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of **ALASKA**
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Department of Natural Resources

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Response to Comments on the Department of Natural Resources

Draft Reclamation Plan Approval J20245690RPA

For

Constantine Mining, LLC.

Palmer Advanced Exploration Project - Phase II Underground Exploration

November 22, 2024

Introduction:

Notice to the Public and Request for Information Start: August 30, 2024

Notice to the Public and Request for Information End: September 30, 2024

The Palmer Project (project) operated by Constantine Mining, LLC. (CML) is a copper-zinc-silver-gold-barite prospect in the advanced exploration stage. Underground exploration and surface use proposed in the reclamation plan will occur entirely on Alaska Mental Health Trust (MHT) lands. The project is located off the Haines Highway within the Juneau Mining District and the Haines Borough. It is approximately 17 miles east of the village of Klukwan and 35 miles northeast from the town of Haines.

The overall program is directed at furthering the evaluation of the Palmer Deposit for its economic resource allowing for a feasibility study towards the development of an underground mine. All surface disturbance proposed in the Plan of Operations to be covered by this Reclamation Plan Approval will occur on MHT lands. Activities include: 1) excavating approximately 2,012 meters of a underground ramp to provide access for a drill platform to gather additional geotechnical and hydrogeological data, 2) completing approximately 30,000 meters of underground exploration drilling, 3) placing approximately 70,000 cubic meters of Non-Acid Generating development rock on the surface, 4) constructing and operating two settling ponds for underground seepage water, prior to discharge through the land application disposal system (LAD), 5) constructing a buried, land application disposal system to dispose of underground seepage water, the LAD design will be submitted to the Department of Environmental Conservation (DEC) for separate approval, 6) constructing ancillary facilities used in support of the underground exploration program including installation of a generator, air compressor, fuel tanks, mine air ventilation fan(s) etc.¹ These activities do not deviate from prior approvals.

The Alaska Department of Natural Resources (DNR) draft Reclamation Plan Approval (RPA) No. J20245690RPA stipulates the requirements for reclaiming the proposed disturbance on MHT lands in accordance with AS 27.19 and 11 AAC 97 and outlines the costs associated with conducting these reclamation activities by a third-party contractor to meet the State's financial assurance.

This document addresses the substantive comments received concerning the requirements of DNR's draft RPA and the State's responses to those comments. This document does not address comments outside the scope and beyond the regulatory authority of this approval. Changes made to the draft DNR approval resulting from comments received during the public notice period are reflected in the final approval documents. Minor changes made to the approval for correcting typographical and grammatical errors, formatting or clarifying information are not detailed in this document.

Opportunities for Public Participation:

To ensure public and agency opportunities for participation, DNR posted the following:

- Published a Notice to the Public and Request for Information with associated documents to the State of Alaska Online Public Notice site from August 30, 2024, through September 30, 2024

¹ Constantine Mining, LLC., *Plan of Operations, Palmer Advanced Exploration Project, Phase II – Underground Exploration, Upland Mining Lease No.9100759*, np, (2024).

- Posted information relating to the Notice to the Public and Request for Information from August 30, 2024, through September 30, 2024, on the DNR, DMLW, Mining Section, Large Mine Projects webpage for the Palmer Project

Comment Overview:

The State received a total of 276 comments with 196 comments submitted prior to the deadline and 80 comments submitted after the deadline. Ten submissions included unique comments, including three submitted through form actions. 189 comments were submitted through third-party form emails prior to the deadline. The State received a unique comment from Mr. Don Habeger on behalf of First Things First Alaska Foundation in support of the proposed reclamation of the Palmer Project Phase II Underground Exploration. The comments submitted via form emails along with unique comments from Southeast Alaska Conservation Council, Chilkat Indian Village, Lynn Canal Conservation, The Center for Science in Public Participation, Rivers Without Borders, and The Great Bear Foundation were in opposition to the proposed reclamation of the Palmer Project Phase II Underground Exploration. Outlined below are comments in opposition to DNR's proposed RPA and the State's responses to those comments. Due to the number of comments received that were identical or similar in scope; DNR has consolidated its responses to address the underlying concerns of each.

