

The BLM expects that the lessee will need to obtain additional federal leases before it will propose a mine plan of operations, as the extent of the deposit that Twin Metals

intends to mine also includes federal minerals underlying Twin Metals’ prospecting permits. The deposit that Twin Metals intends to mine will likely incorporate a combination of federal, state, and private leases.<sup>11</sup> Although the anticipated mine plan is not ripe for decision, the BLM considered this potential proposal in its cumulative effects analysis.

### Mineral Actions

There are multiple existing and proposed mineral actions in the general area of the SNF, as contemplated and allowed by the Forest Service’s 2004 Forest Plan. These existing and proposed mineral actions include a total of 41 pending mineral actions for federally owned mineral estate. As detailed and addressed in this EA, there are two lease renewals for MNES 01352 and MNES 01353. Additional pending mineral actions within the Superior National Forest include: three Preference Right Lease Applications (PRLAs), 15 prospecting permit extension requests, 21 prospecting permit applications, and seven withdrawn prospecting permit extension requests and prospecting permit applications. The additional mineral actions, including all Preference Right Lease Applications, prospecting permit extension requests, and prospecting permit applications, will be addressed with further environmental analysis as governed by the National Environmental Policy Act. A decision will be made for each of the actions as governed by the relevant sections of 43 CFR 3500.

*Table 4. Pending federal mineral applications in the Superior National Forest.*

SERIAL NUMBER	LAND USE REQUEST	COMPANY	STATUS
MNES 01352	Lease Renewal	Franconia Minerals (US) LLC (TMM)	EA posted on ePlanning for 41-day public comment period; BLM conducting comment content analysis.
MNES 01353	Lease Renewal	Franconia Minerals (US) LLC (TMM)	EA posted on ePlanning for 41-day public comment period; BLM conducting comment content analysis.
MNES-57965	Preference Right Lease Application	Twin Metals Minnesota LLC [encompassing prospecting permits MNES 50652 (865.78 acres) and MNES 50846 (178.45 acres)]	BLM reviewing application; NEPA not started.
MNES-50264	Preference Right Lease Application	Franconia (now TMM; formerly Lehmann Exploration; 13.75 acres)	BLM reviewing application; NEPA not started.
MNES-57274	Preference Right Lease Application	Encampment (encompassing prospecting permit MNES-50817; 320.28 acres)	BLM reviewing application; NEPA not started.

<sup>11</sup> See the map entitled Twin Metals Minnesota Project Preliminary Facilities Location at <http://www.twin-metals.com/about-the-project/>.

SERIAL NUMBER	LAND USE REQUEST	COMPANY	STATUS
MNES-53731	Prospecting Permit Extension Request	Lehmann Exploration Management, Inc. (TMM)	Pending
MNES-53868	Prospecting Permit Extension Request	Duluth Metals (TMM)	Pending
MNES-54037	Prospecting Permit Extension Request	Duluth Metals (TMM)	Pending
MNES-54050	Prospecting Permit Extension Request	Twin Metals Minnesota LLC	Pending
MNES-54194	Prospecting Permit Extension Request	Twin Metals Minnesota LLC	Pending
MNES-54195	Prospecting Permit Extension Request	Twin Metals Minnesota LLC	Pending
MNES-54196	Prospecting Permit Extension Request	Twin Metals Minnesota LLC	Pending
MNES-54366	Prospecting Permit Extension Request	Duluth Metals (TMM)	Application withdrawn
MNES-54367	Prospecting Permit Extension Request	Duluth Metals (TMM)	Application withdrawn
MNES-54368	Prospecting Permit Extension Request	Duluth Metals (TMM)	Application withdrawn
MNES-54385	Prospecting Permit Extension Request	Duluth Metals (TMM)	BLM reviewing application; NEPA not started.
MNES-54387	Prospecting Permit Extension Request	Lehmann Exploration Management, Inc. (TMM)	Pending
MNES-55203	Prospecting Permit Extension Request	Duluth Metals (TMM)	Pending
MNES-55205	Prospecting Permit Extension Request	Duluth Metals (TMM)	BLM reviewing application; NEPA not started.
MNES-55206	Prospecting Permit Extension Request	Duluth Metals (TMM)	Pending
MNES-55301	Prospecting Permit Extension Request	Lehmann Exploration Management, Inc. (TMM)	Pending
MNES-55302	Prospecting Permit Extension Request	Lehmann Exploration Management, Inc. (TMM)	Pending
MNES-55305	Prospecting Permit Extension Request	Twin Metals Minnesota LLC	Pending
MNES-55306	Prospecting Permit Application	Lehmann Exploration Management (TMM)	BLM reviewing application; NEPA not started.
MNES-56284	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56285	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56286	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56287	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56288	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56289	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56290	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56291	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56292	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56293	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56294	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56295	Prospecting Permit Application	Park Creek Exploration	BLM reviewing application; NEPA not started.
MNES-56443	Prospecting Permit Application	Encampment	BLM reviewing application; NEPA not started.
MNES-57185	Prospecting Permit Application	Duluth Metals (TMM)	Application withdrawn 2/8/2019
MNES-57186	Prospecting Permit Application	Duluth Metals (TMM)	Application withdrawn 2/8/2019
MNES-57187	Prospecting Permit Application	Duluth Metals (TMM)	Application withdrawn 2/8/2019
MNES-57188	Prospecting Permit Application	Duluth Metals (TMM)	Application withdrawn 2/8/2019
MNES-57828	Prospecting Permit Application	Duluth Metals (TMM)	BLM reviewing application; NEPA not started.
MNES-57276	Prospecting Permit Application	Encampment	BLM reviewing application; NEPA not started.
MNES-57410	Prospecting Permit Application	Duluth Metals (TMM)	BLM reviewing application; NEPA not started.
MNES-57601	Prospecting Permit Application	Beaver Bay (TMM)	BLM reviewing application; NEPA not started.
MNES-57681	Prospecting Permit Application	Beaver Bay (TMM)	BLM reviewing application; NEPA not started.
MNES-57765	Prospecting Permit Application	Franconia Minerals (TMM)	BLM reviewing application; NEPA not started.
MNES-58222	Prospecting Permit Application	Franconia Minerals (US) LLC (TMM)	BLM reviewing application; NEPA not started.

The Proposed Action, which involves the nature of the terms and conditions in the non-discretionary lease renewals, does not itself add to the cumulative impacts or potential cumulative impacts from these existing and proposed mineral actions in the area. The potential environmental impacts, including cumulative impacts, from any future mining

proposals on the renewed leases will be analyzed if and when the lessee submits a proposed mine plan of operations.

Mineral activities may occur on about 39 percent of the SNF surface, or 470,497 acres, including SNF-managed lands that are not within the BWCAW, the Mining Protection Areas, or Pigeon River Wild River segments. Ninety percent of applications are likely to be located in the high and moderate minerals interest areas (USDA FS 2012 EIS, p. 119). These areas generally follow the extent of the Duluth Complex, which runs from approximately ten miles south of Hoyt Lakes to an area northeast of Birch Lake, about 10 miles SE of Ely (USDA FS 2012 EIS, p. 4). At this time, the potential environmental effects to resource areas from the other existing and proposed mineral actions relevant to this cumulative effects analysis include forest and vegetation removal, loss of wildlife habitat, air emissions and the ensuing effects to air quality values, diminishment of tribal uses of natural resources, loss of recreational opportunity, and additional noise to the project area and its surroundings.

### **Various Forest Management Projects**

The Forest management projects listed in Table 3 above and further described in Appendix B are likely to have some negative effects, such as minor sedimentation, minor temporary vegetation loss, and potential effects to listed species. Beneficial impacts, such as increased recreation and habitat management would be gained.

### **Other Projects**

The other projects listed in Table 3 above and further described in Appendix B might also result in temporary negative effects to wildlife, vegetation, soils, water quality, air quality, and recreation. These impacts would be temporary, and the sites would be remediated and revegetated.

### **Cumulative Effects Analysis**

The Proposed Action's incorporation of additional protective stipulations, when considering other projects in the area, does not cumulatively create any greater negative effect on shared resources than would the No-Action Alternative. The Proposed Action's improved stipulations for the non-discretionary lease renewals may have a beneficial effect on some resources in contrast to the No-Action Alternative. The BLM recognizes that the cumulative effects of the potential mineral-related future actions in Table 3 could result in a greater overall impact to the environment and that

these impacts must be thoroughly analyzed and disclosed if and when a mine plan of operations is submitted and when sufficient supporting information is available.

**CHAPTER 5 – TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES  
CONSULTED**

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
<p>Cathy Chavers Chairperson Bois Forte Band of Lake Superior Chippewa Nett Lake, MN</p>	<p>The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.</p>	<p>Met with Tribal Council on August 8, 2018, and received response by Bill Latady, Bois Forte Tribal Historic Preservation Officer, on October 31, 2018, proposing additional cultural surveys before any ground-disturbing activities.</p>
<p>Kevin Dupuis Chair Fond du Lac Band of Lake Superior Chippewa Cloquet, MN</p>	<p>The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.</p>	<p>Contacted by Nancy Schuldt, Water Projects Coordinator for the Fond du Lac Environmental Program on December 7, 2018, and met with Reservation Business Committee and Chairman on February 28, 2019.</p>
<p>Norman Deschampe Chairman Grand Portage Reservation Grand Portage, MN</p>	<p>The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.</p>	<p>No response received.</p>
<p>Melanie Benjamin Mille Lacs Band Chief Executive Onamia, MN</p>	<p>The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.</p>	<p>No response received.</p>

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
<p>Gary Frazer Executive Director Minnesota Chippewa Tribe Cass Lake, MN</p>	<p>The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.</p>	<p>No response received.</p>
<p>Derrell G. Seki, Sr. Chairman Red Lake Band of Chippewa Red Lake, MN</p>	<p>The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.</p>	<p>Deferred to Bois Forte Band of Chippewa.</p>
<p>Steven "Punky" Clark Vice Chairman White Earth Band of Chippewa White Earth, MN</p>	<p>The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.</p>	<p>No response received.</p>
<p>Robert Larson President Lower Sioux Indian Community Morton, MN</p>	<p>The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.</p>	<p>No response received.</p>

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
Charlie Vig Chairman Shakopee Mdewakanton Sioux Community Prior Lake, MN	The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.	Deferred to Bois Forte Band of Chippewa.
Kevin Jensvold Chairman Upper Sioux Community Granite Falls, MN	The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.	No response received.
Shelly Buck President Prairie Island Indian Community Welch, MN	The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.	No response received.
Carri Jones Chairman Leech Lake Band of Ojibwe Cass Lake, MN	The National Historic Preservation Act, The American Indian Religious Freedom Act, The Native American Graves Protection and Repatriation Act, E.O. 13007, and/or other statutes and executive orders.	No response received.



Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
Sarah Beimers Environmental Review Program Manager Minnesota State Historic Preservation Office St. Paul, MN	National Historic Preservation Act, 36 CFR 800	Letter received on July, 31, 2018 stating under 36 CFR 800.3 (a)(1) a concurrence determination is not required.
Mary Ann Heidermann Manager of Government Programs and Compliance Minnesota State Historic Preservation St. Paul, MN	The National Historic Preservation Act, 36 CFR 800.	Letter sent on October 21, 2013. BLM received a reply letter from the Minnesota State Historic Preservation Officer dated November 27, 2013 stating Proposed Action would have no adverse effects to historic properties. Subsequent coring and development activities will be subject to Section 106 review, and Minnesota State Historic Preservation Officer requested they be consulted per Federal regulations.
Field Office Supervisor, U.S. Fish and Wildlife Service	Endangered Species Act, Section 7 consultation	Acknowledged BLM's no-effect determination on June 13, 2018.

## **CHAPTER 6 – LIST OF PREPARERS**

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## CHAPTER 7 - REFERENCES

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## APPENDIX A – STIPULATIONS

### Surface Stipulations for Leases MNES 01352 and MNES 01353.

#### Section 14: Surface Stipulations:

- a. Operations: Any and all operations to be conducted under this lease must be done in accordance with a plan of operations approved in writing by the lessor and the Forest Service before such operations begin, consistent with applicable agency regulations. The approved operating plan will include any appropriate provisions the lessor and the Forest Service determine are needed to maintain proper administration of the lands and surface resources, including hydrological resources. Any and all operations conducted in advance of approval of an original, revised, or amended operating plan, or which are not in accord with an approved plan, constitute violations of the terms of this lease.

Lessee's right to mine and produce the minerals is contingent upon both the Lessor and the Forest Service approving a mine plan of operations that appropriately mitigates environmental impacts and the Lessee's proper payment of production royalties on any extracted minerals. Lessor reserves the right to disapprove of the mine plan of operations if it does not meet the requirements in the lease terms and the applicable statutes and regulations.

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- e. Tribal Historic Preservation Obligations: The leases are located within the 1854 ceded territory where the Bois Fort Band of Chippewa, the Grand Portage Band of Lake Superior Chippewa, and the Fond du Lac Band of Lake Superior Chippewa reside and retain usufructuary rights. Prior to authorizing any ground disturbance, the BLM and/or Forest Service will notify these three Chippewa Bands about the proposed project and allow the Bands 45 days to coordinate and schedule completion of cultural surveys from a Native American perspective, within a reasonable timeframe that the BLM and/or Forest Service may determine. The BLM and/or Forest Service will consider the results of the cultural surveys completed by the Bands along with archaeological and historical inventories and incorporate the results, as necessary, into the Section 106 of the National Historic Preservation Act and National Environmental Policy Act review processes. Prior to approving interim or final reclamation activities, the authorizing agency will invite the Bands to recommend reasonable reclamation practices, such as plant species to establish, that may enhance the Bands' use of the reclaimed land.

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- i. Surface Stipulations:

The lessee must comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights granted by the Secretary of Interior in this lease. Subject to the terms and conditions of Paragraphs 1-8 below, the Secretary of Agriculture's rules and regulations must be complied with for (1) all use and occupancy of the NFS prior to approval of an operation plan, (2) uses of all existing improvements, such as Forest development roads, within and outside the area leased by the Secretary of the Interior, and (3) use and occupancy of the NFS not authorized by an approved operating plan. All matters related to these stipulations are to be addressed to Superior National Forest, Forest Supervisor at 8901 Grand Ave. Place, Duluth, MN 55808-1122, and telephone number (218) 626-4300.

#### 1. OCCUPANCY AND USE OF NFS LAND WITHIN THE LEASE AREA

With respect to exercising rights under this lease, the Lessee shall not occupy or use NFS land and waters within the lease area, except for:

- a) Vent shafts or human escape routes, which, as determined by an approved operating plan, must be located on NFS land in order to comply with applicable Federal or State law, regulation, or other requirement;
- b) Resource monitoring to assess impacts from the lessee's activities under this lease upon NFS land and waters, which monitoring is required by an approved operating plan, or as may otherwise be required by the BLM, Forest Service, or state or Federal agencies which regulate mining operations or pollution control;
- c) Technical investigations, including, but not limited to geophysical surveys, resource surveys, geotechnical investigations, hydrogeological testing, and resource monitoring, consistent with rights granted under this lease, to collect information and data, determined by the BLM and Forest Service to be reasonably necessary for the development and implementation of a mine plan of operations ("MPO") or to conduct environmental review, surveys, or other documentation in order to comply with applicable law necessary for any approval of the MPO, or as necessary for any activities approved by a mining plan of operations; and
- d) NFS land and water use or occupancy approved by the Forest Service and BLM in a mining plan of operation.

Provided, that such occupancy and use shall: (1) be placed on the surface at locations, including the geographical extent, acceptable to the Forest Service; and (2) comply with applicable requirements of the Superior National Forest's Land and Resource Management Plan ("Forest Plan"), then in effect; and any other terms and conditions, including, but not limited to, those related to reclamation, as prescribed by the Forest Service and which are reasonably necessary in order to protect Superior National Forest (SNF) resources and uses. Such location acceptability, Forest Plan requirements, and other terms and conditions mentioned in this paragraph, may be made a part of an operating plan approved under this lease or, as appropriate, other applicable instrument of authorization issued by the BLM, Forest Service, or other Federal or state agency.

Occupancy and use as addressed by this paragraph, includes, but is not limited to, access within the lease area via roads or otherwise, to the extent such occupancy and use meets the requirements of this paragraph. As determined by the Forest Service, areas of occupancy and use may be considered exclusive, in whole or in part, so as to protect the health and safety of Forest Service employees, permittees, and contractors, as well as members of the public using NFS land and waters. In such a case, the Forest Service may also prescribe additional terms and conditions, with which the lessee must comply, in order to specifically address such health and safety concerns. Outside of areas of exclusive use, the Forest Service may exercise its authorities under Federal law, to manage and use NFS land and waters located within the lease area, for National Forest purposes, including but not limited to, allowing public use.

## 2. OCCUPANCY AND USE OF NFS LAND OUTSIDE THE LEASE AREA

The use of NFS land located outside of the lease area, if any, including but not limited to, access to the lease area by the lessee, shall be governed by and subject to approval of the Forest Service pursuant to Forest Service decision-making authorities, under applicable Federal law and regulations.

## 3. GENERAL PROTECTIONS FOR FOREST RESOURCES AND USES

In addition to any terms and conditions prescribed under Paragraph 1, in exercising rights under this lease including the implementation of any approved operating plan, without regard to the location of the Lessee's operation or activity, the Lessee shall comply with all reasonable terms and conditions prescribed by the Forest Service. The Forest Service terms and conditions may be included within any approved operation plan, or other applicable instrument of authorization, and shall ensure the adequate protection and utilization of NFS lands and waters, consistent with applicable management direction of the Superior National Forest's Land and Resource Management Plan, then in effect.

## 4. WATER USES

The United States retains its landownership rights, including riparian and littoral rights, to groundwater and surface water resources. This lease does not give the Lessee any right to use, or otherwise disrupt the natural flow or presence of, surface water or groundwater flowing through, present upon, or contained within, NFS land. Such use, or disruption, may only be made with prior authorization of the Forest Service, in accord with its applicable decision-making procedures; and such authorization as may be otherwise required by applicable Federal, state, or local law. All activities conducted pursuant to any Forest Service authorization shall comply with all applicable Federal, state, and local laws and regulatory requirements respecting the use.

## 5. WATER QUALITY

Any authorization or approval of an MPO, as well as any other Forest Service authorization or approval under, or connected with, this lease, shall not be granted before the Lessee presents the authorizing official with either a copy of any required certification pursuant to Section 401 of the Clean Water Act (33 USC 1341) or acceptable evidence that the appropriate entity waived this certification requirement.

6. SURFACE PROTECTION

The United States does not waive its real property right of subjacent support in the NFS land. To the extent allowed by applicable law, the Lessee shall be liable to the United States for any damages due to caving or subsidence of the surface on NFS lands which is caused by operations under this lease. Additionally, this lease does not authorize the mining or removal of the mineral deposits by stripping, rim cutting, or open pit methods.

7. BONDING

The Lessee shall comply with all bond requirements as may be prescribed by the Forest Service, in order to ensure adequate protection and utilization of NFS land and waters. To the extent consistent with applicable federal authorities, the Forest Service and BLM will coordinate so as to avoid duplicative bonding requirements.

8. FOREST SERVICE CONSENT ON RENEWAL

The Forest Service reserves its consent authority. However, if the lessee is in full compliance with the terms and conditions of this lease, the Forest Service will provide consent to a renewal, subject to any reasonable adjustments as described in Section 14.

## **APPENDIX B – Environmental Effects of Projects Used in Cumulative Effects Analysis**

### **Hardrock Mineral Prospecting**

The BLM and Forest Service decided in 2012 to approve 28 prospecting permits. The *Federal Hardrock Mineral Prospecting Permits Final Environmental Impact Statement* (hereinafter, Prospecting EIS<sup>12</sup> or USDA FS 2012 EIS), anticipating that these 28 prospecting permits would result in 52.4 acres of disturbance and 14.3 miles of temporary roads. Further, the agencies estimated that additional or extended prospecting permits would impact up to 15.4 acres per year for drill pads and up to 19.2 miles per year of temporary road construction over the next 20 years. As of late 2018, prospecting activities had disturbed 24 acres for drill pads and produced 41 miles of temporary roads. The Prospecting EIS includes a thorough suite of stipulations to protect various resources. Currently pending prospecting permits, if issued, would disturb about seven acres for drill pads and create about six miles of temporary roads.

### ***Cultural Resources***

Prospecting activities may directly affect cultural resources by disturbing historic or prehistoric artifacts or indirectly effect these resources by making these artifacts more vulnerable to later disturbance, say, by increasing traffic nearby. The Prospecting EIS sought to avoid this type of impact by requiring pre-disturbance surveys and protective buffers around known archeological sites.

