

Red Dog Mine

Plan of Operations Approval

No. F20209958POOA



DEPARTMENT OF NATURAL RESOURCES
Division of Mining, Land and Water

May 28, 2020

The Alaska Department of Natural Resources, Division of Mining, Land and Water (ADNR), in accordance with and subject to Alaska Statutes 38.05 (Alaska Land Act) and the 11 AAC 86.800 (Plan of Operations), approves the Plan of Operations (PoO) dated January 2020 for the Red Dog Mine Millsite Lease ADL 233521 submitted by:

Teck Alaska Incorporated
3105 Lakeshore Drive, Building A, Suite 101
Anchorage, Alaska 99517

Throughout this document, unless otherwise specifically indicated, reference to Teck Alaska Incorporated, TAK, and “the Permittee” are considered a reference to Teck Alaska Incorporated

Throughout this document, unless otherwise specifically indicated, reference to the State, Department, ADNR, DNR or Division are considered a reference to the State of Alaska – Department of Natural Resources – Division of Mining, Land & Water – Mining Section.

Throughout this document, the Plan of Operations is considered to consist of:

- *Plan of Operations to Accompany Red Dog Mine Millsite Lease Application dated January 2020*

Reference to any of the plan appendices throughout this document are considered to be a reference to the Plan of Operations. Likewise any and all stipulations associated with the approval of any of these individual plans are considered to be a requirement of the Plan of Operations Approval.

Effective dates of this plan approval are **May 28, 2020** through September 28, 2021. TAK’s obligations under the terms and conditions of this plan approval shall continue, unless sooner terminated in accordance with the provisions of this plan approval, until completion of all requirements under and pursuant to the Plan of Operations.

This plan approval is for activities upon ADNR managed lands encompassed by the Red Dog Mine Millsite Lease ADL No. 233521.

This plan approval does not constitute certification of any property right or land status claimed by the applicant.

The Plan of Operations was found to be complete and is approved with the following conditions:

General Stipulations

Financial Assurance. This Plan of Operations Approval requires the Permittee to submit a bond in a form and substance approved by ADNR. Modifications to this Plan of Operations Approval may, at ADNR’s discretion, require bond review and update. The total financial

assurance amount of \$588,075,736 has been approved for the Red Dog Mine per the Reclamation Plan Approval F20169958 (Updated on March 20, 2019).

Terms of this Plan Approval. The Terms and Conditions contained within the *Plan of Operations* are hereby included as stipulations of this Plan Approval. If there is a difference between the Plan of Operations as submitted and the terms contained within this Plan Approval, the terms contained within this Plan Approval take precedence. Changes to the documents incorporated herein must be approved by ADNR if they affect this plan approval. If ADNR approves the changes, they become terms of this Plan of Operations Approval.

Authorized Officer. The Authorized Officer for ADNR is the Director of the Division of Mining, Land and Water or his designee. The designated Authorized Officer is the Mining Section Chief within the Division of Mining, Land and Water, currently Steve Buckley. The Authorized Officer may be contacted at 550 West 7th Avenue, Suite 900b, Anchorage, Alaska 99501-3577, Attention: Steve Buckley, telephone (907) 269-8621, and fax (907) 269-8930 or at stephen.buckley@alaska.gov. The Permittee will be notified of changes to the authorized officer as needed.

Alaska Historic Preservation Act. The Alaska Historic Preservation Act (AS 41.35.200) prohibits the appropriation, excavation, removal, injury, or destruction of any State-owned historic, prehistoric (paleontological) or archeological site without a permit from the Commissioner of ADNR. Activities described in the Plan of Operations are subject to the following stipulations:

- a. If cultural or paleontological resources are inadvertently discovered as a result of or during the activities authorized by this Plan of Operations Approval, all activities which would disturb such resources shall be stopped and measures taken to protect the site. The U.S. Army Corps of Engineers archeologist (907-753-2716) and the State Historic Preservation Officer (907-269-8715) shall be contacted immediately so that compliance with state and federal laws may begin.
- b. If burials or human remains are discovered as a result of or during the activities authorized by this Plan of Operations Approval, all activities which would disturb such remains shall be stopped and measures taken to protect the site. In addition to the U.S. Corps of Engineers Archeologist and the State Historic Preservation Officer, the State Troopers shall be contacted immediately so that compliance with state and federal laws may begin.

Forestry Resources. All timber on state land within the Millsite Area that will be disturbed due to Millsite Operations shall be:

1. used for Millsite Operations in or on the Millsite Area; or
2. shall be chipped and mulched for use as a soil amendment for enhancing interim reclamation, or increasing the resources to reclaim the mined area at closure; or

3. after consultation with the ADNR Division of Forestry and where determined by the Permittee to be of suitable size and located in affected areas that are easily accessible, felled, limbed, bucked into log lengths, and decked in areas easily accessible to the public for collection of firewood free of charge; or
4. the Division of Mining, Land & Water, in consultation with ADNR Division of Forestry, may approve alternate methods of vegetation clearing.

Reporting. The results of monitoring, required by all state and federal authorizations (unless otherwise indicated by the Authorized Officer), obtained during a reporting period shall be summarized and submitted to the Authorized Officer or designee quarterly, no later than 60 days after the last day of the quarter, in an electronic format acceptable to ADNR. An annual report will be due by March 1st and shall summarize activities (surface disturbance, reclamation, mining, leaching and milling) conducted during the previous calendar year and include fourth quarter monitoring data. The annual report shall also address the adequacy of the financial responsibility, including, but not limited to, inflation, significant changes in reclamation activity costs, concurrent reclamation, expansion or other changes to the operation of the facility. Electronic copies should also be sent to ADNR (Jim Vohden at jim.vohden@alaska.gov and dnr.water.reports@alaska.gov, Brent Martellaro at brent.martellaro@alaska.gov, and Audra Brase at audra.braser@alaska.gov), and Alaska Department of Environmental Conservation (ADEC) (Tim Pilon at tim.pilon@alaska.gov). Amendments to this distribution list will be provided to the Permittee as needed.