Comment Topic: Incomplete Application

Comment Summary: Commenters requested the submission to be rejected for renewal due to an incomplete application. Reasons to reject the submission include incomplete, outdated, or contradictory information, significant changes made to the project not reflected in the submitted documents, and information not reflecting accurate costs not allowing commenters the ability to make an informed decision regarding the reclamation plan.

DMLW Response: DNR has a responsibility to review the submission as per 11 AAC 97.310(b) to verify that the reclamation plan and associated cost estimate meet the requirements. DNR has determined that the submitted plan includes all applicable information under this regulation and is complete.

Comment Summary: Some comments are regarding a lack of data concerning wildlife diversity, water treatment and discharge and the effect it will have on downstream communities. One comment cited 11 AAC 97.320 stating that under this regulation the submitted reclamation plan is not adequate to cover the renewal period and, "without recent data, DNR cannot meet the requirement of 11 AAC 97.320 and cannot adequately assess the prediction and risks described in the Reclamation Plan." Other commenters expressed there was not sufficient data to document how natural resources would be protected before regulators have created a problem, which may be costly to mitigate with public funds.

DMLW Response: 11 AAC 97.320, notes the plan may be approved for up to ten years. To allow for updated information, plans, and costs, DNR is approving this plan for five years. Annual reports are required for plans approved for more than one year. If conditions change prior to the completion of reclamation, DNR may require the company to amend the plan, update the cost estimate, and under 11 AAC 97.415(b), "*After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed*" require the financial

assurance to be sufficient during the term of the approved plan. Wildlife and water treatment are outside of the scope of DNR's regulatory authority.

Comment Summary: Statements also included concerns that CML has limited experience working in freezing temperatures and deep snow, and their submissions did not outline working in winter conditions. Lastly, commenters expressed that the reclamation plan did not cover other activities, such as exploration operations, with the expansion of roads and drilling platforms and what effects those activities would have on the surrounding environment without requiring them to go through the federal NEPA process.

DMLW Response: The reclamation activities described in CML's submitted Reclamation Plan² are consistent with the State requirements under 11 AAC 97.310. CML provided plans for completing reclamation within thirteen weeks and performing inspections during the snow-free months.³ DMLW only has jurisdiction for reclamation outlined under AS 27.19. Other surface use is authorized by the landowner.

The Notice to the Public and Request for Information, along with DNR's Draft Approval, are only applicable for Temporary Closure and Final Reclamation Plans outlined in Appendix C of CML's submitted documents.

Comment Topic: Insufficient Financial Assurance

Comment Summary: Commenters expressed concerns due to document omissions which are outdated and contradictory with unrealistic assumptions leading to insufficient funds for financial assurance. Reasons for insufficient financial assurance costs included lack of water quality standards, adverse effects of fish and wildlife, and food security of nearby communities from the negative effects produced from acid rock drainage (ARD).

DMLW Response: In Section 3.0 of the Reclamation Plan, the company addressed the potential for generating acid rock drainage and provided plans to prevent any potential off-site drainage.⁴ Alaska statutes require financial assurance to be based upon "reasonable and probable" estimates of reclamation costs. It is the duty of the Department to determine the required reclamation bond using the guiding principle of a "reasonable and probable" analysis. DMLW has received and reviewed a copy of the cost estimate from CML and has determined that the costs included in this cost estimate sufficiently account for the reclamation activities to be completed by a third party.

Comment Summary: The proposed financial assurance underestimates the potential for ARD and does not include active water treatment (including human waste) or failure of the portal plug. The submitted reclamation plan does not address the potential for increased costs associated with geohazards which include avalanches, landslides and seismic activity within its rubric for reclamation.