Prospecting activities also may diminish the value of resources that are granted for use by the bands that dwell in the area ceded to the United States under the Treaty of 1854. This treaty granted the bands the right to hunt, fish, and gather natural resources, such as wild rice. Since these rights are broad and not limited to a discreet list of resources, it is possible that prospecting activities may remove resources, such as, for example, a grove of sugar maple trees that a band was in the habit of tapping to produce maple syrup. Prospecting activities may also enhance these treaty-granted resources, for example, by creating temporary clearings that may support blueberries

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<sup>12</sup> Available at [http://knrc.org/Files/SNF/Final\\_EIS\\_May\\_2012.pdf](http://knrc.org/Files/SNF/Final_EIS_May_2012.pdf).



after drilling has completed. Since prospecting activities involve only temporary use of the land, they do not necessarily permanently affect tribal uses.

### *Water Resources and Water Quality*

Drilling of almost 2,000 water wells to date within the SNF has not resulted in any noticeable change in the quality or quantity of water produced by water supply wells (USDA FS 2012 EIS, p. 154). As such, water withdrawals are not expected to impact the viability of aquatic habitats or the capacity of water supply wells.

Drilling in Minnesota is regulated under Minnesota Administrative Rules, Chapter 4727 (Explorers and Exploratory Borings).<sup>13</sup> The primary, if not only, substance that operators put down boreholes is water, which is used for cooling the drill bit and circulating cuttings to the surface. Any additives must comply with the Minnesota Administrative Rules, Chapter 4727.0935. Operators must seal their boreholes within 30 days of the end of exploratory activities and prevent surface contamination from entering a borehole.

Several stipulations and other voluntary practices have been in practice to avoid and minimize water contamination from exploration activities. For example, prospecting permit holders are required to use absorbent mats under rigs to contain spills and are prohibited from storing fuel in wetlands.

### *Air Quality*

Impacts to air quality are minimal, including to the Class I airshed in the BWCAW. Exploration activities emit diesel fumes. Emissions from motor vehicles last for a few days and, under most weather conditions, dissipate to a low enough level that they are not noticeable by sensitive receptors downwind, such as homeowners or trail users. As noted in the Prospecting EIS, the volume of emissions from motor vehicles or stationary engines will not be enough to approach thresholds under the National Ambient Air Quality Standard (NAAQS).

### *Wildlife*

Prospecting activities affect wildlife habitat as well as influencing wildlife behavior. Drill pads and roads and constructed, in part, by clearing vegetation. Drill rigs, motor vehicles, and other machines create noise and other aspects of human presence that

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<sup>13</sup> Available at <https://www.revisor.mn.gov/rules/4727/>

drive away some species and may contribute to failure to reproduce or other impacts. These impacts are minimized through application of the stipulations in the Prospecting EIS, which restrict use of certain sensitive areas, establish buffers around known nests, dens, and other key wildlife habitat features, and otherwise minimize vegetation disturbance, noise, and other factors that degrade habitat.

Prospecting permits analyzed in the Prospecting EIS were found, through Section 7 consultation with the U.S. Fish and Wildlife Service, to be “likely to adversely affect Canada lynx.” This finding was based on the potential for vehicle traffic and human use of roads associated with the project to cause mortality. Consultation with the U.S. Fish and Wildlife Service resulted in a finding in the Biological Opinion (BO) that one lynx might be killed over the course of 20 years of implementing minerals exploration Forest-wide, resulting in overall maintenance of the population. Stipulations in the Prospecting EIS require that operators close temporary roads when minerals exploration is not taking place (Stipulation RDS-1) and decommission temporary roads at final reclamation (Stipulation RDS-2 and RECL-3) to minimize impacts to lynx.

### *Vegetation*

Prospecting activities involve clearing vegetation for drill pads and roads. The stipulations in the Prospecting EIS require operators to minimize surface disturbance to the extent possible, to avoid cutting timber, to stockpile topsoil for use in reclamation, and to reclaim and revegetate sites after use. Non-native, invasive species introductions from prospective activities tend not to spread to undisturbed areas, due to the dense forestry canopy, which creates too much shade to support most of the invasive plant species that are present in the forest.

Disturbed areas, especially those exposed to sunlight after forest canopy has been removed, are susceptible to colonization by non-native, invasive plant species. As required in the Forest Plan, the lessee is required to remove only the minimum necessary amount of forested cover for its needs. By preserving some shade in disturbed areas, the lessee will reduce the susceptibility of cleared areas to invasion by plants that thrive in sunny locations. Any ground disturbance would require site specific analysis, consistent with the requirements for plan approval under both the old lease and the proposed new lease terms.

### *Soils*

Prospecting activities affect soils by compacting them in the construction and use of roads and drill pads. This makes the soils unproductive for the duration of use. Soils may be eroded, removing the rich topsoil and exposing nutrient-poor subsoils, as a result of poorly designed roads and drill pads. The stipulations in the Prospecting EIS require operators to minimize erosion, stockpile topsoil for use in reclamation, and properly abandon temporary roads to prevent their continued use. Most of the prospecting activities analyzed in the Prospecting EIS are restricted to frozen conditions due to the widespread presence of lowland ecological land types (ELTs). In shallow- or fine-soil ELTs, exploration is permitted on frozen soils or during normal summer dry periods to prevent excessive rutting and compaction.

### *Noise*

The Prospecting EIS considered the potential effects of noise on various end-uses and analyzed sounds of various magnitudes heard by people at various distances from the sound source, during different seasons. This analysis considered the effects of vegetation and ambient noise on the audibility of different levels of sound and included a detailed discussion of the composition of the existing soundscape, which includes both natural sounds as well as human-generated sounds (frequently from motorized sources). Focal points for analyses include entry points to the BWCAW, designated recreational campsites and trails, developed recreation site and trail visitors, winter use enthusiasts, and local landowners, including the SKA cabin owners. The analysis of the affected environment included specific analysis of the lands subject to the leases, and areas of audibility associated with ongoing exploration and drilling activities on the leases. (USDA FS 2012 EIS, Figures 13-18.)

Under the Minnesota state rules and the stipulations developed in the FEIS, operators are required to meet thresholds of 30 A-weighted decibels (dBA) at the L50 sound level and 35 dBA at the L10 sound level at the boundary of the BWCAW. The L50 and L10 sound levels refer to the ambient noise levels that are exceeded fifty percent and ten percent of the time, respectively. The more frequent, L50 ambient noise level is quieter than the less frequent level. Since ambient noise cancels out noise produced by another source, such as those generated by mineral exploration, a certain noise level is required for the new noise to be audible above the ambient noise. The louder the ambient noise, the louder the additional noise must be in order to be audible above the ambient noise. The L50 in the National Forest is composed of sounds that are usually

present, such as leaves rustling in the breeze and birds calling. The L10 noise level consists of those sounds plus less frequent sounds, such as vehicle traffic, thunderstorms, and chainsaws. The analysis and modeling of noise within the SNF, including the Decision Area, relied on, among other things, technical comments provided by noise experts and the Forest Service's independent noise analysis and modeling. The thresholds used in the 2012 Prospecting EIS were selected based on Minnesota law and established noise standards to preserve the wilderness character of the BWCAW.

### **Northmet Mining Project and Land Exchange**

PolyMet Mining proposed the construction and operation of an open-pit copper-nickel-platinum group elements mine and associated processing facilities within the Embarrass and Partridge River Watersheds. Upon completion of the project the site would be reclaimed. The project includes a land exchange, which was completed in 2018, of 6,650 acres of Federal land conveyed to PolyMet in exchange for 6,690 acres of land added to the Superior National Forest.<sup>14</sup>

### ***Cultural Resources***

Mine construction and operation will have the same types of impacts to cultural resources as prospecting activities, only to a greater extent and for longer periods of time. Mine development will have adverse effects on the Partridge River Section of the *Mesabe Widjiu*, a landform that is sacred to the Chippewa bands dwelling in the area. The nature of the impact to this feature is the degradation of the landform's appearance by constructing industrial facilities that will be visible from distant viewpoints. Mine construction will adversely affect also the Partridge River Segment of the BBLV Trail, Spring Mine Lake Sugarbush, and historic buildings associated with the Erie Mining Company. Most of these impacts will last for the duration of mine operation or longer.

Mine construction and operation will affect treaty-granted use of the project area by disturbing the land and by restricting access to resources that would otherwise be used by band members. Limited information on the nature and extent of these effects is available. Most of the project area consists of land that has already been disturbed,

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<sup>14</sup> Final EIS available at <https://cdxnodengn.epa.gov/cdx-enepa-ll/public/action/eis/details?eisId=182544>.

suggesting that tribal use of the area would be limited, but tribal use of the Spring Lake Mine Sugarbush, which is being considered under Section 106 of the National Historic Preservation Act, is well documented.

### *Vegetation*

The Northmet Mining Project will disturb 2,178 acres of vegetative cover at the Plant Site and approximately 1,719 acres of vegetative cover at the mine site. The project would directly affect nine species of state-listed protected plants and indirectly affect two species. There would be no impacts to federally-listed plant species.

### *Wildlife*

The land exchange and mine development will have mixed impacts on wildlife habitats and populations. The land exchange would result in a small increase to the federal estate that may be managed for wildlife habitat, including some lands that will become parts of Research Natural Areas. Canada lynx could be affected by localized direct decrease and fragmentation of critical habitat and by the increased potential for vehicle collisions with lynx. There will be a decrease of denning habitat and a decrease of habitat within designated Lynx Analysis Units (LAUs).

### *Air Quality*

Criteria air pollutants would be generated during construction, mining, and processing activities, though they will be less than applicable Prevention of Significant Deterioration emissions thresholds. Air pollutants with risk guideline values for assessing human health effects are all predicted at levels below state and federal risk guidelines. The proposed project would not adversely affect visibility in nearby Class I areas, the Boundary Waters Canoe Area Wilderness (BWCAW) and Voyageurs National Park.

### **Mining the Maturi Deposit**

Twin Metals Minnesota (TMM or Twin) has requested two additional preference right leases, consisting mostly of the Federal surface between leases MNES 01352 and MNES 01353. If the BLM were to issue these leases, they would complete the lessee's necessary land tenure – a combination of Federal, state, and private leases – to enable the company to most effectively develop the deposit. The BLM's regulations at 43 C.F.R. § 3507.17 require an applicant to submit a conceptual description of the mining activities that it intends to perform on a requested preference right lease, including, but not limited to, the following:

- location of any proposed development or mining operations or incidental facilities
- approximate locations and extent of areas to be used for pits, overburden and tailings
- location of water sources or other resources which may be used in the proposed operations or incidental facilities
- anticipated scope, method and schedule of development, including type of equipment
- method of mining anticipated, including estimate of mining sequence and production rate
- other data, as the BLM may require

In furtherance of its two preference right lease applications, TMM submitted on February 8, 2019, a letter describing its intended basic mine design as follows:

- Underground mining – the mine will not be an open pit. Extraction, primary crushing, and many facilities will be located underground.
- Processing site – a 147-acre processing site is envisioned on a combination of private and Federal surface just east of Birch Lake and south of Highway 1.
- Tailing backfilling – about 40 percent of the tailings would be placed back into the mine and cemented into place.
- Off-site tailings storage – tailings would be stored in a fully lined facility, constructed with a center-line dam utilizing cyclone sands, located on non-federal lands southwest of Babbit. The facility would occupy about 1,200 acres, and a pipeline corridor would connect it to the processing site.
- Right-of-way –a pipeline connecting the processor facility would have to be at least 16 miles long. If the pipeline’s construction requires clearing a 50-foot right-of-way, then about 0.15 acre would be cleared in construction, with a portion of this remaining unforested to allow access for maintenance purposes.

The BLM will follow the process in 43 C.F.R. § 3507.17, to respond to the preference right lease request. Furthermore, under current law and regulations at 43 C.F.R. § 3592.1, a lessee is required to submit a detailed mine plan of operations, which will be analyzed in a future environmental review under NEPA by both the BLM and the Forest Service before any mining approval may be granted. The BLM can, however, provide

some cursory descriptions of potential impacts that might be anticipated from a proposed mine as described. These descriptions of potential impacts are based upon the information above that has been provided by TMM, in its February 8, 2019, letter. At this time, since the information necessary to do a detailed analysis is not available, BLM cannot provide a reasonable assumption as to the location of any facilities, the scope and methods of mining/processing, the production rate, water source that will be used, or the potential schedule of development. These descriptions pertain to the potential impacts from a proposed mine plan and not the impacts from the Proposed Action, which involves readjusted lease terms and conditions for non-discretionary renewal of two leases and does not authorize any mining operations.

### ***Cultural Resources***

Mine development, as described in the conceptual mine plan, would have similar types of potential effects on cultural resources as the PolyMet mine project, including conversion of vegetated areas to industrial facilities, restricted access into areas that may have been used for hunting, fishing, and gathering, and potential adverse effects to cultural artifacts. Any portion of National Forest System lands that is used for the concentrator facility might potentially reduce the exercise of treaty rights for the life of the mine in certain areas. Visual impacts to the *Mesabe Widjju* may occur if mine facilities were visible from the landform.

### ***Wildlife Habitat and Vegetation Communities***

The construction of the processing facility, as described in the conceptual mine plan, would use about 120 acres of a combination of private and Federal surface to an industrial site. This has the potential to remove any forested habitat in that area during the life of the project. Other impacts to wildlife resulting from the construction and operation of the processing site would likely include noise, which has the potential to render the site and its surroundings unsuitable for species that require quiet, remote habitat.

The construction of the tailing storage facility could potentially remove the vegetation from 1,200 acres for the life of the facility. This would include, according to National Wetland Inventory data, direct potential impacts to ten acres of freshwater emergent wetland and 321 acres of freshwater forested/shrub wetland habitat. Because many of these wetlands would potentially be only partially filled by the tailing storage facility,

the disturbance to wetland hydrology could potentially result in indirect impacts to more than 580 acres of wetlands.

### *Air Quality*

Construction and mine operation could potentially produce emissions from diesel and gas-powered engines used both in transportation and mining. Some of these potential impacts would be temporary, occurring only during construction, while other potential impacts would endure for the life of the mine. Rock-crushing would produce dust. This dust might potentially contain fine particulate matter, which is a threat to human health because of its ability to penetrate deep into people's lungs and cause irritation. Dust from crushing might also contain asbestiform fibers, which have the potential to be harmful to people's lungs.

### *Water Quality*

In general, sulfide mining has been documented in some instances to produce acid mine drainage, which is caused by sulfide-rich tailings – the part of the ore that is not extracted and marketed – being exposed to water and air. When it occurs, acid mine drainage has the potential to be toxic to aquatic life and may have many other pervasive potential impacts to water resources.

However, acid mine drainage is not guaranteed to result from sulfide mining. If the lessee submits a proposed mine plan, the BLM will evaluate the geochemistry, proposed storage methods of waste rock and tailings, storage facility design, local and regional hydrology, and other factors to assess the potential, if any, for leaching, spillage, or other transport of contaminants into waterways or groundwater. Under the Proposed Action, stipulations on water quality and compliance with Section 401 of the Clean Water Act would apply as a pre-condition to the Forest Service approving an MPO. If an MPO is approved, any additional stipulations regarding the protection of water resources that the agencies might include in an MPO approval would also apply.

The wetland impacts described above could cause water quality impacts by filling wetlands, and construction and tailing storage adjacent to perennial streams could make those streams more vulnerable to contamination than they currently are. Such potential effects would be among those analyzed in the NEPA review of any submitted MPO.



Commenters have raised concern for other potential water quality impacts to be analyzed, including, but are not limited to, the potential for elevated sulfate levels, which, if present, has the potential to be toxic to wild rice and contribute to mercury methylation, and total suspended solids. However, without evaluating a proposed mine plan, it is difficult to assess if such potential impacts would be present at this mine site. These potential effects would also be among those analyzed in the NEPA review of any submitted MPO.

### *Noise*

Proposed future mining might potentially involve construction and operation of industrial facilities, blasting and crushing rock, and increased motor vehicle traffic. The construction of roads, facilities, rights-of-way, and other structures would have temporary potential noise impacts to federal and non-federal lands, and those potential impacts might be amplified over waterbodies, such as Birch Lake. Likewise, the location of the processing facilities would have an effect on the extent to which mining might impact recreational opportunities and other land uses that require low noise levels. The site-specific environmental analysis would examine these potential impacts in the appropriate level of detail.

### *Soils*

According to the conceptual mine plan, construction of a mine processing facility and tailing storage facility would convert about 1,350 acres of vegetated land on non-federal surface to unvegetated land. These potential impacts would endure for the respective durations of the processing site and the tailing storage facility.

### **Twin Metals Minnesota Hydrogeologic Study**

Twin Metals requested a special use permit in 2012 for access to collect baseline hydrogeologic environmental data to assist the company's pre-feasibility study for a mining project. The proposed action includes drilling, clearing for roads to access drilling locations, the installation of hydrogeologic wells, and final reclamation and is subject to Forest Service approval. The project is currently on hold.

### *Water Quality*

This project poses few, if any, negative effects to surface water quantity or water quality. The project may disturb 1.07 acres of wetlands. Any temporary roads and associated water crossings would be designed, constructed, and used following appropriate design criteria and mitigation measures.

### *Noise*

Proposed drilling activities would produce audible motorized noise near the South Kawishiwi River and Birch Lake as well as surrounding areas. Audible disturbance may have the potential to disrupt local land owners, businesses, summer home visitors, BWCAW visitors and winter use enthusiasts. This would result in an increase in noise within the local area that is consistent with logging equipment and other sounds that are present in this portion of the forest.

### *Recreation*

The proposed project will have a minor impact on recreational uses. The only potential direct impact to any of these sites may be noise and light that reach some of the recreational residences. The lessee has minimized light pollution in its operations up to the present by aiming lights away from public-use areas whenever possible, aiming lights downward, and shielding lights. The lessee has included in past operating plans measures to minimize impacts to recreational uses of the forest, including noise and light mitigation and seasonal restrictions on drilling. However, it will still have to obtain approval from the Forest Service for any future drilling locations.

### *Vegetation*

Proposed activities may impact individuals of several Regional Forester Sensitive Species but are not likely to cause a trend to Federal listing or loss of viability. No substantial impacts to landscape ecosystem composition and age class distribution would occur because of the relatively small amount of vegetation impacted by proposed activities. The Forest Service would minimize the project's effects by requiring the operator to minimize vegetation removal.

### **Lake County Fiber Optic Network<sup>15</sup>**

This project is a Special-Use Authorization for installing, operating, and maintaining fiber optic cable, both buried and on existing utility poles, which is intended to increase the rural broadband utility services in the area. Installation is anticipated to provide fiber-optic network services, including voice, video, and data to thousands of residents, subscribers and multiple businesses in the area.

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<sup>15</sup> <https://www.fs.usda.gov/project/?project=42685>

### *Vegetation*

The time period for direct, indirect, and cumulative effects analysis is two years from the time project activities began. This timeframe was chosen because most project activities should be completed within one year and revegetation of disturbed areas is expected to be completed within two years. While the fiber cable would be present beyond two years, disturbance associated with construction would have occurred and stabilized to the new environmental conditions and is unlikely to reach new areas during operation after this timeframe.

### *Water Quality*

Minimal soil disturbance at river and stream crossings will occur since directional boring will be used and a minimum depth below channels (4 feet) will be maintained. Erosion control measures near streams will prevent sediment from entering the water.

## **Various Forest Management Projects<sup>16</sup>**

### **Overview**

Various forest management projects affect similar resources to those affected by the proposed lease readjustments. These include habitat restoration, recreational development, and other types of projects that the Forest Service uses to achieve the goals and objectives laid out in the Forest Plan.

### *Water Quality*

The projects would most likely result in minor impacts to water from sedimentation attributable to vegetation removal and prescribed burns in the Lake Superior and Rainy River Watersheds. Additionally, the accessing of sites via long term and temporary roads can cause a minimal increase in sedimentation. Increase in OHV usage can cause additional sedimentation but the impacts would be minimal to receiving waters. In the long term, the projects would have a cumulative beneficial effect for the water quality through establishing a more natural forest regime.

### *Vegetation*

All projects have been developed to help meet the goals of the Forest Plan. The projects are designed to contribute to healthy, resilient, and diverse forests by

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<sup>16</sup> Information on these projects is found at the Superior National Forest's website, <https://www.fs.usda.gov/wps/portal/fsinternet/cs/projects/superior/landmanagement/projects?archive=1&sortby=2>.

increasing or maintain native vegetation. Vegetation removal and subsequent reforestation would result in long term beneficial impacts to vegetation through the removal of invasive species, the establishment of well managed ecosystems, and the management of fire regimes.

### *Wildlife*

Wildlife species would generally benefit from habitat improvement and OHV trail designations. In the process of implementing projects (vegetation removal, prescribed burns, etc.) and designating OHV trails to prevent unconstrained OHV usage, wildlife may be disrupted through the disruption of habitat. After the effects have been incurred, wildlife will reestablish within the areas. In some instances, the prescribed burns and vegetation removal may have benefits to some species (such as). Several of the projects had consultations that incurred a may affect not likely to adversely affect Canada lynx and the Gray wolf. These effects would not result in a jeopardy to the species.

### *Recreation*

Recreation would generally benefit from the creation of OHV trails. Additionally, the habitat improvement would offer a benefit to visitors of the CBWCA and surrounding areas.

### *Kimball EA*

The Kimball Project's goal is to promote diverse, resilient forest ecosystems. This will be accomplished through hazard fuels reduction, vegetation management, and wildlife habitat improvement. The Kimball EA would most likely share the following resources: waters quality, vegetation, and wildlife.

### *Water Quality*

The Kimball project would most likely result in minor impacts to water from sedimentation attributable to vegetation removal in the Lake Superior watershed.

### *Vegetation*

Vegetation removal and subsequent reforestation would result in long term beneficial impacts to vegetation through the removal of invasive species and the management of fire regimes.

### *Wildlife*

Wildlife species would benefit from habitat improvement.

### **HiLo Project**

The HiLo Project seeks to conduct activities that move vegetation toward desired conditions as described in the Forest Plan. This will be accomplished through hazard fuels reduction, vegetation management, and wildlife habitat improvement.

#### ***Vegetation***

Reintroduction of fire into fire dependent ecosystem would result in beneficial impacts to vegetation in 15,425 acres and an increase in stand health and diversity by thinning, planting, release, and controlling understory vegetation would benefit 8,676 acres. In addition the creation of young forest in 1,972 acres would diversify the habitat and promote productive, and resilient communities.

#### ***Wildlife***

Wildlife habitat including threatened and endangered species would benefit from habitat improvement on 26,000 acres, as part of the vegetation treatments of the action. USFWS determined that the project may affect but is not likely to adversely affect Canada lynx and gray wolf.

#### ***Recreation***

New non-motorized trails proposed on 3.2 miles, 1 new public access to High Lake and enhance scenery objectives (increase big tree character) in 3,600 acres would benefit recreation in the future.

### **Jeanette Project**

The Jeanette Project seeks to improve forest stands through the implementation of several types of vegetation treatments and to restore hydrologic connectivity, fish passage and fish habitat.

#### ***Vegetation***

Several treatment methods would result in beneficial impacts to vegetation in 23,030 acres that would diversify the habitat and promote productive, resilient communities over a 15- to 20-year time period.

#### ***Water Resources***

Restoration of the hydrology of the wetland complex by removing the existing roadbed from the Nigh Creek floodplain would result in beneficial impacts to the stream-flow of the creek.

### *Wildlife*

Cutting select trees, orienting, and securing them to the shore would result in increments of large wood pieces that could be used for spawning or feeding cover by several fish species.

### **Beaver Project**

The Beaver Project seeks to improve forest stands through the implementation of several types of vegetation treatments and to increase moose browse and thermal cover area.

### *Vegetation*

Several treatment methods would result in beneficial impacts to vegetation that would diversify the habitat and promote productive, and resilient communities over a five- to ten-year time period.

### *Wildlife*

Project would seek to improve and increase moose browse and thermal cover area.

### **TomaInga Project**

The TomaInga Project seeks to build resilience in the landscape by diversifying tree age classes, species composition, and densities, while also improving moose habitat and restoring wetlands.

### *Vegetation*

Several treatment methods would result in beneficial impacts to vegetation that would diversify the habitat and promote productive, and resilient communities over a five- to ten-year time period.

### *Wildlife*

Project would seek to improve and increase moose browse and thermal cover area.

### *Watershed*

The project would minimize flooding from channel obstructions through the removal of a culvert in the area.

### **Shokoshoe Project**

The Shokoshoe Project seeks to build resilience in the landscape by promoting diverse, productive and healthy forest stands, while also improving moose habitat.

### ***Vegetation***

Several treatment methods would result in beneficial impacts to vegetation that would promote diverse, productive and healthy ecosystems.

### ***Wildlife***

Project would seek to improve and increase moose forage area by creating 4,417 more acres of young upland forest as habitat for this species. This habitat improvement would also provide more nesting and feeding habitat for migratory birds.

### **Barker Project**

The Barker project seeks to promote diverse, productive and healthy wildlife habitats and ecosystems.

### ***Vegetation***

Several treatment methods would result in beneficial impacts to vegetation that would **promote** diverse, productive and healthy ecosystems.

### ***Wildlife***

Project would seek to improve and increase moose forage area by creating 3,771 acres of young upland forest as habitat for this species. This habitat improvement would also provide more nesting and feeding habitat for migratory birds.

### **Mesabi Project**

The Mesabi Project seeks to promote diverse, productive, healthy, and resilient native vegetation communities by using several vegetation treatments to improve habitat for sensitive plants, enhance wildlife habitat for threatened, endangered, and sensitive species, improve riparian function and water and soil resource health, while also improving recreational opportunities.

### ***Vegetation***

Several treatment methods would result in beneficial impacts to vegetation that would promote diverse, productive, healthy, and resilient native vegetation communities.

### ***Wildlife***

The project creates up to 7,498 acres of young forest that would result in habitat improvements for several species.

### *Watershed*

The project will address poor hydrology due to sedimentation through the decommissioning of roads that were being used for unauthorized recreational traffic and were the main source of the problem.

### *Soil*

The project will address past rutting and soil erosion through the decommissioning of roads that were being used for unauthorized recreational traffic and were the main source of the problem.

### *Recreation*

The project designates two backcountry campsites and additional even miles of single-track mountain bike trail single-track trails to provide for more recreational opportunities within the area.

### **North Shore Restoration Project**

This project aims to restore native vegetation communities on about 7,000 acres of land along the north shore of Lake Superior.

### *Water Quality*

Temporary impacts to water quality would occur from removal of vegetation, however the project would increase the amount of long-lived conifer in riparian areas.

### *Vegetation*

The project will help contribute to healthy, resilient, and diverse forests by increasing or maintaining native vegetation through planting, seeding, and regenerating various forest types.

### *Wildlife*

The project may affect but is not likely to adversely affect Canada lynx. The project would comply with all applicable Forest Plan management direction related to Canada lynx and its habitat except for road density. Forest conditions would continue to provide for lynx denning, foraging, and movement across the analysis area. (USDA Forest Service 2014)



### **Pearl Project**

The Pearl Project proposes to manage forest vegetation in the project area through timber harvesting, timber stand improvement, site preparation, tree planting/seeding, prescribed fire, and fuels treatment.

### **Vegetation**

The project will have beneficial effects to 22,317 acres through forestry treatments, prescribed fire, and non-fire fuels treatments.

### **Water Quality**

Minimal effects may include minor, localized, and temporary sediment input at stream crossing sites. The use of temporary winter roads on frozen ground may compact soil and riparian vegetation near lakes, streams, and wetlands and may contribute to minor sediment input at stream crossing sites when machinery crosses with dirty tracks, treads, or wheels. (USDA Forest Service 2015).

### **Prospectors Loop Project**

The Prospectors Loop project aims to provide trail linkages that connect Minnesota's Arrowhead communities along with other amenities on the Superior National Forest such as campgrounds, dispersed recreation sites, and scenic destinations on sustainable OHV routes. This will be accomplished through authorizing OHV use on 5.6 miles of existing National Forest System roads and trails.

### **Watershed/Wetlands**

The project will have 8 water crossings. However, establishing a well constructed, designated trail route would likely reduce the amount of off-trail OHV use and protect water resources. A total of 0.68 acres of wetland would be filled. However, the project will maintain no net loss of wetlands through the purchase of wetland credits.

### **Soil**

Total impact to the soil resource of the trail reroutes would be 0.7 acres. However, trail BMPs would be followed to prevent soil erosion from occurring. The decommissioning of 1,199 feet of trail would result in restoration of soil conditions in another area.

### **Noise**

The presence of OHV vehicles would generate a 50-decibel noise at the closest site to the track. Noise perceived would be dependent upon environmental factors such as wind, topography, and vegetative screening.

***Recreation***

The project will enhance motorized recreation experiences on the Forest by providing a long-distance loop riding opportunity with community connections. Opportunities for solitude could be affected by motorized use of the proposed Prospector OHV route near South Farm Lake and the Kawishiwi River.

## **APPENDIX C - Analysis of Public Comments on Draft Environmental Assessment**

### **Introduction**

Public involvement is critical in shaping a plan for public land management. Public comments enable the agencies not only to meet agency missions and legal mandates, but also to address the interests of the American public. The National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations require that lead agencies invite and respond to comments from the public. This appendix is a summary of the substantive public comments received on the draft EA and the response to those comments.

The BLM completed and released the draft EA on December 20, 2018, thus opening a public comment period. The BLM intended to accept public comments by mail and through the ePlanning application and to allow the comment period to expire on January 22, 2019. However, a series of events led to the BLM to modify these plans.

First, due to a lapse in Congressionally-delegated funding, a partial government shutdown began on December 22, 2018, and lasted until January 26, 2019. During this time, very few Federal employees were authorized to report to work. This created difficulties for members of the public who had questions about the EA as they formulated their comments. Likewise, during the shutdown, the BLM was unable to receive and begin to process the public comments, as is the preferred process when the agency expects to receive a large volume of comments.

Second, for a total of about five days during the partial government shutdown, the ePlanning application was unavailable to the public. For most of the period from December 21 through December 25, ePlanning was unavailable due to a network-wide redirection of Internet traffic to a Department of the Interior page noting the partial shutdown. The application experienced two short outages for unrelated technical reasons on December 28 and January 10 and a 20-hour outage on January 21 and 22.

Due to these difficulties, the public comment period was extended to January 30, 2019. Several commenters, frustrated that they were not able to submit their comments online, sent 272 comments by email to BLM email addresses. Due to the unforeseen problems that people experienced using the Internet site, and to ensure maximum accessibility to the public, the BLM decided to accept these comments as

well as a few comments that were mailed to the Department of the Interior instead of the BLM.

The BLM received 38,470 comments via the ePlanning application and, with the addition of the emailed and mailed comments, the BLM received a total of 38,905 comments. Many of the emailed comments were submitted through ePlanning and resubmitted by email.

## Content analysis

### Basic process

A standardized content analysis process was conducted to analyze the public letters received on the draft EA. Content analysis is designed to extract comments from each letter received, evaluate similar comments from different letters, and identify specific topics of concern. Additionally, content analysis ensures that every comment considered fairly and accurately represents the breadth and depth of the public's viewpoints. All letters and comments have been treated using a standard process. They are not weighted by status of respondents or organizational affiliation, and it does not matter if an idea was expressed by thousands of people or a single person. The content analysis process also provides a relational database capable of reporting various types of information while linking comments to the original letters.

During the content analysis process, each letter (including online submittals, postcards, emails, or other documents), was assigned a unique tracking number. Content analysts then reviewed all letters and identified discrete comments within them. Each letter may have contained anywhere from one to several dozen comments. Each comment was entered into a project database and coded based on the particular concern, resource consideration, or proposed management action expressed. Comments were then summarized and/or grouped into public concern statements and given a unique identifying number. Public concern statements range from broad generalities to specific points and can represent one or many comments.

Although many of the submissions were original, the majority of the responses (34,222) were duplicates (the same content sent by the same author) or form letters (the same content sent by multiple authors). Figure 1 shows the text of most common form letter, which was submitted 20,963 times.

**Figure 1. Text from the most frequently submitted comment.**

I strongly oppose the proposed renewal of two federal hardrock mineral leases in the Superior National Forest in the Rainy River Watershed. I urge you to deny renewal of the leases. The Boundary Waters Canoe Area Wilderness, Voyageurs National Park, and the Superior National Forest are priceless to the American people, and they sustain a local economy based on tourism such as fishing and canoeing. Economists predict that introducing mining in this region will cause economic harm. The area's public lands and waterways must not be exposed to the damage and pollution that would be inevitable if sulfide-ore copper mining were to occur in the Boundary Waters watershed. The Boundary Waters is America's most visited wilderness, and Minnesotans and other Americans are overwhelmingly opposed to mining near this pristine economic driver. The 1.1 million-acre lakeland wilderness area has over 1,000 lakes and 1,200 miles of rivers and streams containing clean, drinkable water, not to mention canoe routes. It offers unmatched fishing, hunting, and recreational opportunities for all Americans to enjoy. Any mining in the wilderness watershed will put all of this at risk. As you consider the proposal, I request that BLM:

- Not renew federal mineral leases
- Provide an extension on the comment period of 62 days, to Monday, March 25
- Provide public meetings in Duluth, Minneapolis-St. Paul, and Washington, D.C. all areas where there is a great deal of interest in the proposal
- Prepare a full environmental impact statement to analyze and assess the full range of potential negative impacts to the environment, the economy, and the American people if federal mineral leases are renewed
- Stop all mining approvals, including the renewal of federal mineral leases, until the Superior National Forest Mineral Withdrawal Environmental Assessment is completed
- Base all decisions on the best available science.

Each form letter was analyzed to ensure that the concerns of all respondents were considered. If a respondent added information to a form letter, this content was considered a unique comment and coded/grouped as necessary.

### **Substantive comments**

The final step of content analysis involved determining whether a comment was substantive or non-substantive in nature. A substantive comment does one or more of the following:

- Questions, with a reasonable basis, the accuracy of the information and/or analysis in the draft EA;
- Questions, with a reasonable basis, the adequacy of, methodology for, or assumptions used for the environmental analysis, or the information in the draft EA;
- Presents new information relevant to the analysis;
- Presents a reasonable alternative, other than those presented in the draft EA;
- Questions, with a reasonable basis, the merits of an alternative or alternatives;
- or
- Causes change in or revisions to the proposed action.

Comments that are not considered substantive include the following:

- Comments in favor of or against the proposed action or alternatives without reasoning that meet the criteria listed above;
- Comments that only agree or disagree with BLM policy or resource decisions without justification or supporting data that meet the criteria listed above;
- Comments that don't pertain to the project area or the project; or
- Comments that take the form of vague, open-ended questions.

Consistent with 40 Code of Federal Regulations (CFR) 1503.4(b), all substantive comments received a response. Although comments were carefully considered and reviewed, non-substantive comments did not receive a detailed response.

### **Comments outside of the scope of this EA**

As stated in the EA, the BLM's decision at hand pertains to lease terms and conditions. Although a lease does grant the right to explore and mine, no mining will be authorized on the leases unless and until the BLM and the Forest Service review and approve a mine plan of operations that, under the Proposed Action's new operations stipulation at Section 14(a) of the lease renewals, appropriately mitigates environmental impacts. The BLM has not received a mine plan of operations at this time that would enable a thorough, sound assessment of the expected environmental impacts of mining. For

this reason, comments related to the potential impacts of mining on water resources, cultural resources, local and regional economic conditions, and other resources are not within this EA's scope. The BLM expects to utilize these comments if and when it begins a scoping process for future proposed actions when more information is available regarding foreseeable mining on the leases.

**Reports submitted with comments**

Several organizations submitted reports that provided detailed responses to the EA. The non-governmental organizations that submitted comments, regardless of whether they attached reports, are listed below:

- |   |  |
|---|--|
| 10 Minutes A Day                            | Conservatives for Responsible Stewardship    |
| 1854 Treaty Authority <sup>17</sup>         | Corazon Latino                               |
| Advanced Biofuels USA                       | Crow River Trail Guards                      |
| Alaska Wilderness League                    | Dawn Sierra - Wilderness Watch               |
| Alaskan Wilderness                          | Defenders Of Wildlife                        |
| ALLETE                                      | Dept. of Family Medicine & Behavioral Health |
| ALLETE Clean Energy                         | Duluth for Clean Water                       |
| ALLETE Senior Vice President                | Earthjustice                                 |
| American Canoe Association                  | Earthjustice Alaska Office                   |
| American Exploration & Mining Association   | Earthworks                                   |
| American River                              | Ely Area Development Association             |
| Amptek, Inc.                                | Encampment Minerals, Inc.                    |
| APEX  | Endangered Species Coalition                 |
| Apex gets buisness                          | Environment                                  |
| Aspen Lodge Family Cabin, Inc               | Environmental Action                         |
| Back Country Hunters                        | Environmental Intelligence Inc.              |
| Backcountry Hunters & Anglers               | Environmental Law & Policy Center            |
| Boilermakers                                | Environmental Protection Information Center  |
| Campaign to Save the Boundary Waters        | Ernest C. Oberholtzer Fdn.                   |
| Center For Biological Diversity             | FredPAC                                      |
| Center for Science in Public Participation  | Friends of the Boundary Waters Wilderness    |
| Center of the American Experiment           | Friends of the Earth U.S.                    |
| Citizens of the USA                         | genHkids, Inc.                               |
| clean air water consortium                  | Georgia Canoeing Association                 |
| Coalition to SAVE the Menominee River, Inc. | Gerdau                                       |
| Conscious Talk Radio                        | Global Affairs Canada                        |
| Conservation Director                       | Gophers for the Boundary Waters              |
| Conservationists With Common Sense          |  |

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<sup>17</sup> 1854 Treaty Authority is an inter-tribal natural resource management organization.

Great Old Broads For Wilderness  
Habitat Education Center  
Hallet Dock Company  
Harvard Univ. Department of  
Economics  
Hibbing Area Chamber of Commerce  
Information Network for Responsible  
Mining  
International Union of Operating  
Engineers  
International Union of Operating  
Engineers, Local 49  
IWLA COC  
Izaak Walton League Of America  
Izaak Walton League of America - MN  
Division  
Izaak Walton League of America - W. J.  
McCabe Chapter  
Jasper Engineering  
Jobs For Minnesotans  
Kentucky Heartwood  
Kettle Range Conservation Group  
Key-Log Economics  
Kids for the Boundary Waters  
Klamath Forest Alliance  
League of Conservation Voters  
local 589  
Mach One Canoe and Kayak Team  
Maui Peace Educational Foundation  
Mining Action Group of the Upper  
Peninsula Environmental Coalition  
MiningMinnesota  
Minnesota Center of Environmental  
Advocacy  
Minnesota Chamber of Commerce  
Minnesota Coalition of Lake  
Associations  
Minnesota Environmental Partnership  
Minnesota Miners  
Minnesota Power/ALLETE  
MN Pipe Trades Ass'n  
MN State Bldg Trades  
Multi Hunting and Fishing Orgs  
National Mining Association  
National Parks Conservation  
Association  
National Wildlife Federation Action  
Fund

Natural Resources Defense Council  
Nature Education Programs, Ltd.  
newswalk  
North Central Mineral Ventures  
Northeastern Minnesotans For  
Wilderness  
Northern Engineering  
Outdoor Alliance  
Owatonna Izaak Walton League  
Pando Populus  
Pay it forward Global Foundation  
people who value life  
Plumbers and Pipefitters Local 589  
Plumbers and Pipefitters LU 589  
Positive Energy Outdoors  
Prospector Alliance  
Rainy Lake Conservancy  
Range Association of Municipalities  
and Schools  
Rendrag Inc  
Resource Development Council for  
Alaska, Inc.  
Rockaway Beach Citizens for  
Watershed Protection  
Sarasota in Defense of Animals  
Save Our Sky Blue Waters  
Save the Boundary Waters  
Sawbill Canoe Outfitters  
Sawbill Canoe Outfitters, Inc.  
Science & Environmental Health  
Network  
Sharon L. Denning Charitable Trust  
Sierra Club  
Sierra Club Poudre Canyon Group  
Sierra Club, Friends of the Earth, Center  
for Biodiversity  
Snowshoe Country Lodge  
Southern Utah Wilderness Alliance  
Sportsmen for the Boundary Waters  
Terra Advocati  
The Conservation Alliance  
The Nature Conservancy  
The Wilderness Society  
TPS  
True Survivors  
Twin Metals Minnesota LLC  
Uncommon Adventures  
University of Minnesota Outdoors Club



University of Minnesota  
Voyageur Outward Bound School  
Voyageurs National Park Association  
Waterkeeper Alliance  
WaterLegacy  
Wellness Center Grand Marais  
Western Environmental Law Center  
Western Watersheds Project  
White Rabbit Grove RDNA

Wilderness Watch  
wildernesswatch.org  
Wildlife Action Group  
Women's Congress for Future  
Generations  
Women's Mining Coalition  
Women's Wilderness Discovery  
www.BASK.org  
www.NPCA.org

The BLM received comments from a few governmental organizations:

- Global Affairs Canada
- Minnesota Attorney General's Office
- Minnesota House of Representatives
- State of Minnesota Office of the Attorney General
- State of Minnesota, Office of the Attorney General
- Red Cliff Band Of Lake Superior Chippewa
- St. Louis County Administrator's Office
- United States House of Representatives
- House Appropriations Subcommittee on Interior, Environment, and Related Agencies
- House Committee on Natural Resources
- United States Senate

Several letters and reports were co-signed by individuals who listed their affiliation. In these cases, it was not clear to the BLM whether these co-signers were speaking on behalf of their organizations. These organizations are not listed above.

One of these reports is simply an annotated bibliography of papers and other sources dealing with the expected impacts of sulfide mining on water resources and the cascading effects of those impacts on wildlife, local economic conditions, and other resources. Some other comment letters cited papers and other sources to support their concerns regarding mining. Because these concerns fall beyond the scope of this EA, the BLM did not review those papers. Rather, the BLM expects to review them for their applicability to future proposed actions that relate to mining. A partial list of

these sources is contained at the end of this appendix. Sources that are inaccessible to the BLM or that lacked a sufficient citation are not listed. In the event that the BLM receives a proposed Mining Plan of Operation (MPO) from the lessee, the BLM will develop an environmental impact statement to analyze the proposal. As part of that analysis, the BLM will conduct public meetings, accept public scoping comments, and evaluate these and other relevant sources of scientific information to inform its decisions.