² Constantine Mining, LLC., *Appendix C...*

³ Constantine Mining, LLC., *Appendix C...*, 8-15.

⁴ Constantine Mining, LLC., *Appendix C...*, 8-15.

DMLW Response: Alaska statutes require financial assurance to be based upon “reasonable and probable” estimates of reclamation costs. It is the duty of the Department to determine the required reclamation bond using the guiding principle of a “reasonable and probable” analysis. DMLW has received and reviewed a copy of the cost estimate from CML and has determined that the costs included in this cost estimate sufficiently account for the reclamation activities to be completed by a third party. If conditions change prior to the completion of reclamation, DNR may require the company to amend the plan, update the cost estimate, and update the financial assurance under 11 AAC 97.415(b) “*After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed.*”

Comment Summary: The reclamation bond is insufficient because it ignores the impacts of winter conditions, including heavy snow, and subfreezing temperatures within an area that is seasonally inaccessible. One comment noted the State of Alaska is basing reclamation costs on an assumption that structures and equipment will be removed, and ARD will not be an issue after plugging the portal without addressing the overall effects the existing tunnel will continually expose sulfides and produce ARD. Another comment questioned the financial status of the company.

DMLW Response: In Section 3.0 of the Reclamation Plan, the company addressed the potential for generating acid rock drainage and provided plans to prevent any potential off-site drainage.⁵ CML provided costs for post-reclamation monitoring.⁶ Alaska statutes require financial assurance to be based upon “reasonable and probable” estimates of reclamation costs. It is the duty of the Department to determine the required reclamation bond using the guiding principle of a “reasonable and probable” analysis. DMLW has received and reviewed a copy of the cost estimate from CML and has determined that the costs included in this cost estimate sufficiently account for the reclamation activities to be completed by a third party.

AS 27.19.020 notes, “*A mining operation shall be conducted in a manner that prevents unnecessary and undue degradation of land and water resources, and the mining operation shall be reclaimed as contemporaneously as practicable with the mining operation to leave the site in a stable condition.*” DMLW has determined that the Plan meets the requirements set forth in AS 27.19.020 and AS 27.19.040. If conditions change prior to the completion of reclamation, DNR may require the company to amend the plan, update the cost estimate, and update the financial assurance under 11 AAC 97.415(b) “*After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed.*”

Types of Financial Assurance are noted in statute under AS 27.19.040(e) and enforced through regulations under 11 AAC 97.400. The plan’s approval will not take effect until financial assurance is provided to the State in the form that the State approves is sufficient.

Comment Topic: Reclamation Standards

Comment Summary: Commenters noted the state standards for reclamation would not be able to be met based on insufficient data provided in the reclamation plan with contradictory and outdated

⁵ Constantine Mining, LLC., *Appendix C...*, 8.

⁶ Constantine Mining, LLC., *Appendix C...*, 14.

information. Reasons the reclamation standards could not be met were noted as an unstable site location where the site could not be left in a stable configuration, lack of native vegetation, and potential uncontrolled release of wastewater.

DMLW Response: The company plans to meet the requirements outlined in AS 27.19.020 and 11 AAC 97.200 by recontouring disturbed areas and reseeding to stabilize sites against erosion and to encourage long-term revegetation with native plants.⁷ The reclamation activities described in the Reclamation Plan Section 3.0 are consistent with the State requirements. If conditions change prior to the completion of reclamation, DNR may require the company to amend the plan, update the cost estimate, and update the financial assurance under 11 AAC 97.415(b) *“After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed.”*

Comment Topic: Acid Rock Drainage

Comment Summary: Commenters noted concerns regarding the potential for ARD, that the company cannot prevent the formation of ARD nor prevent ARD from leaving the site through surface and underground workings. Commenters requested more testing and information regarding geochemistry and how ARD may be neutralized to maintain water quality. Constantine needs to provide accurate data for predicting real world conditions using long term testing