The longest and most thorough of the reports received in response to this EA was submitted by Northeastern Minnesotans for Wilderness, The Wilderness Society, Center for Biological Diversity, National Parks Conservation Association, Sportsmen for the Boundary Waters, Voyageurs National Park Association, and Earthjustice. The report details alleged legal deficiencies in the EA, legal deficiencies with the current lease renewals, ecological and socio-economic impacts of sulfide mining in the watershed that contains the Boundary Waters Canoe Area Wilderness, and the proper role of the Forest Service in managing the Superior National Forest and the mineral leases therein. This report captures the main concerns expressed by this group by general topic area, as well as by other comments.

## **Concerns expressed and BLM responses**

### **Comments about mining impacts**

**1. Comment: Concerns regarding mining included but were not limited to the following: Mining will contaminate surface and ground water sources with sulfates and heavy metals, which will cause various types of problems for human health, through direct ingestion and through ingestion of contaminated fish, wildlife, and plants. Sulfates released by sulfide-ore copper mining fuel the production of methylmercury, which increases in concentration as it moves up the food chain. Those most vulnerable to the effects of mercury and/or arsenic poisoning include anglers, low-income communities who rely on fish and gathering for subsistence, and Tribal communities who rely on these foods for subsistence and/or cultural traditions. Human fetuses, nursing babies, and young children are most vulnerable to the effects of methylmercury and even small amounts of mercury damage their developing brains. The Duluth Complex is acid-generating and pollution would continue for centuries. High water quality and**

**low to no buffering capacity of waters makes waters of the Boundary Waters watershed especially susceptible to acidification. The large amount, distribution, and interconnectedness of surface and ground waters in the Boundary Waters watershed heightens risk for contamination of waters by sulfide-ore copper mining, and makes containment and recovery of contaminants highly improbable.** Response: Although a lease does grant the right to explore and mine, no mining will be authorized on the leases unless and until the BLM and the Forest Service review and approve a mine plan of operations that, under the Proposed Action's new operations stipulation at Section 14(a) of the lease renewals, appropriately mitigates environmental impacts. The BLM has not received a mine plan of operations at this time that would enable a thorough, sound assessment of the expected environmental impacts of mining. For this reason, comments related to the potential impacts of mining on water resources, cultural resources, local and regional economic conditions, and other resources are not within this EA's scope. Because the lessee has a right to a renewal of these leases for the third term, the BLM does not have the discretion to decline to renew the leases. Therefore, the scope of analysis in this EA is limited to an analysis of the possible updating of the terms and conditions of the lease, and to an analysis of additional stipulations to further protect the environment and surface resources. If, in the future, the lessee decides to explore or develop the mineral resources governed by these leases, the lessee will be required to submit a proposed plan of operation to the BLM. The BLM, and the Forest Service (as the Surface Managing Agency) will evaluate the proposal, using the National Environmental Policy Act procedures and other applicable laws, regulations and procedures governing this type of activity. This evaluation will include an analysis of specific impacts that could occur from the particular proposed activity.

2. **Comment: The Boundary Waters is a Class I airshed, yet is degraded now by regional haze from coal-fired power generation and other industry, and the particulates and significant energy needs of a massive sulfide-ore copper mining operation adjacent to the Boundary Waters would add to the air pollution burden in the Boundary Waters watershed.** Response: Although a lease does grant the right to explore and mine, no mining will be authorized on the leases unless and until the BLM and the Forest Service review and approve a mine plan of operations that, under the Proposed Action's new

operations stipulation at Section 14(a) of the lease renewals, appropriately mitigates environmental impacts. The BLM has not received a mine plan of operations at this time that would enable a thorough, sound assessment of the expected environmental impacts of mining. For this reason, comments related to the potential impacts of mining on air or water resources, cultural resources, local and regional economic conditions, and other resources are not within this EA's scope. Because the lessee has a right to a renewal of these leases for the third term, the BLM does not have the discretion to decline to renew the leases. The scope of analysis in this EA is limited to an analysis of the possible updating of the terms and conditions of the lease, and to an analysis of addition stipulations to further protect the environment and surface resources. If, in the future, the lessee decides to explore or develop the mineral resources governed by these leases, the lessee will be required to submit a proposed plan of operation to the BLM. The BLM, and the Forest Service (as the Surface Managing Agency) will evaluate the proposal, using the National Environmental Policy Act procedures and other applicable laws, regulations and procedures governing this type of activity. Impacts to Class I airsheds would be considered in this evaluation.

3. **Comment: Mining would negatively impact wildlife, including endangered species.** Response: The BLM's decision space considered in this EA relates solely to the application of new terms and conditions to the lease renewals, including stipulations for the protection of natural resources. The BLM is not considering a mine plan of operation at this time. The BLM acknowledges the importance of analyzing the effects of potential mining operations on wildlife habitat and populations. If and when a proposed mine plan of operation is submitted, the BLM and US Forest Service would conduct a thorough analysis of the environmental impacts associated with mining operations and would work in coordination with other Federal and state agencies that have authority over the aforementioned resources.
4. **Comment: The State of Minnesota cannot be counted on to regulate mining or mining-caused pollution.** Response: The BLM does not have the authority to regulate or speak for the State of Minnesota. The BLM does have the ability to prescribe reasonable measures to avoid, minimize, and mitigate potential impacts of a future mining operation on Federal land, at the time that a complete MPO is submitted, reviewed, and analyzed. In the Proposed Action, the BLM is considering whether to renew the leases with adjusted

terms and conditions rather than renew the leases with the existing terms and conditions. This EA does not analyze mining. If a mining plan of operation is submitted in the future, then BLM would analyze the mining plan of operation at that time, in conjunction with the State of Minnesota's review. This could result in additional measures to protect the environment.

5. **Comment: There is consistently strong public support across the nation and Minnesota for protecting the Boundary Waters watershed from the inherent risks of sulfide-ore copper mining.** Response: The BLM recognizes public support both for the protection of the Boundary Waters and for allowing mining to occur in the Superior National Forest. This Proposed Action is not for the approval of a mine plan of operation and does not authorize mining. The Proposed Action would renew the leases and include new terms and conditions and adjust existing terms and conditions as the BLM and Forest Service deem appropriate for the protection of surface resources, rather than renew the leases under the existing terms and conditions.
6. **Comment: The EA should address the activities of the International Rainy-Lake of the Woods Watershed Board, which was created when the International Rainy Lake Board of Control and the International Rainy River Water Pollution Board were combined and given responsibility for water quality in the trans-boundary watershed, in addition to compliance with water level curve rules. The EA should also review the International Lake of the Woods Basin Water Quality Plan of Study, which states mining concerns over the potential for adverse effects on downstream waters.** Response: Because the lessee has a right to a renewal of these leases for the third term, the BLM does not have the discretion to decline to renew the leases. Therefore, the scope of analysis in this EA is limited to the BLM and the Forest Service's discretionary decision space, which only includes the possible updating of the terms and conditions of the lease, and the addition of stipulations to further protect the environment and surface resources. The lease renewals do not authorize mining under either the Proposed Action or the No-Action Alternative. If, in the future, the lessee decides to explore or develop the mineral resources governed by these leases, the lessee will be required to submit a proposed plan of operation to the BLM. The BLM, and the Forest Service (as the surface managing agency) will evaluate the proposal, using the National Environmental Policy Act procedures and other applicable laws,

regulations and procedures governing this type of activity. This evaluation would include consideration of the activities of the International Rainy-Lake of the Woods Watershed Board. The evaluation would also review the International Lake of the Woods Basin Water Quality Plan of Study.

**Comments about compliance with laws, regulations, and policies other than NEPA**

- 1. Comment: Renewal of Twin Metals' mineral leases is incompatible with USFS's obligations to maintain the quality and character of the Boundary Waters (and its associated Mining Protection Area) for present and future generations, as required by the Wilderness Act of 1964 and the Boundary Waters Canoe Area Wilderness Act of 1978. Renewing the mineral leases would also be inconsistent with the Weeks Act (and Section 402 of the associated Reorganization Plan No. 3 of 1946), as it would be contrary to the purposes for which the land was acquired and also not in the best interests of the United States. Other examples of noncompliance with federal environmental laws and policies include the Clean Water Act, the Clean Air Act, the 1909 Boundary Waters Treaty between the United States and Canada, the Endangered Species Act, the Minnesota Wetlands Conservation Act, the National Park Service Organic Act, and the National Historic Preservation Act.** Response: The renewal of the leases does not violate any law. These leases exist in an area of the Superior National Forest that is outside of the BWCAW and the Mining Protection Area, and that is designated as available for mining under the 2004 Forest Plan. The leases have been in place since 1966 and the lessee has a right to a renewal of these leases for the third term; thus, the BLM does not have the discretion to deny renewal of the leases. The scope of analysis in this EA is limited to the BLM and the Forest Service's discretionary decision space, which includes the possible updating of the terms and conditions of the lease, and the addition of stipulations to further protect the environment and surface resources, in comparison to renewing the leases under the existing terms and conditions. The lease renewals do not authorize mining under either the Proposed Action or the No-Action Alternative. If, in the future, the lessee decides to explore or develop the mineral resources governed by these leases, the lessee will be required to submit a proposed plan of operation to the BLM, which must meet the established requirements under several of the laws cited above. The BLM, and the Forest Service (as the surface managing agency) will evaluate the proposal, using the National Environmental Policy Act procedures and other applicable laws, regulations and procedures governing this type of activity. This

evaluation would include consideration of the Clean Water Act, the Clean Air Act, the 1909 Boundary Waters Treaty between the United States and Canada, the Endangered Species Act, the National Historic Preservation Act, and other statutes.

- 2. Comment: Contacting a tribe is only the first step of the consultation process and should not be considered consultation in and of itself. Proper consultation should involve a meaningful discussion, which did not happen with many of the tribes included on the list. In the future, it may be beneficial for the BLM to consider inclusion of appropriate tribal resource management staff when initiating consultation with tribal leadership.** Response: Since the BLM sent letters to tribes with ties to the affected area, the BLM has met in person with two bands who live near the leased lands, and the BLM has instituted biweekly conference calls, open to all tribes and partner agencies, to discuss tribal concerns regarding the Proposed Action at hand, as well as other foreseeable mineral activities on the Superior National Forest. The BLM acknowledges that tribal consultation is an ongoing process and appreciates the feedback that bands have provided through these forums.
- 3. Comment: The BLM does not have the authority to renew the leases, in part because the Forest Service has denied consent in the past for these leases. The leases expired in December 2016 when the BLM rejected Twin Metals' applications to renew them. If Twin Metals wishes to develop a mine on the lands it previously leased, it must follow the detailed procedures and public process for obtaining a new lease.** Response: The 2017 Solicitor's Opinion, M-37049, concluded that the lessee has a legal right to this third renewal of the leases, and that the Forest Service's prior non-consent determination and the BLM's denial of the lessees' renewal application in 2016 was based on the legal error that the BLM and the Forest Service had the discretion to deny this third renewal. Given the conclusion of M-37049, which is binding on the BLM, the BLM reinstated the leases and the lease renewal applications for further processing in accordance with the lessees' lease rights. The Forest Service did not have full consent authority to deny the current lease renewal in this instance. In this Proposed Action, the Forest Service has exercised the discretionary authority it does have in this instance—to issue stipulations it deems appropriate for the protection of surface resources, including hydrological resources, in the Superior National Forest.

4. **Comment: The Forest Service is the lead agency for mineral leasing in the Superior National Forest per the BLM-USFS 1984 MOU. This gives Forest Service the authority to make the decision on lease renewal and mine construction. As the lead agency on the lease renewal EA, BLM has usurped the Forest Service's authority on Superior National Forest lands, and in the process, has ignored and omitted the best available scientific information that informed the Forest Service's 2016 decision to deny its consent to lease renewal. The Forest Service should be the lead agency in the lease renewal NEPA process, or, at a minimum, a cooperating agency that participates meaningfully in the analysis and decision-making process and independently ensures compliance with NEPA, including through the preparation of an EIS. Even though there is no renewal that would be consistent with Forest Service obligations, the proposed action is particularly egregious because it does not identify or propose any mitigation in any way to address or manage the risks the Forest Service identified.** Response: The 1984 MOU, like all MOUs, is considered guidance and is not legally-binding. The Forest Service and the BLM have mutually agreed that the BLM would serve as the lead agency for the NEPA analysis at hand for these lease renewals. Relevant approval authorities pertaining to leasing and mining are defined in statutes and regulations, and are listed and described in Chapter 1 of the EA. As stated above, the scope of analysis in this EA is limited to the BLM and the Forest Service's discretionary decision space, which includes the possible updating of the terms and conditions of the lease, and the addition of stipulations to further protect the environment and surface resources, in comparison to renewing the leases under the existing terms and conditions. The lease renewals do not authorize mining under either the Proposed Action or the No-Action Alternative. If, in the future, the lessee decides to explore or develop the mineral resources governed by these leases, the lessee will be required to submit a proposed plan of operation to the BLM, which must meet the established requirements under several applicable laws. The BLM, and the Forest Service (as the surface managing agency) will evaluate the proposal, using the National Environmental Policy Act procedures and other applicable laws, regulations and procedures governing this type of activity. This evaluation would include consideration of the best available science, as well as mitigation measures that might be necessary to manage some of the environmental risks posed by mining.



5. **Comment: The BLM should defer any decision regarding lease renewal while litigation is pending. BLM's EA impermissibly prejudged or predetermined the outcome by committing BLM to renewal of Twin Metals' leases despite ongoing litigation. Any action by BLM to renew the leases prior to resolution of their legal status misleads the public and is a waste of taxpayer dollars.** Response: The ongoing litigation does not obligate the BLM to defer a decision on the renewal of these leases. The BLM is processing the lease renewal application here in accordance with the legal conclusion of M-37049 and the lessee's existing right to a third renewal of the leases. While litigation is currently on-going in opposition to M-37049 and the BLM's reinstatement of the leases, that litigation does not obligate the BLM to defer a decision on the renewal of these leases.
6. **Comment: The BLM has significantly more experience regulating mining under 43 C.F.R. § 3800 regulations than under the 43 C.F.R. § 3500 regulations.** Response: The regulations under 43 C.F.R. § 3800 apply to locatable minerals under the 1872 Mining Law. While most hardrock minerals on federal lands in the United States are locatable minerals governed by the 1872 Mining Law, the minerals at issue in Minnesota are not. The minerals at issue here are leasable minerals, which are governed by different statutes, and are regulated under the BLM's 43 C.F.R. § 3500 regulations. The relevant statutes are listed and described in Chapter 1 of the EA.
7. **Comment: FWS formal consultation is required to disclose adverse and significant impacts of lease renewal and mine development on candidate species, and designated critical habitat.** Response: The FWS has acknowledged the BLM's no-effect determination on listed species, by the renewal of these leases. Please refer to chapter 5 of the EA.
8. **Comment: FLPMA requires BLM to "coordinate [its] ... management activities...with with the land use planning and management programs ... of the States and local governments within which the lands are located ... and of or for Indian tribes ..." 43 U.S.C. § 1712(c)(9). The State of Minnesota requests that BLM coordinate with state, local, and tribal government officials throughout the environmental review process related to Twin Metals' mineral lease renewal and associated mining project. During this coordination, BLM should ensure its environmental analyses and decisions are consistent with the State of Minnesota's policies, programs and priorities, including those detailed above. Furthermore, to the extent BLM reaches any conclusions or decisions that are**

**inconsistent with the State of Minnesota's policies, programs and priorities, BLM should provide sufficient explanation for such findings.** Response: The BLM plans to coordinate with the State of Minnesota as the company moves forward with its mineral operations planning. The BLM also plans to work together with the State in analyzing a submitted MPO and ensuring the lessee obtains all of the necessary permits for a mining operation, including in state permitting processes. The scope of the lease renewal EA analysis here was narrow, however, and did not require any specific coordination with the State. The BLM has consulted with the area tribes as part of its normal course of business and in compliance with NHPA Section 106.

9. **Comment: The Forest Service should prepare a supplemental EIS to amend its 2004 Superior National Forest Plan (and associated EIS) to analyze sulfide-ore copper mining. This would be to comply with the National Forest Management Act (comment submitted by the Attorney General of the State of Minnesota and others).** Response: The Proposed Action is in conformance with the *Superior National Forest Land and Resource Management Plan*, as amended (Forest Plan) (USDA Forest Service, 2004). The Forest Plan provides for exploration (prospecting) and development (mining) of minerals in an environmentally sound manner on National Forest System lands of the Superior National Forest outside of the BWCAW and the Mining Protection Area. See Forest Plan p.2-9 (2004). The Proposed Action's lease renewal terms, conditions, and stipulations take into consideration the resource management goals and objectives established through the Forest Plan. Whether the Forest Service chooses to amend its Forest Plan in the future is a policy decision, and is not required because of the Proposed Action.

#### Comments about the BLM's compliance with NEPA in the preparation of the EA

1. **Comment: BLM must extend its public review and comment period for 60 days due to the holidays and the lapse in government funding.** Response: The BLM intended to accept public comments by mail and through the ePlanning application and to allow for a comment period of 30 days, excluding the Christmas and New Years' Day holidays, to expire on January 22, 2019. However, a series of events led to the BLM to modify these plans. First, due to a lapse in Congressionally-delegated funding, a partial government shutdown began on December 22, 2018, and lasted until January 26, 2019. During this time, few Federal employees were authorized to report to work. This created difficulties for members of the public who had questions about the EA as they

formulated their comments. Likewise, during the shutdown, the BLM was unable to receive and begin to process the public comments, as is the preferred process when the agency expects to receive a large volume of comments. Second, for a total of about five days during the partial government shutdown, the ePlanning application was unavailable to the public. For most of the period from December 21 through December 25, ePlanning was unavailable due to a network-wide redirection of Internet traffic to a Department of the Interior page noting the partial shutdown. The application experienced two short outages for unrelated technical reasons on December 28 and January 10 and a 20-hour outage on January 21 and 22. Due to these difficulties, the public comment period was extended for the same number of days as there were outages, to January 30, 2019. Several commenters, frustrated that they were not able to submit their comments online, sent 272 comments by email to BLM email addresses. Due to the unforeseen problems that people experienced using the Internet site, and to ensure maximum accessibility to the public, the BLM decided to accept these comments as well as a few comments that were mailed to the Department of the Interior instead of the BLM. The BLM public comment period for this EA is in compliance with the requirements of NEPA.

2. **Comment: BLM must prepare an EIS and analyze the impacts of mine development. In addition to the near-inevitable and permanent contamination risks related to sulfide-ore copper mining, other unique and unjustifiable risks to the human environment exist from this project. Nine out of the ten CEQ considerations to assist in the BLM's "significance" determination strongly support preparing an EIS to analyze the potential effects of the renewal of Twin Metals' mineral leases and accompanying mining project. BLM may not defer this analysis because: 1) mine development and renewal of the leases are connected actions that must be addressed in a single EIS; 2) mine development is reasonably foreseeable and its impacts will be cumulative to the impacts of renewing the leases – as the EA recognizes; and 3) renewing the leases would narrow the agency's discretion to prohibit mining. BLM may not wait until a later stage to analyze the impacts of mine development. NEPA analysis should proceed "at the earliest possible" time. At the very latest, NEPA analysis must take place before the agency takes action that will irreversibly narrow its discretion to preclude harmful impacts. In the leasing context, appellate courts have held that unless a lease preserves the federal government's full authority to preclude mining, BLM must consider the foreseeable consequences of**

mining as part of the lease renewal decision. As the D.C. Circuit explained, in such a circumstance, “the decision to lease is itself the point of irreversible, irretrievable commitment of resources—the point at which NEPA mandates that an environmental impact statement be prepared.” The fact that a project-specific analysis will be required later if Twin Metals submits a mine plan does not absolve BLM of the obligation to evaluate the impacts of mining as part of the current lease renewal decision. This analysis should include the significant impacts of mining as outlined in the Forest Service’s non-consent letter. BLM’s EA neglects to discuss any scientific sources in its direct, indirect, and cumulative effects impacts analysis. Response: Because the lessee has a right to a renewal of these leases for the third term, the BLM does not have the discretion to deny renewal of the leases. Therefore, the scope of analysis in this EA is limited to the BLM and the Forest Service’s discretionary decision space, which only includes the possible updating of the terms and conditions of the lease, and the addition of stipulations to further protect the environment and surface resources, in comparison to renewing the leases under the existing terms and conditions. The Proposed Action updates the terms and conditions of the lease and adds stipulations for the further protection of natural and cultural resources. The Proposed Action does not create significant impacts under the CEQ criteria as contrasted with the No-Action Alternative. Please see the Finding of No Significant Impact accompanying this EA for further detail. Regarding the comment on connected actions and cumulative impacts, the BLM NEPA Handbook states:

Connected actions are those proposed Federal actions that are “closely related” and “should be discussed” in the same NEPA document (40 CFR 1508.25 (a)(1)). Proposed actions are connected if they automatically trigger other actions that may require an environmental impact statement; cannot or will not proceed unless other actions are taken previously or simultaneously; or if the actions are interdependent parts of a larger action and depend upon the larger action for their justification (40 CFR 1508.25 (a)(1)). Connected actions are limited to Federal actions that are currently proposed (ripe for decision). Actions that are not yet proposed are not connected actions but may need to be analyzed in the cumulative effects analysis if they are reasonably foreseeable.

The lease renewal does not automatically trigger the lessee’s submission of an MPO, and while a lessee cannot submit an MPO without having a lease, the lease renewals and MPO approval are not interdependent because a lessee will not always submit an MPO or pursue a mineral operation on every lease. Furthermore, no MPO has been submitted and thus, that action is not currently

proposed or ripe for decision. The potential future development of a mine is therefore not considered a connected action to the lease renewals. It is addressed in the cumulative effects section of the EA.

Regarding the comment on narrowing the agency's discretion to prohibit mining and the comment on the irreversible commitment of resources, the leases conveyed to the lessee the right to mine, subject to the terms and conditions that the agency may prescribe, in 1966. That right has been in existence for many years. These lease renewals fulfill another right conveyed under the original leases, a right to a third renewal. They do not commit additional resources than the prior renewals. They do not authorize mining, under either the Proposed Action or the No-Action Alternative. Furthermore, the lease renewals now contain an operations stipulation in Section 14(a), which states that "Lessee's right to mine and produce the minerals is contingent upon both the lessor and the Forest Service approving a mine plan of operations that appropriately mitigates environmental impacts and the lessee's proper payment of production royalties on any extracted minerals. Lessor reserves the right to disapprove of the mine plan of operations if it does not meet the requirements in the lease terms and the applicable statutes and regulations." If, in the future, the lessee decides to explore or develop the mineral resources governed by these leases, the lessee will be required to submit a proposed plan of operation to the BLM. The BLM, and the Forest Service (as the Surface Managing Agency) will evaluate the proposal, using the National Environmental Policy Act procedures and other applicable laws, regulations and procedures governing this type of activity. This evaluation will include an analysis of the possible impacts of mining and incorporate the best available science concerning the relevant issue areas.

3. **Comment: The Forest Service's December 14, 2016 decision withholding consent to lease renewal and its January 2017 withdrawal application articulated the science and information available and the Forest Service's informed view that sulfide-ore mining in the Boundary Waters watershed would pose significant risks to the wilderness and other downstream resources. The BLM EA must fully analyze the risks and effects identified in those Forest Service documents.** Response: The scope of this EA is limited to analysis of the Proposed Action to renew the leases with the addition of terms and stipulations in comparison to the No-Action renewal of the leases under the existing terms

and conditions. The BLM does not have the discretion to deny the lease renewals. The Proposed Action does not authorize mining or approve any mining plan of operation. If a mining plan of operation is proposed, then the BLM and the Forest Service would analyze the relevant potential effects and risks to the surrounding and downstream environment that could result from mining, which would include a review of the best available science.

4. **Comment: BLM must ensure an accurate and adequate no action alternative and baseline by analyzing a no-lease-renewal alternative that reflects the current healthy ecosystem and amenity-based economy of the Superior National Forest and nearby protected areas. It should also identify and analyze other more heavily stipulated lease renewal alternatives that would provide better protection for the unique and sensitive resources of the Superior National Forest.**

Response: Because the leases currently exist and have existed for many years, the baseline status quo of the No-Action alternative described in the EA properly includes the current leases. With the lessee's right to renew limiting the agencies' discretionary decision space here, the Proposed Action of lease renewal with the addition of terms and conditions to the leases is also proper. A no-lease renewal alternative was not feasible here under these conditions. The agencies did consider a more heavily stipulated no-surface occupancy alternative, but did not carry it forward for analysis because of the requirement to allow for vent shafts and emergency exits for safety reasons.

5. **Comment: BLM has sufficient information to evaluate the impacts of a Twin Metals mine now, and the agency must do so before signing away any of its discretion by renewing the leases. In doing so, BLM must analyze the significant effects identified in the Forest Service's December 14, 2016 decision denying its consent to lease renewal and January 2017 withdrawal application, as well as the significant and highly foreseeable risk that measures designed to prevent and mitigate contamination and other impacts of a sulfide-ore copper mine will fail.**

Response: The leases conveyed to the lessee the right to mine, subject to the terms and conditions that the agency may prescribe, in 1966. That right has been in existence for many years. These lease renewals fulfill another right conveyed under the original leases, a right to a third renewal. They do not commit additional resources than the prior renewals. They also do not authorize mining, under either the Proposed Action or the No-Action Alternative. Furthermore, the lease renewals now contain an operations stipulation in Section 14(a), which states that "Lessee's right to mine and produce the

minerals is contingent upon both the lessor and the Forest Service approving a mine plan of operations that appropriately mitigates environmental impacts and the lessee's proper payment of production royalties on any extracted minerals. Lessor reserves the right to disapprove of the mine plan of operations if it does not meet the requirements in the lease terms and the applicable statutes and regulations." If, in the future, the lessee decides to further explore or develop the mineral resources governed by these leases, the lessee will be required to submit a proposed plan of operation to the BLM. With the detailed information that would be included in an MPO in hand, the BLM, and the Forest Service (as the surface managing agency) will then be in the best position to evaluate the proposal, using the National Environmental Policy Act procedures and other applicable laws, regulations and procedures governing this type of activity. This evaluation will include an analysis of the possible impacts of mining and incorporate the best available science concerning the relevant issue areas.

6. **Comment: The EA relies on a flawed legal opinion, currently being challenged in court, that the BLM must renew the leases under either the existing terms and conditions from the last renewal or slightly different terms and stipulations that do nothing to prevent water contamination or other foreseeable impacts of developing an industrial mining complex in the heart of the Superior National Forest.** Response: The terms and conditions of the Proposed Action are those the BLM and the Forest Service deem appropriate for the protection of surface resources, including hydrological resources. In general, they are designed to protect the environment and to clearly lay out that the lessee may not begin any mining operations until it submits and receives approval for an MPO that appropriately mitigates environmental impacts. The BLM and Forest Service will, if a mining plan is proposed, evaluate the potential impacts to the environment that could occur because of industrial mining. If at that time additional requirements are necessary, the BLM will require the lessee to comply with any protective measures prescribed under the approval of a mining plan of operation.
7. **Comment: BLM should consider all records and materials from the terminated withdrawal study process and include them in the project record for the lease renewals.** Response: The renewal of the leases under the Proposed Action does not authorize, reauthorize, or change any mine plan of operations. Because the withdrawal study process focused on the effects of mining and the effects of mining are beyond the scope of this EA, the BLM did not consider the

withdrawal study process records and materials here. The BLM did utilize comments that the Forest Service collected in 2016 regarding its consent decision to renew the leases to inform the analysis within this EA. The BLM also looked at comments from the 1987 Lease Renewal. If a mining plan of operation is proposed, then the BLM and the Forest Service would at that time analyze the relevant potential effects and risks to the surrounding and downstream environment that could result from mining, which would include a review of the best available science.

8. **Comment: The EA fails to analyze the reasonable no action alternative of not renewing the leases, contrary to NEPA. The 2004 lease renewal includes terms for lease renewal. Therefore, the BLM should adhere to these terms and analyze a no-lease alternative.** Response: The Department of the Interior Solicitor's Office found in its December 2017 M-Opinion, M-37049, that the original 1966 lease terms govern this third renewal. This EA makes clear that the third renewal of these leases, the action under consideration through this EA, is a non-discretionary action under the terms of the 1966 leases. See Chapter 1 of the EA. The BLM does not have the option to decline to renew the leases and thus did not analyze a no-renewal alternative.
9. **Comment: The BLM must conduct an environmental justice analysis.** Response: The BLM does not anticipate environmental justice impacts to occur due to the Proposed Action. Because the EA focuses on the modification of the leases' terms, conditions, and stipulations, the potential environmental impacts of mining are beyond the EA's scope. The potential for mining to have cumulative effects on low-income or minority communities is uncertain at this time, since the BLM has not received a mine plan of operations that would allow the BLM to determine where environmental impacts may occur. The environmental impacts of further exploration under approved plans of operation are minimal, and are expected to be contained within the Superior National Forest and not likely to have any measurable impacts on communities living outside of the national forest. If a mining plan of operation is proposed, then the BLM and the Forest Service would at that time analyze the relevant potential effects and risks to the surrounding environment that could result from mining, which would include environmental justice concerns, to the extent they are implicated.
10. **Comment: The EA does not analyze compliance with the Boundary Waters Treaty of 1909 or pollution of water in the Rainy-Lake of the Woods watershed, which is shared by the United States and Canada and covered under this treaty**



**(comment submitted by Government of Canada). The BLM did not analyze the trans-boundary effects of the lease renewal and mining, including effects to Quetico-Provincial Park and other downstream resources in Canada.** Response: Because the lessee has a right to a renewal of these leases for the third term, the BLM does not have the discretion to decline to renew the leases. Therefore, the scope of analysis in this EA is limited to the BLM's and the Forest Service's discretionary decision space, which only includes the possible updating of the terms and conditions of the lease, and the addition of stipulations to further protect the environment and surface resources. The lease renewals do not authorize mining under either the Proposed Action or the No-Action Alternative. If, in the future, the lessee decides to explore for or develop the mineral resources governed by these leases, the lessee will be required to submit a proposed plan of operation to the BLM. The BLM, and the Forest Service (as the surface managing agency) would then evaluate the proposal, in accordance with the National Environmental Policy Act and other applicable laws, regulations and procedures governing this type of activity. This evaluation would include a thorough evaluation of the downstream resources and the potential transboundary impacts from the proposed mining plan of operation. The BLM would work with the U. S. Department of State to ensure that the BLM meets commitments made by the United States in the Treaty of 1909 with regards to consulting with and engaging with the Government of Canada to understand any potential impacts of mining to Canadian waters and ecosystems.

11. **Comment: The National Park Service should be given cooperating agency status based on the location of the proposed project in the Rainy River watershed and upstream location from Voyageurs National Park.** Response: The BLM has contacted the National Park Service regarding the Proposed Action. There are no anticipated impacts to Voyageur's National Park as a result of this Proposed Action. The BLM will keep the National Park Service informed as necessary as to any future actions that will occur under these lease renewals which might impact Voyageur's National Park, and will invite the other agencies such as the NPS to be cooperators in any analysis of a mining plan of operation as appropriate.
12. **Comment: BLM's analysis team did not contain the appropriate types of levels of expertise to analyze the complex effects of mining.** Response: The BLM's decision space considered in this EA relates solely to the application of new

terms and conditions, including stipulations for the protection of natural resources, at the time of a non-discretionary lease renewal. The BLM is not considering a mine plan of operation at this time. The lease renewals do not authorize mining under either the Proposed Action or the No-Action Alternative. The BLM acknowledges the importance of conducting a thorough analysis of the issues and resources that may be affected by ground-disturbing activities, particularly those involved with mining. If and when a proposed mine plan of operation is submitted, the BLM and Forest Service would conduct a thorough analysis of the environmental impacts associated with mining operations and would obtain, through inter- and intra-agency cooperation, contracting, and other vehicles, all the necessary expertise to analyze the best available science on the related issues.

- 13. Comment: The BLM has not provided the public with a draft Finding of No Significant Impact (FONSI) for the 30-day public review prescribed by CEQ regulations. Under 40 C.F.R. § 1501.4(e)(2), public review of a draft FONSI is required where the proposed action “is closely similar to [] one which normally requires the preparation of an [EIS]” under agency procedures and/or is of a precedential nature. Both of these circumstances are satisfied here. Under BLM NEPA procedures, mineral leasing decisions and approvals of large-scale mining operations normally require preparation of an EIS.** Response: The Scope of the Proposed Action is the non-discretionary renewal of the leases with the discretionary addition of terms and conditions. This action is not a new mineral leasing decision, nor an approval of a mining operation. The BLM’s NEPA Handbook list of proposed actions that may require an EIS does not include mineral lease renewals. The BLM does not consider this action to be of a precedential nature. The BLM’s Categorical Exclusion list does include the “approval of mineral lease readjustments, renewals, and transfers including assignments and subleases.” However, because of the public interest in these lease renewals, the BLM decided to prepare an Environmental Assessment in this instance. If in the future a mining plan of operation is submitted, section 14(a) of the Proposed Action would require the lessee to obtain BLM and Forest Service approval prior to commencing any operations. Prior to giving such approval, the BLM and the Forest Service would determine the appropriate level of NEPA for a proposed operation plan and conduct a thorough analysis of the potential impacts prior to making a decision.

- 14. Comment: BLM must clearly articulate the lease stipulations on which it is relying, ensure their enforceability, and meaningfully analyze their effectiveness, based on the best available scientific information. It should also make publicly available the draft lease renewal language so the public can assess how the proposed stipulations will be integrated into the lease document. The BLM must provide other documents and information necessary to facilitate public transparency and meaningful review.** Response: The BLM has included the terms, conditions, and stipulations analyzed in this EA at Appendix A, and the final lease renewals are attached in full at Appendix D.

#### Comments about the main content of the EA

- 1. Comment: BLM's EA is deficient because the alternatives and baseline analysis is insufficient. The EA fails to consider a reasonable range of alternative stipulations.**

Response: Because the leases currently exist and have existed for many years, the baseline status quo of the No-Action alternative described in the EA properly includes the current leases with the existing terms and conditions. With the lessee's right to renew limiting the agencies' discretionary decision space here, the Proposed Action of lease renewal with the addition of terms and conditions to the leases that the agencies' deem appropriate for the protection of surface resources is also proper. A no-lease renewal alternative was not feasible here under these conditions. The agencies considered a no-surface occupancy alternative, but did not carry it forward for analysis because of the requirement to allow for vent shafts and emergency exits for safety reasons. The BLM considers the Proposed Action and No-Action alternatives appropriate and sufficient alternatives for the purposes of this EA.

- 2. Comment: BLM EA is deficient because it fails to take a hard look at reasonably foreseeable direct, indirect, and cumulative impacts to water resources, cultural resources, noise, recreation, vegetation, soils, air quality, wildlife, impact to the economy, public health, wilderness values, Voyageurs National Park, Quetico Provincial Park, and climate change. The EA fails to meaningfully analyze the alternatives considered.** Response: This EA includes analysis of environmental effects of the Proposed Action in comparison with the No-Action alternative in Chapter 3, and addresses cumulative effects in Chapter 4 and Appendix B.
- 3. Comment: BLM's EA and associated stipulations provide little assurance that they would provide meaningful, enforceable, or effective prevention or mitigation of significant adverse impacts.** Response: The U.S. Forest Service

and BLM Stipulations of the Proposed Action will be incorporated into the lease renewals to augment the protection of surface resources and to provide for enforceable conditions regarding future actions. For example, Section 14(a) of the Proposed Action provides such conditions. The BLM has the discretion under the lease terms and 43 CFR § 3598.4 to enforce any violation of the lease terms. Under the Proposed Action, the lessee must comply with all applicable laws and regulations, lease, license or permit terms, conditions and special stipulations; approved mine or exploration plan requirements; and orders issued by the authorized officer.

4. **Comment: The purpose and need does not define either the purpose of the project or the need for the project. No problem is present for which the proposed action (renewing the mining lease) could be construed as an answer.**

Response: Because the lessee has a right to a renewal of these leases for the third term, the BLM does not have the discretion to decline to renew the leases. Therefore, the scope of analysis in this EA is limited to the BLM and the Forest Service's discretionary decision space, which only includes the possible updating of the terms and conditions of the lease, and the addition of stipulations to further protect the environment and surface resources. The purpose and need statement in the EA has been clarified as follows: *As a non-discretionary right in accordance with the prior lease terms, the BLM will grant the lessee a third renewal in this action. However, the BLM and the Forest Service, the surface managing agency here, retain the authority to add reasonable new stipulations to the leases, as well as to reasonably adjust existing terms and conditions to meet all regulatory requirements. The purpose of the Proposed Action is, therefore, for BLM to grant the leases with the appropriate readjustment of terms, conditions, and stipulations that the BLM and Forest Service deem appropriate for resource protection. The need of the Proposed Action is to fulfill the legal obligation provided in the original 1966 leases to grant a third renewal, under the terms, conditions, and stipulations that the BLM and Forest Service may prescribe for protection of the surface lands and natural resources in the area.*

5. **Comment: Table 1 and the ensuing analysis do not show a meaningful difference between the old and new terms and conditions.** Response: In many ways, the terms, conditions, and stipulations under the original leases were, in fact, similar to those being proposed. Also, laws like the Clean Water Act have been in effect and applied to activities on the leases since the laws' adoption. However, the main difference between the old stipulations and the new ones are

the requirements for an operation plan (approved by both the Forest Service and BLM) before any uses, including casual use (Sections 6, 14(a) and 14(i)(1)); the limitation on surface use (Section 14(i)(1)); and the prohibition of surface mining methods (Section 14(i)(6)). These and other differences between the original stipulations and the new ones have been further clarified in the table and in Chapter 3 of the EA.

6. **Comment: The EA fails to address how a 20-acre maximum surface use stipulation would be applied at the mineral development stage. For example, what types of surface use would count toward the limitation? There is no analysis regarding whether this stipulation would affect overall ecosystem health, habitat fragmentation, and other foreseeable impacts of development. Without knowing the number of disturbed sites with and without the 20-acre maximum, it is useless speculation to suggest that the 20-acre limit could lead to less ground clearance during mineral development, or less harm at the area, Forest, or regional levels.** Response: This stipulation has been modified to restrict surface use on the leases to those areas and uses that are necessary to protect human health and safety in mineral-related operations, such as for vent shafts or human escape routes; for resource monitoring required by an operating plan; for scientific, technical or environmental studies or investigations; or for other activities approved by both the Forest Service and BLM in a mining plan of operations. See Section 14(i)(1). This stipulation also requires compliance with all applicable laws and regulations and the then-current Forest Service Land and Resource Management Plan. Section 14(i)(1). The primary impact of this stipulation is that the Forest Service will retain approval authority over surface uses pursuant to the leases. The stipulations will apply to all activities that are proposed pursuant to the leases. Because the BLM has not received a mine plan of operations, the BLM cannot fully analyze the stipulation's effects on resource protection as to mining at this time. Any such analysis would be speculative.
7. **Comment: The BLM should mention wild rice as a potentially impacted resource in Chapter 3 and a stipulation to protect wild rice from prospecting operations.** Response: The BLM added wild rice to the discussion of cultural resource impacts in Chapter 3. The stipulations require Forest Service authorization prior to surface use and compliance with the Clean Water Act, and permit the Chippewa Bands to conduct resource surveys before operations. These

stipulations are expected to protect wild rice from the impacts of further exploration activities.

8. **Comment: The BLM needs to explain how it selected the geographic and temporal boundaries for its cumulative effects analysis. For example, why is the vegetation of the entire Superior National Forest used as the cumulative effects boundary, when the leases represent just a small portion of the millions of acres of the SNF?** Response: The BLM chose the cumulative effects boundaries as it deemed appropriate dependent upon each resource type. The BLM has updated the Cumulative Effects boundaries to provide a more appropriate delineation of the spatial extent of the cumulative impact analysis. Further explanation of the rationale for all boundaries for cumulative impacts analysis is in Chapter 4.
9. **Comment: The BLM should also remove the statement that "the mining plan of operation is included within this cumulative effects analysis." BLM could not have analyzed the potential impacts of a mine plan at this stage, because no plan has been proposed.** Response: Because leasing can logically lead to mining, the BLM analyzed, at a conceptual level, the type of mining that the lessee has stated it intends to propose within its cumulative effects section. The BLM has removed the reference to a mine plan of operations in the cumulative effects analysis and clarified that what is being analyzed is a conceptual proposal for an underground mine, a processing site on private land just east of Birch Lake, and a combination of backfilling and off-site storage of tailings, using a new facility southwest of Babbit.
10. **Comment: NEPA regulations require the agency to take a hard look at the incremental effects of the proposed action when added to the effects of other past, present, and future foreseeable actions on the same resources. The BLM has not met this requirement, and mining would have significant impacts on many resources, especially water quality. While the EA claims to include the mining plan of operation in its cumulative effects analysis, the EA does not actually analyze any of those reasonably foreseeable cumulative impacts. Instead, the cumulative impacts analysis consists of a generalized statement that future mineral actions – presumably including a Twin Metals mine – could result in negative environmental effects to resource areas relevant to this analysis including forest and vegetation removal, loss of wildlife habitat, potential impact to water quality, additional air emissions, loss of recreational ability within the project footprint, and additional noise to the project area and its surroundings. This is inadequate to meet the BLM's obligation to take a hard**

**look at the reasonably foreseeable cumulative impacts of a Twin Metals mine.**

Response: The BLM has taken steps to clarify and bolster its cumulative effects analysis:

- First, the BLM has included the analysis in the EA instead of keeping it as a separate document. The BLM had kept the cumulative effects analysis as a separate document when it published the draft EA in December 2018. Now the cumulative effects analysis is part of the final EA.
- The BLM has bolstered, through more in-depth study of the effects of the PolyMet mine project, its analysis of the expected effects of that project, and these are summarized in the cumulative effects analysis.
- The BLM has also reviewed the impacts of other mineral projects and interests in the area, as well as other forest management projects. See Appendix B for the full cumulative effects analysis.