DMLW Response: Under 11 AAC 97.240, *“A miner shall reclaim a mined area that has potential to generate acid rock drainage (acid mine drainage) in a manner that prevents the generation of acid rock drainage or prevents the offsite discharge of acid rock drainage.”* and 11 AAC 97.220, *“A miner shall stabilize and properly seal the openings of all shafts, adits, tunnels, and air vents to underground mine workings after mine closure to ensure protection of the public, wildlife, and the environment”*, the company must prevent the discharge of ARD. The company addressed the potential for generating acid rock drainage and plans to prevent any potential off-site drainage.⁸ The reclamation activities described in the Reclamation Plan are consistent with the State requirements and the plan meets the reclamation standards regarding the offsite discharge of ARD. If conditions change prior to the completion of reclamation, DNR may require the company to amend the plan, update the cost estimate, and update the financial assurance under 11 AAC 97.415(b) *“After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed.”*

Comment Topic: Wildlife and Ecosystems

Comment Summary: Comments noted concerns regarding the potential to destroy wildlife habitat and to threaten fish and wildlife from ARD. The concern is that the company will destroy habitat threatening wild salmon and Bald Eagles. This in turn would affect two communities downstream. The reclamation plan does not address the instability of the area which may lead to failure of the LAD that will pose significant risk to surface water quality and fisheries.

⁷ Constantine Mining, LLC., *Appendix C...*, 8.

⁸ Constantine Mining, LLC., *Appendix C...*, 8-9.

DMLW Response: As per 11 AAC 97.240, “A miner shall reclaim a mined area that has potential to generate acid rock drainage (acid mine drainage) in a manner that prevents the generation of acid rock drainage or prevents the offsite discharge of acid rock drainage,” DNR has reviewed the plan submitted by CML. The reclamation activities described in the Reclamation Plan are consistent with the State requirements. If conditions change prior to the completion of reclamation, DNR may require the company to amend the plan, update the cost estimate, and update the financial assurance under 11 AAC 97.415(b) “After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed.”

Comment Topic: Underground Exploration

Comment Summary: Commenters noted concerns regarding the geohazards of the project location with respect to meeting stable conditions under the state’s reclamation standards.

DMLW Response: Under 11 AAC 97.220, “A miner shall stabilize and properly seal the openings of all shafts, adits, tunnels, and air vents to underground mine workings after mine closure to ensure protection of the public, wildlife, and the environment.” The reclamation activities described in the Reclamation Plan are consistent with the State requirements. If conditions change prior to the completion of reclamation, DNR may require the company to amend the plan, update the cost estimate, and update the financial assurance under 11 AAC 97.415(b) “After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed.”

Comment Topic: Water Management and the Land Application Disposal System

Comment Summary: Commenters noted concerns regarding water management, the LAD system, and the ability of the company to prevent off-site discharge. Information for the LAD is outdated and does not account for the requested changes to move the diffuser, increase flow capacity with the addition of active water treatment. Constantine has failed to demonstrate the LAD can operate in sub-freezing conditions and has made assumptions of surface and sub-surface hydrology.

DMLW Response: As per 11 AAC 97.240, “A miner shall reclaim a mined area that has potential to generate acid rock drainage (acid mine drainage) in a manner that prevents the generation of acid rock drainage or prevents the offsite discharge of acid rock drainage,” DNR has reviewed the plan submitted by CML. The company addressed the potential for generating acid rock drainage and plans to prevent any potential off-site discharge.⁹ The reclamation activities described in the Reclamation Plan are consistent with the State requirements. If conditions change prior to the completion of reclamation, DNR may require the company to amend the plan, update the cost estimate, and update the financial assurance under 11 AAC 97.415(b) “After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed.”

⁹ Constantine Mining, LLC., Appendix C..., 8.

Comment Topic: Waste Rock Storage

One comment specifically noted concerns regarding waste rock storage and disposal.