Readers should note that the purpose of the cumulative effects analysis is to disclose those incremental effects that the *proposed action and alternatives* have when added to other actions. One common misconception is that the cumulative effects analysis aims to disclose all of the effects, significant or not, of all those other past, present, and future actions. It is not. Rather, the question at hand in a cumulative effects analysis is, "What do the *proposed action and alternatives* do or add to the total effects of all of these actions?" The BLM acknowledges that other past, present, and future actions are expected to have significant environmental impacts. The BLM acknowledges also that some of those possible future impacts are related to the renewal of leases MNES 01352 and MNES 01353. However, the incremental effect of the proposed action is, in brief, a reduction of negative impacts to Federal surface, culturally important resources, and other uses of the Superior National Forest, due to clearer and tighter restrictions on future lease activities in the readjusted terms and conditions of the renewed leases.

11. **Comment: The Forest Plan, EIS, and ROD did not include BLM as a cooperating agency.** Response: That error in the EA has been corrected. The Forest Service consulted with the BLM when developing the Forest Plan.
12. **Comment: The EA needs to be modified to include mitigation.** Response: Mitigation is a tool used to add measures to protect natural resources from the potential environmental impacts of the activities that may be proposed pursuant to the leases. The Proposed Action – modification of terms,

conditions, and stipulations to protection natural resources – is expected to have a positive overall environmental impact. The BLM and the Forest Service do not consider mitigation to be necessary in this instance.

- 13. Comment: The EA needs to provide more analysis of the economic implications of lease renewal.** Response: The BLM's decision space considered in this EA relates solely to the lease renewals with the application of new or readjusted terms and conditions, including stipulations for the protection of natural resources, in comparison to the lease renewals under the existing terms and conditions. The potential impacts from the application of those new or readjusted terms and conditions under the Proposed Action does not include direct socio-economic impacts in comparison to the No-Action alternative, beyond what is discussed in Chapter 1. BLM is not considering a mine plan of operation at this time. The BLM acknowledges the importance of analyzing the effects of potential mining operations on economic conditions and socio-economics in the area. If and when a proposed mine plan of operation is submitted, the BLM and US Forest Service would conduct a thorough analysis of the environmental impacts associated with mining operations, including socioeconomic impacts.
- 14. Comment: Prospecting activities will spread invasive plant species.** Response: A short discussion of the tendency of prospecting activities to spread invasive species is included in the cumulative effects analysis (Appendix B).
- 15. Comment: Prospecting activities will result in areas of traditional cultural importance being off-limits to tribal members.** Response: The stipulation that enables tribal resource surveys before ground-disturbing activities creates the opportunity for Bands to identify culturally significant resources and any concerns they may have relating to accessing traditional cultural properties during mineral operations before those operations are approved.
- 16. Comment: The Band recommends that a Tribal Historic Preservation Officer representative be present to identify any potential sacred or cultural sites before any ground-disturbing activities.** Response: Through discussions with the Bands, the BLM developed a lease stipulation to address several concerns raised by the Bands. The stipulation, included in the Proposed Action lease renewals in Section 14, states: *The leases are located within the 1854 ceded territory where the Bois Fort Band of Chippewa, the Grand Portage Band of Lake Superior Chippewa, and the Fond du Lac Band of Lake Superior Chippewa reside and retain usufructuary rights. Prior to authorizing any ground disturbance, the BLM and/or Forest Service will notify these three Chippewa Bands about the proposed*



*project and allow the Bands 45 days to coordinate and schedule completion of cultural surveys from a Native American perspective. The BLM and/or Forest Service will consider the results of the cultural surveys completed by the Bands along with archaeological and historical inventories and incorporate the results, as necessary, into the Section 106 of the National Historic Preservation Act and National Environmental Policy Act review processes. (Section 14(e))*

17. **Comment: The BLM did not include new and emerging scientific evidence about the impacts of sulfide-ore mining on aquatic and terrestrial ecosystems, public health, social, economic and other values of the Boundary Waters area and in the State of Minnesota and Canada. The BLM should have engaged in a rigorous scientific review of these studies, and should have cited these studies in its EA. (comment submitted by the State of Minnesota Attorney General and others)**

Response: The BLM received a number of similar comments regarding studies of copper mining projects in other parts of the world and of the possible impacts of copper mining in the Superior National Forest. The BLM did not include an in-depth analysis of this scientific information and these studies because the scope of the decision to be made here is limited to whether to renew the leases with the existing terms, or to renew the leases with updated terms and conditions that are more protective of the environment. The Proposed Action does not authorize (or reauthorize or change) any plan of operations or allow any specific surface use, for exploration and development of minerals on the leased lands. Therefore this EA does not include a detailed analysis of the development of a mine on these leases, or other exploration related surface uses, and does not include an analysis of the scientific information related to those operations referred to by the commenters. If the BLM receives a plan of operations for a mine, the BLM will then engage, with its partners, in an in-depth study of the scientific evidence pertaining to the possible impacts of a mine in this location. The BLM would solicit comments from the public as part of the analysis of the mine plan of operations, and would welcome additional submissions of relevant scientific studies.

#### **Comments about the suitability of the stipulations**

1. **Comment: The stipulation that limits the lessee's use of the leased area to no more than twenty acres is unduly restrictive and arbitrary. The restriction will be difficult to comply with under modern mining practices during exploration, development, and the life of the mine project. Development of any future limitations on surface occupancy under a lease necessarily requires a site-specific consideration depending on the activity at issue.** Response: The stipulation, now found in section 14(i)(1), has been changed and no longer includes a numerical limit. Rather, it limits use of federal surface to the area that is required for: 1) the health and safety of the lessee's employees and contractors, pending Forest Service approval of said use, for features such as

vent shafts or human escape routes, which, as determined by an approved operating plan, must be located on NFS land in order to comply with applicable Federal or State law, regulation, or other requirements; 2) resource monitoring to assess impacts from the Lessee's activities under this lease upon NFS land and waters, which monitoring is required by an approved operating plan, or as may otherwise be required by the BLM, Forest Service, or state or Federal agencies which regulate mining operations or pollution control; 3) technical investigations, including for example geophysical surveys, that is reasonably necessary for the development and implementation of a mine plan of operations ("MPO") or to conduct environmental review, surveys, or other documentation in order to comply with applicable law necessary for any approval of the MPO, or as necessary for any activities approved by a mining plan of operations; and 4) NFS land and water use or occupancy approved by a mining plan of operation. See Section 14(i)(1).

2. **Comment: Stipulation g.1(c) must be revised to specify that the technical investigations that the lessee is permitted to conduct include hydrogeological testing and that testing can be conducted to collect the information and data needed to support environmental reviews.** Response: The stipulation concerning technical investigations is now found in Section 14(i)(1). That section addresses this concern. It states that the lessee may access NFS lands as necessary to conduct these types of studies, upon approval of an operating plan. See Section 14(i)(1).
3. **Comment: Stipulation g.3. (GENERAL PROTECTIONS FOR FOREST RESOURCES AND USES) needs to be revised to clarify that it applies to approved permits, in addition to approved operating plans, and to clarify the applicable legal authorities.** Response: The stipulation for Forest Resources is now found in Section 14(i)(3). It clearly states that all activities, including permits or operating plans approved under this lease, must include provisions prescribed by the Forest Service to protect NFS lands and waters, consistent with the approved Forest Land and Resource Management Plan. See section 14(i)(3).
4. **Comment: Stipulation g.4. (WATER USES) must be revised to clarify that the United States only retains the landownership rights addressed to the extent it already has those rights, and to clarify that the authorization to use surface or groundwater on the leased land continues to be governed by currently applicable laws and regulatory requirements.** Response: Section 14(i)(4) states the United States retains its landownership rights, including riparian and littoral rights, to groundwater and surface water resources. It also states that all use must be authorized by the Forest Service and that any authorizations, such as

through approved operating plans under this lease, must meet all applicable legal and regulatory standards. No additional clarification to this stipulation is necessary.

5. **Comment: Stipulation g.5 (WATER QUALITY) needs to be revised to clarify that only those certifications that are required under the Clean Water Act must be provided and specify that the requirement applies to the authorization or approval of a mine plan of operations.** Response: Section 14(i)(5) requires the lessee to obtain certifications required under Section 401 of the Clean Water Act, before the lessor will approve a plan of operations under these leases. Section 14(a) states that the lessor will not approve a plan of operations that does not meet terms in the lease, or if it does not meet applicable statutory or regulatory standards. No additional clarification to this stipulation is necessary.
6. **Comment: Stipulation g.7. (BONDING) needs to be revised to clarify that BLM and the Forest Service will coordinate reclamation and bonding requirements to avoid duplication.** Response: Stipulation 14(i)(7) has been updated and now states: "To the extent consistent with applicable federal authorities, the Forest Service and BLM will coordinate so as to avoid duplicative bonding requirements.
7. **Comment: The stipulations aren't clear or consistent on whether lease renewal is conditional or subject to Forest Service consent.** Response: As the EA states in Chapter 1, the third renewal of these leases is a non-discretionary action. Neither the BLM nor the Forest Service have the option to deny renewal of the leases at this third renewal period. The revised stipulations clarify the issue of any future renewals of the leases. For lease MNES-01352, Section 14(b) states that the lease is subject to the conditions of diligent development and continued operation. Section 14(b)(1) sets out conditions the lessee must meet to show diligent development of the lease. Section 14(b)(2) states that if the lessee fails to meet the diligence requirements, the lease will terminate and will not be subject to renewal. Section 14(b)(3) states that if the lessee is in compliance with all terms and conditions of the lease at the end of the lease term, the BLM will renew the lease, subject to any reasonable adjustment of terms, conditions, and stipulations that either the BLM or the Forest Service deem appropriate. The stipulation in section 14(i)(8) states that while the Forest Service reserves its consent authority, if the lessee is in full compliance with terms and conditions of this lease, the Forest Service will provide consent to a renewal, subject to any reasonable adjustments as described in section 14. The

diligence and renewal requirements in lease MNES-01353 refer back to the diligence and renewal requirements of MNES-01352.

8. **Comment: The tribal stipulation needs to have a finite timeframe. Granting tribes an indefinite amount of time to complete a resource survey would unduly delay mineral exploration projects.** Response: The stipulation enabling tribal resource surveys has been modified to grant affected bands to take up to 45 days to schedule the completion of the necessary surveys, within a reasonable timeframe that the BLM and/or Forest Service may determine. This grants the tribes ample time to review proposed projects, determine the need for and scope of surveys, and communicate their plans for conducting and completing said surveys and retains a reasonable level of flexibility in case weather or other conditions prevent surveys from being completed within that amount of time. This idea is modeled off the BLM's policy for responding to applications for permit to drill (APDs) for oil and gas. When the BLM receives an APD, it has ten days to schedule an onsite meeting with the operator. This gives the operator a reasonable assurance of a prompt response while allowing the BLM to ensure that the appropriate specialists will be available, that resources of concern will be visible (i.e., not snow-covered, absent due to migration, etc.).
9. **Comment: Areas that are temporarily cleared for mineral exploration may be planted with blueberries during reclamation. Blueberries are an important species to the Chippewa Bands that retain usufructuary rights. We suggest a stipulation that requires consideration of potential opportunities to enhance these treaty rights.** Response: The BLM added a stipulation that states that the authorizing agency will invite the three Chippewa Bands retaining usufructuary rights to recommend reasonable reclamation practices.
10. **Comment: The original terms and conditions appear to prohibit surface mining methods and smelting, whereas the proposed new terms and conditions do not appear to expressly prohibit these activities.** Response: The BLM has reviewed information from the lessee, such as the conceptual mine plan, discussed in the letter submitted on February 8, 2019, which indicate the company plans to build a processing facility on a mix of private and federal lands, as described in Appendix B. Information the BLM has reviewed does not show the lessee intends to build a smelting facility on the leases. Any activity, or facility, on the leases granted here must be approved by the Forest Service and the BLM in a mining plan of operation; it is not the intention of the agencies to approve a smelting facility on these leases.

11. **Comment: Very small degrees of caving and subsidence are natural and acceptable results of underground mining. Modern technology can detect subsidence at a level of a few microns, and the agencies should acknowledge that there is an acceptable and safe level of subsidence that would be produced by an underground mine.** Response: The stipulation regarding subsidence has been modified to state that the lessee will be liable for any damages caused by caving or subsidence.
12. **Comment: A stipulation needs to provide a threshold of water contamination that would trigger work stoppage.** Response: The stipulations being proposed are designed to protect water and other resources. Since a mine plan has not yet been submitted, the agencies cannot yet assess in detail the potential for surface or ground water resources to be contaminated. This level of detailed analysis will occur if and when a mine plan of operations is submitted and reviewed.
13. **Comment: The stipulation requiring removal of equipment within 180 days could result in moving equipment over unfrozen, saturated soil, causing damage to sensitive soils.** Response: The stipulation regarding removal of equipment has been modified to require the lessee to provide a schedule for reclamation and equipment removal within 90 days. This will allow the lessee and the government to agree on a schedule that minimizes impacts on resources.

**APPENDIX D. Lease forms.**

PART 1. LEASE RIGHTS GRANTED.

This lease  lease renewal entered into by and between the United States of America, hereinafter called lessor or BLM  and (Name and Address)

Franconia Minerals (US) LLC  
380 St. Peter Street Suite. 705  
St. Paul, MN 55102

Hereinafter called lessee, is effective (date) June 1, 2019, for a period of 10 years,

*Sodium, Sulphur, Hardrock –*

With a right in the lessee to renew for successive periods of 10 years under such terms and conditions as may be prescribed by the Secretary of the Interior, including those conditions described in special stipulations in Section 14 below, unless otherwise provided by law at the expiration of any period.

*Potassium, Phosphate, Gilsonite –*

and for so long thereafter as lessee complies with the terms and conditions of this lease which are subject to readjustment at the end of each 10 year period, unless otherwise provided by law,

Sec. 1. This lease is issued pursuant and subject to the terms and provisions of the:

- Mineral Leasing Act of 1920, as amended, and supplemented, 41 Stat. 437, 30 U.S.C. 181-287, hereinafter referred to as the Act;
- Mineral Leasing Act of Acquired Lands, Act of August 7, 1947, 61 Stat. 913, 30 U.S.C. 351-359;
- Reorganization Plan No. 3 of 1946, 60 Stat. 1099 and 43 U.S.C. 1201;
- (Other) 16 U.S.C. 508b, 16 U.S.C. 520; and to
- the regulations and general mining orders of the Secretary of the Interior in force on the date this lease renewal issued.

Sec. 2. Lessor, in consideration of any bonuses, rents, and royalties to be paid, and the conditions and covenants to be observed as herein set forth, hereby grants and leases to lessee the exclusive right and privilege to explore for, drill for, mine, extract, remove, beneficiate, concentrate, or otherwise process and dispose of the copper deposits, nickel & associated minerals, hereinafter referred to as "leased deposits," in, upon, or under the following described lands:

Fourth Principal Meridian, Minnesota

T. 61 N., R. 11 W.

- sec. 3, lot 2, SW1/4SW1/4 and S1/2SE1/4;
- sec. 5, lots 1, 2, 6 and 7, S1/2NE1/4, NE1/4SW1/4, S1/2SW1/4 and N1/2SE1/4;
- sec. 6, lots 13, 22, 23 and 24;
- sec. 7, lots 1 thru 4 and lots 9, 10, 12, 15, 16 and 19;
- sec. 8, lots 2 and 6;
- sec. 9, NE1/4, E1/2NW1/4 and S1/2;
- sec. 18, lots 2, 7 and 9 and lots 12 thru 20;
- sec. 19, lots 2 thru 5 and lots 7 and 8.

T. 62 N., R. 11 W.

- sec. 27, SE1/4SW1/4;
- sec. 32, lot 4;
- sec. 33, lots 6 and 7;
- sec. 34, NW1/4.

T. 61 N., R. 12 W.

sec. 25, lot 2 and SW1/4SW1/4.

containing 2609.72 acres, more or less, together with the right to construct such works, buildings, plants, structures, equipment and appliances and the right to use such on-lease rights-of-way which may be necessary and convenient in the exercise of the rights and privileges granted, subject to the conditions herein provided.

*Phosphate –*

In accordance with section 11 of the Act (30 U.S.C. 213), lessee may use deposits of silica, limestone, or other rock in the processing of refining of the phosphates, phosphate rock, and associated or related minerals mined from the leased lands or other lands upon payments of royalty as set forth on the attachment to this lease. (Phosphate leases only.)

Sec. 1. (a) RENTAL RATE – Lessee must pay lessor rental annually and in advance for each acre or fraction thereof during the continuance of the lease at the rate indicated below:

PART II. TERMS AND CONDITIONS

*Sulphur, Gilsonite –*

50 cents for the first lease year and each succeeding lease year;  
*Hardrock* –

\$1 for the first lease year and \$1 for each succeeding lease year;  
*Phosphate* –

25 cents for the first lease year, 50 cents for the second and third lease years, and \$1 for each and every lease year thereafter;

*Potassium Sodium* –

25 cents for the first calendar year or fraction thereof, 50 cents for the second, third, fourth, and fifth calendar years respectively, and \$1 for the sixth and each succeeding calendar year; or

*Sodium, Sulphur, Asphalt, and Hardrock Renewal Leases*–

\$1 \_\_\_\_\_ for each lease year;

(b) RENTAL CREDITS – The rental for any year will be credited against the first royalties as they accrue under the lease during the year for which rental was paid.

Sec. 2. (a) PRODUCTION ROYALTIES – Lessee must pay lessor a production royalty in accordance with the attached schedule (see Sections 14(f), 14(g) and 14(h)). Such production royalty is due the last day of the month next following the month in which the minerals are sold or removed from the leased lands.

(b) MINIMUM ANNUAL PRODUCTION AND MINIMUM ROYALTY – (1) Lessee must produce on an annual basis a minimum amount of copper, nickel and associated hardrock minerals valued at \$206,196 except when production is interrupted by strikes, the elements, or casualties not attributable to the lessee. Lessor may permit suspension of operations under the lease when marketing conditions are such that the lease cannot be operated except at a loss. (2) At the request of the lessee, made prior to initiation of the lease year, the BLM may allow in writing the payment of a \$79.00 per acre or fraction thereof minimum royalty in lieu of production for any particular lease year. Minimum royalty payments must be credited to production royalties for that year. If lessee has not commenced production in paying quantities by the end of this 10-year lease term, the lessor will increase the minimum annual royalty, at a minimum, to reflect the changes in the Consumer Price Index published by the Bureau of Labor Statistics of the Department of Labor, at the time of the renewal.

Sec. 3. REDUCTION AND SUSPENSION – The lessor reserves the authority to waive, suspend or reduce rental or minimum royalty, or to reduce royalty and reserves the authority to assent to or order the suspension of this lease, as the applicable regulations provide.

Sec. 4. BONDS – Lessee must maintain in the proper office a lease bond in the amount of \$5,000, or in lieu thereof, an acceptable statewide or nationwide bond. The BLM may require an increase in this amount when additional coverage is determined appropriate.

Sec. 5. DOCUMENTS, EVIDENCE AND INSPECTION – At such times and in such form as lessor may prescribe, lessee must furnish detailed statements showing the amounts and quality of all products removed and sold from the lease, the proceeds therefrom, and the amount used for production purposes or unavoidably lost.

Lessee must keep open at all reasonable times for the inspection of any duly prescribed employee of lessor, the leased premises and all surface and underground improvements, work, machinery, ore stockpiles, equipment, and all books, accounts, maps, and records

relative to operations, surveys, or investigations on or under the leased lands.

Lessee must either submit or provide lessor access to and free copying of documents reasonably necessary to verify lessee compliance with terms and conditions of the lease.

While this lease remains in effect, information obtained under this section must be closed to inspection by the public to the maximum extent allowed under the Freedom of Information Act (5 U.S.C. 552), or other federal law, provided the lessee has marked the information as “confidential” upon submission.

Sec. 6. DAMAGES TO PROPERTY AND CONDUCT OF OPERATIONS – Lessee must exercise reasonable diligence, skill, and care in the operation of the property, and carry on all operations in accordance with approved methods and practices as provided in the applicable exploration and mining operations regulations, having due regard for the prevention of injury to life, health or property and of waste or damage to any water or mineral deposits.

Lessee must not conduct exploration or mining operations prior to receipt of necessary permits or approval of plans of operations by lessor (see Section 14(a) below).

Lessee must carry on all operations in accordance with approved methods and practices as provided in the applicable exploration and mining operations regulations, conditions described in the special stipulations in Section 14 below, and the approved mining plans in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, minerals, and other resources, and to other land uses or users. Lessee must take measures deemed necessary by lessor to accomplish the intent of this lease term. Such measures may include, but are not limited to, modification to proposed siting or design of facilities, timing of operations, and specification of interim and final reclamation procedures.

Lessor reserves to itself the right to lease, sell, or otherwise dispose of the surface or other mineral deposits in the lands and the right to continue existing uses and to authorize future uses upon or in the leased lands, including issuing leases for mineral deposits not covered hereunder or the approval of easements or rights-of-way. Lessor will condition such uses to prevent unnecessary or unreasonable interference with rights of lessee as may be consistent with concepts of multiple use and multiple mineral development.

Sec. 7. PROTECTION OF DIVERSE INTERESTS, AND EQUAL OPPORTUNITY – Lessee must: pay when due all taxes and legally assessed and levied under the laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance applicable Federal and state statutes and regulations and with standard industry practices; restrict the workday to not more than 8 hours in any one day for underground workers, except in emergencies; and take measures necessary to protect the health and safety of the public. No person under the age of 16 years must be employed in any mine below the surface. To the extent that laws of the State in which the lands are situated are more restrictive than the provisions in this paragraph, then the State laws apply.



## MNES - 01352

Lessee must comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor. Lessee and lessee's subcontractors are prohibited from having segregated facilities.

Sec. 8. (a) TRANSFERS – This lease may be transferred in whole or in part to any person, association or corporation qualified to hold such lease interest.

(b) RELINQUISHMENT - The lessee may relinquish in writing at any time all rights under this lease or any portion thereof as provided in the regulations. Upon lessor's acceptance of the relinquishment, lessee must fulfill accrued obligations, but will be relieved of all future obligations under the lease or the relinquished portion thereof, whichever is applicable.

Sec. 9. DELIVERY OF PREMISES, REMOVAL OF MACHINERY, EQUIPMENT, ETC. – At such time as all or portions of this lease are returned to lessor, lessee must deliver up to lessor the land leased, underground timbering, and such other supports and structures necessary for the preservation of the mine workings on the leased premises or deposits and place all wells in condition for suspension or abandonment. Within 90 days of the date the lessee returns the leasehold to the lessor, the lessee must submit a schedule for how it will complete all reclamation work, to be approved by the lessor and the Forest Service. In accordance with the approved schedule, the lessee must remove from the premises all other structures, machinery, equipment, tools, and materials that it elects to or as required by the lessor. Any such structures, machinery, equipment, tools, and materials remaining on the leased lands beyond the approved completion date or approved extension thereof, will become the property of the lessor, but lessee must either remove any or all such property or must continue to be liable for the cost of removal and disposal in the amount actually incurred by the lessor. If the surface is owned by third parties, lessor will waive the requirement for removal, provided the third parties do not object to such waiver.

Lessee must, prior to the termination of bond liability or at any other time when required and in accordance with all applicable laws and regulations, reclaim all lands the surface of which has been disturbed, dispose of all debris or solid waste, repair the offsite and onsite damage caused by lessee's activity or activities on the leased lands, and reclaim access roads or trails.

Sec. 10. PROCEEDINGS IN CASE OF DEFAULT – If lessee fails to comply with applicable laws, existing regulations, or the terms, conditions and stipulations of this lease, and noncompliance continues for 30 days after written notice thereof, this lease will be subject to cancellation by the lessor through judicial proceedings. This provision will not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver will not prevent later cancellation for the same default occurring at any other time.

Sec. 11. HEIRS AND SUCCESSORS-IN-INTEREST – Each obligation of this lease extends to and is binding upon, and every benefit hereof must inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

Sec. 12. INDEMNIFICATION – Lessee must indemnify and hold harmless the United States from any and all claims arising out of the lessee's activities and operations under this lease.

Sec. 13. SPECIAL STATUTES – This lease is subject to the Federal Water Pollution Control Act (33 U.S.C. 1151-1175), the Clean Air Act (42 U.S.C. 1857 et seq.), and to all other applicable laws pertaining to exploration activities, mining operations and reclamation.

Sec. 14. SPECIAL STIPULATIONS

- a. Operations: Any and all operations to be conducted under this lease must be done in accordance with a plan of operations approved in writing by the lessor and the Forest Service before such operations begin, consistent with applicable agency regulations. The approved operating plan will include any appropriate provisions the lessor and the Forest Service determine are needed to maintain proper administration of the lands and surface resources, including hydrological resources. Any and all operations conducted in advance of approval of an original, revised, or amended operating plan, or which are not in accord with an approved plan, constitute violations of the terms of this lease.

Lessee's right to mine and produce the minerals is contingent upon both the lessor and the Forest Service approving a mine plan of operations that appropriately mitigates environmental impacts and the lessee's proper payment of production royalties on any extracted minerals. Lessor reserves the right to disapprove of the mine plan of operations if it does not meet the requirements in the lease terms and the applicable statutes and regulations.

- b. Diligence and Renewal:

1. This lease is subject to the conditions of diligent development and continued operation, except during approved periods of suspension outlined below. By the end of this third 10-year renewal term, lessee will have completed the following: utilized the pre-application procedures to submit information needed by the lessor and Forest Service to evaluate the mine plan of operation; submitted a complete proposed mine plan of operation to the lessor with all necessary application data; obtained all necessary permits; submitted to the BLM a notice to proceed at least one month prior to mine construction; and have met the first set of project milestones for mine construction as outlined in the notice to proceed.
2. Lessee's failure to meet the diligence requirements on this lease by the end of the 10-year term provided for in this lease renewal will terminate the lease, and the lease will not be eligible for renewal. Payment of minimum royalty payments does not fulfill diligence requirements.
3. If the lessee is in compliance with the terms and stipulations set out in this lease at the end of the 10-year renewal period, including as may be extended through suspension, the lessor will renew the lease with any reasonable adjustment of terms, conditions, and stipulations that either the lessor or the Forest Service deem appropriate.

- c. Suspension:

1. The lessor may suspend the lease term in the interest of conservation of mineral resources; to encourage the greatest ultimate recovery of the mineral resource; as necessary to either promote development of the mineral resources or because the lessee cannot successfully operate the lease under existing terms for reasons beyond the control of the lessee; and when there are interruptions due to strikes, the elements, and causalities not attributable to the lessee.
2. The lessor will suspend the lease for the following reasons: court-ordered stays; the time, beyond 90 days, that it takes the lessor or Forest Service to respond to

- the information submitted, including during the pre-application process, or the time, beyond 90 days, that the applicant is required to spend collecting additional data that the lessor or Forest Service determines is necessary for processing any permit, application or plan; the time it takes the agencies beyond one year (beginning on the date the notice of intent is published in the Federal Register) to complete an environmental review of and decision on a proposed mine plan of operation, prepared in accordance with the *National Environmental Policy Act of 1969* and other environmental laws; or the time (beyond the foregoing one year) it takes for the State or other Federal agencies or local jurisdictions to issue necessary permits and approvals.
3. The period of suspension will end after termination of the event that necessitated the suspension.
  4. Except for any delay caused by the lessee, the lessor will extend the lease term by any periods of suspension(s) under this provision.
  5. During any period of suspension, the lessee will continue to pay the minimum royalties and rentals established by Section 2.
- d. Integration: This lease agreement as written constitutes the entire agreement between the parties and supersedes any and all prior lease agreements.
- e. Tribal Historic Preservation Obligations: The leases are located within the 1854 ceded territory where the Bois Fort Band of Chippewa, the Grand Portage Band of Lake Superior Chippewa, and the Fond du Lac Band of Lake Superior Chippewa reside and retain usufructuary rights. Prior to authorizing any ground disturbance, the BLM and/or Forest Service will notify these three Chippewa Bands about the proposed project and allow the Bands 45 days to coordinate and schedule the completion of cultural surveys from a Native American perspective, within a reasonable timeframe that the BLM and/or Forest Service may determine. The BLM and/or Forest Service will consider the results of the cultural surveys completed by the Bands along with archaeological and historical inventories and incorporate the results, as necessary, into the National Historic Preservation Act Section 106 and National Environmental Policy Act review processes. Prior to approving interim or final reclamation activities, the authorizing agency will invite the Bands to recommend reasonable reclamation practices, such as plant species to establish, that may enhance the Bands' use of the reclaimed land.
- f. Royalty Schedule: Lessee must pay lessor a production royalty of six percent (6%) of the gross value of the minerals mined and shipped to the concentrating mill. The gross value of the minerals mined hereunder and shipped to the concentrating mill shall be: one third (1/3) of the market prices of a quantity of fully-refined copper, nickel, and associated minerals equal to the respective quantities of unrefined copper, nickel, and associated minerals contained in said minerals so shipped to the concentrating mill.
- g. Future Royalty Schedule: If the lessee is eligible for renewal under the terms, conditions and stipulations of this lease, the lessor intends at the next renewal to impose a royalty of four and one half percent (4 ½%) of the gross value of the minerals produced at the first

point of shipment to market. The gross value of the minerals mined under the future royalty rate schedule at the point of shipment to market shall be:

1. The price paid to the lessee under bona fide transactions with independent parties for concentrations produced from ore mined under these leases, less lessee's cost of transportation charges in effect at the time of shipment from place of origin of the concentrates to the smelter; or
  2. When concentrates are processed for the lessee's account at its own (captive) or any other smelter, such gross value shall be determined by the metal price received for metal sold by the lessee in bona fide transactions with independent parties for the period prescribed in the lease, less an allowance for average freight and federal taxes thereon from the trading smelter to designations to which metal was shipped by the lessee, and less all of the lessee's costs and charges during such period in connection with lessee's shipping, smelting, refining, handling, and selling all concentrates and of all metal produced therefrom.
- h. Overriding Royalties: In preparation for the Future Royalty Schedule, the lessee agrees to address the existence of overriding royalties in excess of those that the lessee can sustain and still mine the mineral resources in the interest of conservation of the mineral resources. Lessee will submit the necessary information to the BLM to address the existing overriding royalties under the BLM's regulations in 43 CFR Part 3500 within 180 days of the execution of this lease.
- i. Surface Stipulations:

The Lessee must comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights granted by the Secretary of the Interior in this lease. Subject to the terms and conditions of Paragraphs 1-8 below, the Secretary of Agriculture's rules and regulations must be complied with for (1) all use and occupancy of the NFS prior to approval of an operation plan, (2) uses of all existing improvements, such as Forest development roads, within and outside the area leased by the Secretary of the Interior, and (3) use and occupancy of the NFS not authorized by an approved operating plan. All matters related to these stipulations are to be addressed to Superior National Forest, Forest Supervisor at 8901 Grand Ave. Place, Duluth, MN 55808-1122, and telephone number (218) 626-4300.

#### 1. OCCUPANCY AND USE OF NFS LAND WITHIN THE LEASE AREA

With respect to exercising rights under this lease, the lessee shall not occupy or use NFS land and waters within the lease area, except for:

- a) Vent shafts or human escape routes, which, as determined by an approved operating plan, must be located on NFS land in order to comply with applicable Federal or State law, regulation, or other requirement;
- b) Resource monitoring to assess impacts from the lessee's activities under this lease upon NFS land and waters, which monitoring is required by an approved

- operating plan, or as may otherwise be required by the BLM, Forest Service, or state or Federal agencies which regulate mining operations or pollution control;
- c) Technical investigations, including, but not limited to geophysical surveys, resource surveys, geotechnical investigations, hydrogeological testing, and resource monitoring, consistent with rights granted under this lease, to collect information and data, determined by the BLM and Forest Service to be reasonably necessary for the development and implementation of a mine plan of operations (“MPO”) or to conduct environmental review, surveys, or other documentation in order to comply with applicable law necessary for any approval of the MPO, or as necessary for any activities approved by an MPO; and
  - d) NFS land and water use or occupancy approved by the Forest Service and BLM in an MPO.

Provided, that such occupancy and use shall: (1) be placed on the surface at locations, including the geographical extent, acceptable to the Forest Service; and (2) comply with applicable requirements of the Superior National Forest’s Land and Resource Management Plan (“Forest Plan”), then in effect; and any other terms and conditions, including, but not limited to, those related to reclamation, as prescribed by the Forest Service and which are reasonably necessary in order to protect Superior National Forest (SNF) resources and uses. Such location acceptability, Forest Plan requirements, and other terms and conditions mentioned in this paragraph, may be made a part of an operating plan approved under this lease or, as appropriate, other applicable instrument of authorization issued by the BLM, Forest Service, or other Federal or state agency. Occupancy and use as addressed by this paragraph, includes, but is not limited to, access within the lease area via roads or otherwise, to the extent such occupancy and use meets the requirements of this paragraph. As determined by the Forest Service, areas of occupancy and use may be considered exclusive, in whole or in part, so as to protect the health and safety of Forest Service employees, permittees, and contractors, as well as members of the public using NFS land and waters. In such a case, the Forest Service may also prescribe additional terms and conditions, with which the lessee must comply, in order to specifically address such health and safety concerns. Outside of areas of exclusive use, the Forest Service may exercise its authorities under Federal law, to manage and use NFS land and waters located within the lease area, for National Forest purposes, including but not limited to, allowing public use.

## 2. OCCUPANCY AND USE OF NFS LAND OUTSIDE THE LEASE AREA

The use of NFS land located outside of the lease area, if any, including but not limited to, access to the lease area by the lessee, shall be governed by and subject to approval of the Forest Service pursuant to Forest Service decision-making authorities, under applicable Federal law and regulations.

## 3. GENERAL PROTECTIONS FOR FOREST RESOURCES AND USES

In addition to any terms and conditions prescribed under Paragraph 1, in exercising rights under this lease, including the implementation of any approved operating plan, without regard to the location of the lessee’s operation or activity, the lessee shall comply with all reasonable terms and conditions prescribed by the Forest Service. The Forest Service

terms and conditions may be included within any approved operation plan, or other applicable instrument of authorization, and shall ensure the adequate protection and utilization of NFS lands and waters, consistent with applicable management direction of the Superior National Forest's Land and Resource Management Plan, then in effect.

4. WATER USES

The United States retains its landownership rights, including riparian and littoral rights, to groundwater and surface water resources. This lease does not give the lessee any right to use, or otherwise disrupt the natural flow or presence of, surface water or groundwater flowing through, present upon, or contained within, NFS land. Such use, or disruption, may only be made with prior authorization of the Forest Service, in accord with its applicable decision-making procedures; and such authorization as may be otherwise required by applicable Federal, state, or local law. All activities conducted pursuant to any Forest Service authorization shall comply with all applicable Federal, state, and local laws and regulatory requirements respecting the use.

5. WATER QUALITY

Any authorization or approval of an MPO, as well as any other Forest Service authorization or approval under, or connected with, this lease, shall not be granted before the lessee presents the authorizing official with either a copy of any required certification pursuant to Section 401 of the Clean Water Act (33 USC 1341) or acceptable evidence that the appropriate entity waived this certification requirement.

6. SURFACE PROTECTION

The United States does not waive its real property right of subjacent support in the NFS land. To the extent allowed by applicable law, the lessee shall be liable to the United States for any damages due to caving or subsidence of the surface on NFS lands which is caused by operations under this lease. Additionally, this lease does not authorize the mining or removal of the mineral deposits by stripping, rim cutting, or open pit methods.

7. BONDING

The lessee shall comply with all bond requirements as may be prescribed by the Forest Service, in order to ensure adequate protection and utilization of NFS land and waters. To the extent consistent with applicable federal authorities, the Forest Service and BLM will coordinate so as to avoid duplicative bonding requirements.

8. FOREST SERVICE CONSENT ON RENEWAL

The Forest Service reserves its consent authority. However, if the lessee is in full compliance with the terms and conditions of this lease, the Forest Service will provide consent to a renewal, subject to any reasonable adjustments as described in Section 14.

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THE UNITED STATES OF AMERICA

By

\_\_\_\_\_  
(Company or Lessee Name)

\_\_\_\_\_  
(Signing Officer's Printed Name)

\_\_\_\_\_  
(Signature of Lessee)

\_\_\_\_\_  
(Signing Officer)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Date)

Title 18 U.S.C. Section 1001 makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

## NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished with the following information required by this application.

**AUTHORITY:** 30 U.S.C. 181 et seq., 43 U.S.C. 3500

**PRINCIPAL PURPOSE:** The BLM will use the information you provide to verify your compliance with lease terms.

**ROUTINE USES:** In accordance with the System of Records titled, "Land and Minerals Authorization Tracking System—Interior, LLM- 32," disclosure outside the Department of the Interior may be made: (1) To appropriate Federal agencies when concurrence or supporting information is required prior to granting or acquiring a right or interest in lands or resources, (2) To Federal, State, or local agencies or a member of the general public in response to a specific request for pertinent information, (3) To the U.S. Department of Justice or in a proceeding before a court or adjudicative body when (a) the United States, the Department of the Interior, a component of the Department, or when represented by the government, an employee of the Department is a party to litigation or anticipated litigation or has an interest in such litigation, and (b) the Department of the Interior determines that the disclosure is relevant or necessary to the litigation and is compatible with the purpose for which the records were compiled, (4) To an appropriate Federal, State, local, or foreign agency responsible for investigating, prosecuting, enforcing, or implementing a statute, regulation, rule, or order, where the disclosing agency becomes aware of an indication of a violation or potential violation of civil or criminal law or regulation, (5) To a member of Congress or a Congressional staff member from the record of an individual in response to an inquiry made at the request of that individual, (6) To the Department of the Treasury to effect payment to Federal, State, and local government agencies, nongovernmental organizations, and individuals, and (7) To individuals involved in responding to a breach of Federal data. The BLM will only disclose this information in accordance with the Freedom of Information Act, the Privacy Act, and the provision in 43 CFR 2.56(c).

**EFFECT OF NOT PROVIDING INFORMATION:** Filing of the information is required to obtain and keep a benefit. If you do not provide the information, BLM may seek to cancel your lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to comply with the regulations at 43 CFR 3500, which implement the provisions of the Mineral Leasing Act of 1920, as amended; the Mineral Leasing Act for Acquired Lands of 1947; Section 402 of Reorganization Plan No. 3 of 1946; or other special leasing acts. The BLM uses the information to verify that you are complying with lease terms.

Response to this request is required to obtain and keep a benefit.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 300 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to: U.S. Department of the Interior, Bureau of Land Management (1004-0121), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Room 2134 LM, Washington, D.C. 20240.



PART I. LEASE RIGHTS GRANTED.

This  lease  lease renewal entered into by and between the United States of America, hereinafter called lessor or BLM  and *(Name and Address)*

Franconia Minerals (US) LLC  
380 St. Peter Street Suite. 705  
St. Paul, MN 55102

Hereinafter called lessee, is effective *(date)* June 1, 2019, for a period of 10 years,  
*Sodium, Sulphur, Hardrock -*

With a right in the lessee to renew for successive periods of 10 years under such terms and conditions as may be prescribed by the Secretary of the Interior, including those conditions described in special stipulations in Section 14 below, unless otherwise provided by law at the expiration of any period.

*Potassium, Phosphate, Gilsonite -*

and for so long thereafter as lessee complies with the terms and conditions of this lease which are subject to readjustment at the end of each 10 year period, unless otherwise provided by law,

Sec. 1. This lease is issued pursuant and subject to the terms and provisions of the:

- Mineral Leasing Act of 1920, as amended, and supplemented, 41 Stat. 437, 30 U.S.C. 181-287, hereinafter referred to as the Act;
- Mineral Leasing Act of Acquired Lands, Act of August 7, 1947, 61 Stat. 913, 30 U.S.C. 351-359;
- Reorganization Plan No. 3 of 1946, 60 Stat. 1099 and 43 U.S.C. 1201;
- (Other)* 16 U.S.C. 508b, 16 U.S.C. 520; and to the regulations and general mining orders of the Secretary of the Interior in force on the date this lease renewal issued.

Sec. 2. Lessor, in consideration of any bonuses, rents, and royalties to be paid, and the conditions and covenants to be observed as herein set forth, hereby grants and leases to lessee the exclusive right and privilege to explore for, drill for, mine, extract, remove, beneficiate, concentrate, or otherwise process and dispose of the copper deposits, nickel & associated minerals, hereinafter referred to as "leased deposits," in, upon, or under the following described lands:

Fourth Principal Meridian, Minnesota

T. 62 N., R. 10 W.

- sec. 19, that portion outside the Boundary Waters Canoe Area Wilderness;
- sec. 20, SW1/4;
- sec. 29, N1/2;
- sec. 30, lot 3 and N1/2.

T. 62 N., R. 11 W.

- sec. 24, lot 7, SE1/4SW1/4 and S1/2SE1/4;
- sec. 25, N1/2, W1/2SW1/4 and NE1/4SE1/4;
- sec. 26, S1/2NE1/4, NE1/4SW1/4 and E1/2SE1/4.

containing 2332.71 acres, more or less, together with the right to construct such works, buildings, plants, structures, equipment and appliances and the right to use such on-lease rights-of-way which may be necessary and convenient in the exercise of the rights and privileges granted, subject to the conditions herein provided.