Comment: *“Constantine cannot demonstrate that the 70000 cubic meters of development rock it plans to pile on the surface is non-acid-generating. Due to the nature of the volcanogenic sulfide deposit, the project is likely to encounter acid-generating rock during excavation. Excavation also presents risk of heavy metals leaching into the down stream.”*

DMLW Response: CML has addressed the storage of potential acid generating (PAG) material in the Plan of Operations submitted to Mental Health Trust.¹⁰

The Reclamation Plan¹¹ notes that any development material determined to be PAG will be hauled underground prior to installing the portal plug. DNR has determined that the proposed plans by CML meet the State standard to prevent the offsite discharge of ARD from PAG material. If conditions change prior to the completion of reclamation, DNR may require the company to amend the plan, update the cost estimate, and update the financial assurance under 11 AAC 97.415(b) *“After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed.”*

Comment Topic: Portal Plug

Comment Summary: Commenters noted concerns regarding the engineering, cost, and performance of the portal plug to prevent ARD leaving the site.

DMLW Response: Under 11 AAC 97.220, *“A miner shall stabilize and properly seal the openings of all shafts, adits, tunnels, and air vents to underground mine workings after mine closure to ensure protection of the public, wildlife, and the environment.”* The company has addressed the need for a portal plug to meet these requirements. Table 10 from the Reclamation Plan includes costs for engineering design and construction of the portal plug.¹²

As per 11 AAC 97.240, *“A miner shall reclaim a mined area that has potential to generate acid rock drainage (acid mine drainage) in a manner that prevents the generation of acid rock drainage or prevents the offsite discharge of acid rock drainage,”* DNR has reviewed the plan submitted by CML. The plan meets the reclamation standards regarding the offsite discharge of acid rock drainage.

Alaska statutes require financial assurance to be based upon “reasonable and probable” estimates of reclamation costs. It is the duty of the Department to determine the required reclamation bond using the guiding principle of a “reasonable and probable” analysis. The submitted cost estimate includes

¹⁰ Constantine Mining, LLC., *Plan of Operations, Palmer Advanced Exploration Project, Phase II – Underground Exploration, Upland Mining Lease No.9100759, Section 3.5.2, (2024)*, 36-37.

¹¹ Constantine Mining, LLC., *Appendix C...*, 9.

¹² Constantine Mining, LLC., *Appendix C...*, 12.

contingencies for engineering redesign. The Department maintains that the financial assurance is adequate to fund any reclamation costs that can reasonably be anticipated.

If conditions change prior to the completion of reclamation, DNR may require the company to amend the plan, update the cost estimate, and update the financial assurance under 11 AAC 97.415(b) *“After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed.”*

Comment Topic: Water Quality

Comment Summary: Comments noted concerns regarding water quality with potential ARD from the site and costs to treat potential discharge.

DMLW Response: DNR has reviewed the plan submitted by CML with reference to 11 AAC 97.240, *“A miner shall reclaim a mined area that has potential to generate acid rock drainage (acid mine drainage) in a manner that prevents the generation of acid rock drainage or prevents the offsite discharge of acid rock drainage”* and 11 AAC 97.220, *“A miner shall stabilize and properly seal the openings of all shafts, adits, tunnels, and air vents to underground mine workings after mine closure to ensure protection of the public, wildlife, and the environment.”* The company addressed the potential for generating acid rock drainage and plans to prevent any potential off-site drainage. The reclamation activities described in the Reclamation Plan are consistent with the State requirements and the plan meets the reclamation standards regarding the offsite discharge of ARD. If conditions change prior to the completion of reclamation, DNR may require the company to amend the plan, update the cost estimate, and update the financial assurance under 11 AAC 97.415(b) *“After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed.”*

Alaska statutes require financial assurance to be based upon “reasonable and probable” estimates of reclamation costs. It is the duty of the Department to determine the required reclamation bond using the guiding principle of a “reasonable and probable” analysis. The Department maintains that the financial assurance is adequate to fund any reclamation costs that can reasonably be anticipated.