*Phosphate -*

In accordance with section 11 of the Act (30 U.S.C. 213), lessee may use deposits of silica, limestone, or other rock in the processing of refining of the phosphates, phosphate rock, and associated or related minerals mined from the leased lands or other lands upon payments of royalty as set forth on the attachment to this lease. *(Phosphate leases only.)*

PART II. TERMS AND CONDITIONS

Sec. 1. (a) RENTAL RATE - Lessee must pay lessor rental annually and in advance for each acre or fraction thereof during the continuance of the lease at the rate indicated below:

*Sulphur, Gilsonite –*

50 cents for the first lease year and each succeeding lease year;

*Hardrock –*

\$1 for the first lease year and \$1 for each succeeding lease year;

*Phosphate –*

25 cents for the first lease year, 50 cents for the second and third lease years, and \$1 for each and every lease year thereafter;

*Potassium Sodium –*

25 cents for the first calendar year or fraction thereof, 50 cents for the second, third, fourth, and fifth calendar years respectively, and \$1 for the sixth and each succeeding calendar year; or

*Sodium, Sulphur, Asphalt, and Hardrock Renewal Leases–*

\$1 \_\_\_\_\_ for each lease year;

(b) RENTAL CREDITS – The rental for any year will be credited against the first royalties as they accrue under the lease during the year for which rental was paid.

Sec. 2. (a) PRODUCTION ROYALTIES – Lessee must pay lessor a production royalty in accordance with the attached schedule (see Sections 14(f), 14(g), and 14(h)). Such production royalty is due the last day of the month next following the month in which the minerals are sold or removed from the leased lands:

(b) MINIMUM ANNUAL PRODUCTION AND MINIMUM ROYALTY – (1) Lessee must produce on an annual basis a minimum amount of copper, nickel and associated hardrock minerals valued at \$206,269 except when production is interrupted by strikes, the elements, or casualties not attributable to the lessee. Lessor may permit suspension of operations under the lease when marketing conditions are such that the lease cannot be operated except at a loss. (2) At the request of the lessee, made prior to initiation of the lease year, the BLM may allow in writing the payment of a \$79.00 per acre or fraction thereof minimum royalty in lieu of production for any particular lease year. Minimum royalty payments must be credited to production royalties for that year. If lessee has not commenced production in paying quantities by the end of this 10-year lease term, the lessor will increase the minimum annual royalty, at a minimum, to reflect the changes in the Consumer Price Index published by the Bureau of Labor Statistics of the Department of Labor, at the time of the renewal, and may further increase the minimum annual royalty as the lessor deems reasonable given the length of time the lease has been held without production.

Sec. 3. REDUCTION AND SUSPENSION – The lessor reserves the authority to waive, suspend or reduce rental or minimum royalty, or to reduce royalty and reserves the authority to assent to or order the suspension of this lease, as the applicable regulations provide.

Sec. 4. BONDS – Lessee must maintain in the proper office a lease bond in the amount of \$5,000, or in lieu thereof, an acceptable statewide or nationwide bond. The BLM may require an increase in this amount when additional coverage is determined appropriate.

Sec. 5. DOCUMENTS, EVIDENCE AND INSPECTION – At such times and in such form as lessor may prescribe, lessee must furnish detailed statements showing the amounts and quality of all products removed and sold from the lease, the proceeds therefrom, and the amount used for production purposes or unavoidably lost.

Lessee must keep open at all reasonable times for the inspection of any duly prescribed employee of lessor, the leased premises and all surface and underground improvements, work, machinery, ore stockpiles, equipment, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or under the leased lands.

Lessee must either submit or provide lessor access to and free copying of documents reasonably necessary to verify lessee compliance with terms and conditions of the lease.

While this lease remains in effect, information obtained under this section must be closed to inspection by the public to the maximum extent allowed under the Freedom of Information Act (5 U.S.C. 552), or other federal law, provided the lessee has marked the information as “confidential” upon submission.

Sec. 6. DAMAGES TO PROPERTY AND CONDUCT OF

OPERATIONS – Lessee must exercise reasonable diligence, skill, and care in the operation of the property, and carry on all operations in accordance with approved methods and practices as provided in the applicable exploration and mining operations regulations, having due regard for the prevention of injury to life, health or property and of waste or damage to any water or mineral deposits.

Lessee must not conduct exploration or mining operations prior to receipt of necessary permits or approval of plans of operations by lessor (see Section 14(a) below).

Lessee must carry on all operations in accordance with approved methods and practices as provided in the applicable exploration and mining operations regulations, conditions described in the special stipulations in Section 14 below, and the approved mining plans in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, minerals, and other resources, and to other land uses or users. Lessee must take measures deemed necessary by lessor to accomplish the intent of this lease term. Such measures may include, but are not limited to, modification to proposed siting or design of facilities, timing of operations, and specification of interim and final reclamation procedures.

Lessor reserves to itself the right to lease, sell, or otherwise dispose of the surface or other mineral deposits in the lands and the right to continue existing uses and to authorize future uses upon or in the leased lands, including issuing leases for mineral deposits not covered hereunder or the approval of easements or rights-of-way. Lessor will condition such uses to prevent unnecessary or unreasonable interference with rights of lessee as may be consistent with concepts of multiple use and multiple mineral development.

Sec. 7. PROTECTION OF DIVERSE INTERESTS, AND EQUAL OPPORTUNITY – Lessee must: pay when due all taxes and legally assessed and levied under the laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance applicable Federal and state statutes and regulations and with standard industry practices; restrict the workday to not more than 8 hours in any one

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day for underground workers, except in emergencies; and take measures necessary to protect the health and safety of the public. No person under the age of 16 years must be employed in any mine. Lessee must comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor. Lessee and lessee's subcontractors are prohibited from having segregated facilities.

Sec. 8. (a) TRANSFERS – This lease may be transferred in whole or in part to any person, association or corporation qualified to hold such lease interest.

(b) RELINQUISHMENT - The lessee may relinquish in writing at any time all rights under this lease or any portion thereof as provided in the regulations. Upon lessor's acceptance of the relinquishment, lessee must fulfill accrued obligations, but will be relieved of all future obligations under the lease or the relinquished portion thereof, whichever is applicable.

Sec. 9. DELIVERY OF PREMISES, REMOVAL OF MACHINERY, EQUIPMENT, ETC. – At such time as all or portions of this lease are returned to lessor, lessee must deliver up to lessor the land leased, underground timbering, and such other supports and structures necessary for the preservation of the mine workings on the leased premises or deposits and place all wells in condition for suspension or abandonment. Within 90 days of the date the lessee returns the leasehold to the lessor, the lessee must submit a schedule for how it will complete all reclamation work, to be approved by the lessor and the US Forest Service. In accordance with the approved schedule, the lessee must remove from the premises all other structures, machinery, equipment, tools, and materials that it elects to or as required by BLM. Any such structures, machinery, equipment, tools, and materials remaining on the leased lands beyond the approved completion date or approved extension thereof, will become the property of the lessor, but lessee must either remove any or all such property or must continue to be liable for the cost of removal and disposal in the amount actually incurred by the lessor. If the surface is owned by third parties, lessor will waive the requirement for removal, provided the third parties do not object to such waiver.

below the surface. To the extent that laws of the State in which the lands are situated are more restrictive than the provisions in this paragraph, then the State laws apply.

Lessee must, prior to the termination of bond liability or at any other time when required and in accordance with all applicable laws and regulations, reclaim all lands the surface of which has been disturbed, dispose of all debris or solid waste, repair the offsite and onsite damage caused by lessee's activity or activities on the leased lands, and reclaim access roads or trails.

Sec. 10. PROCEEDINGS IN CASE OF DEFAULT – If lessee fails to comply with applicable laws, existing regulations, or the terms, conditions and stipulations of this lease, and noncompliance continues for 30 days after written notice thereof, this lease will be subject to cancellation by the lessor through judicial proceedings. This provision will not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver will not prevent later cancellation for the same default occurring at any other time.

Sec. 11. HEIRS AND SUCCESSORS-IN-INTEREST – Each obligation of this lease extends to and is binding upon, and every benefit hereof must inure to, the heirs, executors, administrators, successors, or assigns of the respective parties hereto.

Sec. 12. INDEMNIFICATION – Lessee must indemnify and hold harmless the United States from any and all claims arising out of the lessee's activities and operations under this lease.

Sec. 13. SPECIAL STATUTES – This lease is subject to the Federal Water Pollution Control Act (33 U.S.C. 1151-1175), the Clean Air Act (42 U.S.C. 1857 et seq.), and to all other applicable laws pertaining to exploration activities, mining operations and reclamation.

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### Sec. 14. SPECIAL STIPULATIONS

- a. Operations: Any and all operations to be conducted under this lease must be done in accordance with a plan of operations approved in writing by the lessor and the Forest Service before such operations begin, consistent with applicable agency regulations. The approved operating plan will include any appropriate provisions as the lessor and the Forest Service determine are needed to maintain proper administration of the lands and surface resources, including hydrological resources. Any and all operations conducted in advance of approval of an original, revised, or amended operating plan, or which are not in accord with an approved plan, constitute violations of the terms of this lease.

Lessee's right to mine and produce the minerals is contingent upon both the lessor and the Forest Service approving a mine plan of operations that appropriately mitigates environmental impacts and the lessee's proper payment of production royalties on any extracted minerals. Lessor reserves the right to disapprove of the mine plan of operations if it does not meet the requirements in the lease terms and the applicable statutes and regulations.

- b. Diligence: Lessee's failure to meet the diligence requirements in lease MNES-01352 by the end of the 10-year term provided under sections 14(b) and (c) of lease MNES-01352 will terminate both lease MNES-01352 and this lease, MNES-01353, and this lease will not be eligible for renewal.
- c. Renewal: If lessee meets the diligence requirements and is in compliance with all the terms and stipulations in lease MNES-01352 at the end of the 10-year renewal period, including as may be extended through suspension, the lessor will renew this MNES-01353 lease with any reasonable adjustment of terms, conditions, and stipulations that either the lessor or the Forest Service deem appropriate.
- d. Integration: This lease agreement as written constitutes the entire agreement between the parties and supersedes any and all prior lease agreements.
- e. Tribal Historic Preservation Obligations: The leases are located within the 1854 ceded territory where the Bois Fort Band of Chippewa, the Grand Portage Band of Lake Superior Chippewa, and the Fond du Lac Band of Lake Superior Chippewa reside and retain usufructuary rights. Prior to authorizing any ground disturbance, the BLM and/or Forest Service will notify these three Chippewa Bands about the proposed project and allow the Bands 45 days to coordinate and schedule the completion of cultural surveys from a Native American perspective, within a reasonable timeframe that the BLM and/or Forest Service may determine. The BLM and/or Forest Service will consider the results of the cultural surveys completed by the Bands along with archaeological and historical inventories and incorporate the results, as necessary, into the National Historic Preservation Act Section 106 and National Environmental Policy Act review processes. Prior to approving interim or final reclamation activities, the authorizing agency will invite the Bands to recommend reasonable reclamation practices, such as plant species to establish, that may enhance the Bands' use of the reclaimed land.

- f. Royalty Schedule: Lessee must pay lessor a production royalty of six percent (6%) of the gross value of the minerals mined and shipped to the concentrating mill. The gross value of the minerals mined hereunder and shipped to the concentrating mill shall be: one third (1/3) of the market prices of a quantity of fully-refined copper, nickel, and associated minerals equal to the respective quantities of unrefined copper, nickel, and associated minerals contained in said minerals so shipped to the concentrating mill.
- g. Future Royalty Schedule: If the lessee is eligible for renewal under the terms, conditions and stipulations of this lease, the lessor intends at the next renewal to impose a royalty of four and one half percent (4 ½%) of the gross value of the minerals produced at the first point of shipment to market. The gross value of the minerals mined under the future royalty rate schedule at the point of shipment to market shall be:
1. The price paid to the lessee under bona fide transactions with independent parties for concentrations produced from ore mined under these leases, less lessee's cost of transportation charges in effect at the time of shipment from place of origin of the concentrates to the smelter; or
  2. When concentrates are processed for the lessee's account at its own (captive) or any other smelter, such gross value shall be determined by the metal price received for metal sold by the lessee in bona fide transactions with independent parties for the period prescribed in the lease, less an allowance for average freight and federal taxes thereon from the treading smelter to designations to which metal was shipped by the lessee, and less all of the lessee's costs and charges during such period in connection with lessee's shipping, smelting, refining, handling, and selling all concentrates and of all metal produced therefrom.
- h. Overriding Royalties: In preparation for the Future Royalty Schedule, the lessee agrees to address the existence of overriding royalties in excess of those that the lessee can sustain and still mine the mineral resources in the interest of conservation of the mineral resources. Lessee will submit the necessary information to the BLM to address the existing overriding royalties under the BLM's regulations in 43 CFR Part 3500 within 180 days of the execution of this lease.
- i. Surface Stipulations:

The Lessee must comply with all the rules and regulations of the Secretary of Agriculture set forth at Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System (NFS) when not inconsistent with the rights granted by the Secretary of the Interior in this lease. Subject to the terms and conditions of Paragraphs 1-8 below, the Secretary of Agriculture's rules and regulations must be complied with for (1) all use and occupancy of the NFS prior to approval of an operation plan, (2) uses of all existing improvements, such as Forest development roads, within and outside the area leased by the Secretary of the Interior, and (3) use and occupancy of the NFS not authorized by an approved operating plan. All matters related to these stipulations are to be addressed

to Superior National Forest, Forest Supervisor at 8901 Grand Ave. Place, Duluth, MN 55808-1122, and telephone number (218) 626-4300.

1. OCCUPANCY AND USE OF NFS LAND WITHIN THE LEASE AREA

With respect to exercising rights under this lease, the lessee shall not occupy or use NFS land and waters within the lease area, except for:

- a) Vent shafts or human escape routes, which, as determined by an approved operating plan, must be located on NFS land in order to comply with applicable Federal or State law, regulation, or other requirement;
- b) Resource monitoring to assess impacts from the lessee's activities under this lease upon NFS land and waters, which monitoring is required by an approved operating plan, or as may otherwise be required by the BLM, Forest Service, or state or Federal agencies which regulate mining operations or pollution control;
- c) Technical investigations, including, but not limited to geophysical surveys, resource surveys, geotechnical investigations, hydrogeological testing, and resource monitoring, consistent with rights granted under this lease, to collect information and data, determined by the BLM and Forest Service to be reasonably necessary for the development and implementation of a mine plan of operations ("MPO") or to conduct environmental review, surveys, or other documentation in order to comply with applicable law necessary for any approval of the MPO, or as necessary for any activities approved by an MPO; and
- d) NFS land and water use or occupancy approved by the Forest Service and BLM in an MPO.

Provided, that such occupancy and use shall: (1) be placed on the surface at locations, including the geographical extent, acceptable to the Forest Service; and (2) comply with applicable requirements of the Superior National Forest's Land and Resource Management Plan ("Forest Plan"), then in effect; and any other terms and conditions, including, but not limited to, those related to reclamation, as prescribed by the Forest Service and which are reasonably necessary in order to protect Superior National Forest (SNF) resources and uses. Such location acceptability, Forest Plan requirements, and other terms and conditions mentioned in this paragraph, may be made a part of an operating plan approved under this lease or, as appropriate, other applicable instrument of authorization issued by the BLM, Forest Service, or other Federal or state agency. Occupancy and use as addressed by this paragraph, includes, but is not limited to, access within the lease area via roads or otherwise, to the extent such occupancy and use meets the requirements of this paragraph. As determined by the Forest Service, areas of occupancy and use may be considered exclusive, in whole or in part, so as to protect the health and safety of Forest Service employees, permittees, and contractors, as well as members of the public using NFS land and waters. In such a case, the Forest Service may also prescribe additional terms and conditions, with which the lessee must comply, in order to specifically address such health and

safety concerns. Outside of areas of exclusive use, the Forest Service may exercise its authorities under Federal law, to manage and use NFS land and waters located within the lease area, for National Forest purposes, including but not limited to, allowing public use.

2. OCCUPANCY AND USE OF NFS LAND OUTSIDE THE LEASE AREA

The use of NFS land located outside of the lease area, if any, including but not limited to, access to the lease area by the lessee, shall be governed by and subject to approval of the Forest Service pursuant to Forest Service decision-making authorities, under applicable Federal law and regulations.

3. GENERAL PROTECTIONS FOR FOREST RESOURCES AND USES

In addition to any terms and conditions prescribed under Paragraph 1, in exercising rights under this lease, including the implementation of any approved operating plan, without regard to the location of the lessee's operation or activity, the lessee shall comply with all reasonable terms and conditions prescribed by the Forest Service. The Forest Service terms and conditions may be included within any approved operation plan, or other applicable instrument of authorization, and shall ensure the adequate protection and utilization of NFS lands and waters, consistent with applicable management direction of the Superior National Forest's Land and Resource Management Plan, then in effect.

4. WATER USES

The United States retains its landownership rights, including riparian and littoral rights, to groundwater and surface water resources. This lease does not give the Lessee any right to use, or otherwise disrupt the natural flow or presence of, surface water or groundwater flowing through, present upon, or contained within, NFS land. Such use, or disruption, may only be made with prior authorization of the Forest Service, in accord with its applicable decision-making procedures; and such authorization as may be otherwise required by applicable Federal, state, or local law. All activities conducted pursuant to any Forest Service authorization shall comply with all applicable Federal, state, and local laws and regulatory requirements respecting the use.

5. WATER QUALITY

Any authorization or approval of an MPO, as well as any other Forest Service authorization or approval under, or connected with, this lease, shall not be granted before the lessee presents the authorizing official with either a copy of any required certification pursuant to Section 401 of the Clean Water Act (33 USC 1341) or acceptable evidence that the appropriate entity waived this certification requirement.

6. SURFACE PROTECTION

The United States does not waive its real property right of subjacent support in the NFS land. To the extent allowed by applicable law, the lessee shall be liable to the United States for any damages due to caving or subsidence of the surface on NFS

lands which is caused by operations under this lease. Additionally, this lease does not authorize the mining or removal of the mineral deposits by stripping, rim cutting, or open pit methods.

7. BONDING

The lessee shall comply with all bond requirements as may be prescribed by the Forest Service, in order to ensure adequate protection and utilization of NFS land and waters. To the extent consistent with applicable federal authorities, the Forest Service and BLM will coordinate so as to avoid duplicative bonding requirements.

8. FOREST SERVICE CONSENT ON RENEWAL

The Forest Service reserves its consent authority. However, if the lessee is in full compliance with the terms and conditions of this lease, the Forest Service will provide consent to a renewal, subject to any reasonable adjustments as described in Section 14.

THE UNITED STATES OF AMERICA

By

\_\_\_\_\_  
(Company or Lessee Name)

\_\_\_\_\_  
(Signing Officer's Printed Name)

\_\_\_\_\_  
(Signature of Lessee)

\_\_\_\_\_  
(Signing Officer)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Date)

Title 18 U.S.C. Section 1001 makes it a crime for any person knowingly and willfully to make to any department or agency of the United

States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



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### NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished with the following information required by this application.

**AUTHORITY:** 30 U.S.C. 181 et seq., 43 U.S.C. 3500

**PRINCIPAL PURPOSE:** The BLM will use the information you provide to verify your compliance with lease terms.

**ROUTINE USES:** In accordance with the System of Records titled, "Land and Minerals Authorization Tracking System—Interior, LLM-32," disclosure outside the Department of the Interior may be made: (1) To appropriate Federal agencies when concurrence or supporting information is required prior to granting or acquiring a right or interest in lands or resources, (2) To Federal, State, or local agencies or a member of the general public in response to a specific request for pertinent information, (3) To the U.S. Department of Justice or in a proceeding before a court or adjudicative body when (a) the United States, the Department of the Interior, a component of the Department, or when represented by the government, an employee of the Department is a party to litigation or anticipated litigation or has an interest in such litigation, and (b) the Department of the Interior determines that the disclosure is relevant or necessary to the litigation and is compatible with the purpose for which the records were compiled, (4) To an appropriate Federal, State, local, or foreign agency responsible for investigating, prosecuting, enforcing, or implementing a statute, regulation, rule, or order, where the disclosing agency becomes aware of an indication of a violation or potential violation of civil or criminal law or regulation, (5) To a member of Congress or a Congressional staff member from the record of an individual in response to an inquiry made at the request of that individual, (6) To the Department of the Treasury to effect payment to Federal, State, and local government agencies, nongovernmental organizations, and individuals, and (7) To individuals involved in responding to a breach of Federal data. The BLM will only disclose this information in accordance with the Freedom of Information Act, the Privacy Act, and the provision in 43 CFR 2.56(c).

**EFFECT OF NOT PROVIDING INFORMATION:** Filing of the information is required to obtain and keep a benefit. If you do not provide the information, BLM may seek to cancel your lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to comply with the regulations at 43 CFR 3500, which implement the provisions of the Mineral Leasing Act of 1920, as amended; the Mineral Leasing Act for Acquired Lands of 1947; Section 402 of Reorganization Plan No. 3 of 1946; or other special leasing acts. The BLM uses the information to verify that you are complying with lease terms.

Response to this request is required to obtain and keep a benefit.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 300 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to: U.S. Department of the Interior, Bureau of Land Management (1004-0121), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Room 2134 LM, Washington, D.C. 20240.