Maps. The Permittee shall submit to ADNR an annual set of maps illustrating the current development of all facilities within the millsite lease boundary. The plan maps shall show cleared and grubbed areas; growth medium stockpiles; roads; waste rock dump development; material site development; and facility construction. Maps shall be appropriately scaled to review the development of individual facilities.

Environmental Audit. Unless waived by the department, a periodic third-party environmental audit shall be completed during the final year of the permit term or sooner if final closure starts during the permit term. However, the field inspection portion of the audit shall be conducted during the snow free season the year before permit expiration. The audit will include all aspects of this Plan of Operations Approval. The environmental audit is required to verify the Permittee's compliance with applicable environmental laws associated with this permit. The third-party contractor should be mutually agreed on by the State and the Permittee, but in the event that agreement cannot be reached, the State retains the final contractor selection decision. Costs for the third-party contractor shall be borne by the Permittee. The intent of the audit is to evaluate whether both Permittee management and agency permit administration provide reasonable assurances that the facility and environmental controls are functioning as intended. The environmental audit shall include an evaluation of the adequacy of the approved financial assurance.

Temporary Closure. The Permittee shall notify the Authorized Officer in writing at least thirty (30) days prior to any planned Temporary Closure of ninety (90) days or longer. The Permittee shall notify the Authorized Officer of any unanticipated Temporary Closure expected to last ninety (90) days or more within ten (10) days of the first day of the Temporary Closure. The notice shall state the nature and reason for the Temporary Closure, the anticipated duration of the Temporary Closure, what actions will be taken to maintain compliance with project permits and plan approvals, and any event which would reasonably be anticipated to result in the resumption of mining or the permanent cessation of mining. Mining operations must resume for not less than ninety (90) consecutive days in order to terminate the running of the Temporary Closure. If a Temporary Closure extends beyond three (3) years, the Department may deem mining operations to be permanently abandoned or ceased, and whereupon final reclamation must commence unless otherwise agreed by the Department.

The Permittee shall ensure that the project area and facilities are maintained in a safe condition during a Temporary Closure and the Permittee shall not allow the project area or facilities to be degraded / eroded or facilities to fall into a state of disrepair during or as a result of the Temporary Closure. Action shall be taken to prevent or mitigate any impacts to ground or surface waters from project facilities. All collection, treatment, maintenance, and monitoring activities required under project permits or plan approvals shall be performed under any Temporary Closure.

Abandonment or Cessation of Operations. Not later than thirty (30) days after the permanent cessation or abandonment of mining operations, the Permittee shall notify the Authorized Officer of the cessation of mining operations and provide a schedule for the final reclamation of the site.

Permanent Closure. For purposes of determining monitoring requirements and bond release, closure of a facility is achieved when the applicable surface and ground water quality standards have been met, and the site has been reclaimed in accordance with the reclamation plan.

Erosion Standard. Erosion features which form in areas that have been recontoured and covered with topsoil must be stabilized if they affect the long-term stability of the reclaimed area or may result in additional erosion or sedimentation. Actions to stabilize erosion features shall be conducted in a manner that minimizes disturbance to adjacent areas. Subsequent inspections shall be completed to verify that rills and gullies do not persist. If chronic or long-term erosion features are identified, then remediation of the site drainage that is contributing to the formation of the rills and gullies shall be completed.

Invasive Weed Control. The Permittee shall inspect revegetated areas to identify invasive plant species and eradicate these species to the extent practicable. If invasive plant species are identified, the Permittee shall notify the Authorized Officer.

Fuel and Hazardous Substances. Secondary containment shall be provided for fuel or hazardous substances.

- a. **Container marking.** All independent fuel and hazardous substance containers shall be marked with the contents and the Permittee's name using paint or a permanent label.
- b. **Fuel or hazardous substance transfers.** Except for hand operated equipment, secondary containment or a surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends during fuel or hazardous substance transfers, where feasible and prudent. Appropriate spill response equipment must be on hand during any transfer or handling of fuel or hazardous substances to respond to a spill of up to five gallons. Transfer operations shall be attended by trained personnel at all times.

Vehicle refueling shall not occur below the ordinary high waterline of any waterbody. This restriction does not apply to water-borne vessels provided no more than 30 gallons of fuel are transferred at any given time.

- c. **Storing containers within 100 feet of waterbodies.** Containers with a total capacity larger than 55 gallons which contain fuel or hazardous substances shall not be stored within 100 feet of a waterbody. (Note – This stipulation [Subsection “c” of Fuel and Hazardous Substances] does not apply to the tailings storage facility during mine operations.)
- d. **Exceptions.** The Authorized Officer may under unique or special circumstances grant exceptions to this stipulation on a case-by-case basis. Requests for exceptions should be made to the Authorized Officer.
- e. **Definitions.**
 - 1) **"Containers"** means any item which is used to hold fuel or hazardous substances. This includes tanks, drums, double-walled tanks, portable testing facilities, fuel tanks on small equipment such as light plants and generators, flow test holding tanks, slop oil tanks, bladders, and bags. Manifolded tanks or any tanks in a series must be considered as a single container. Vehicles, including mobile seismic tanks, are not intended to be included under this definition.
 - 2) **"Hazardous substance"** is defined under AS 46.03.826(5) as (A) an element or compound which, when it enters into the atmosphere, or in or upon the water, or surface or subsurface land of the state, presents and imminent and substantial danger to the public health or welfare, including but not limited to fish, animals, vegetation, or any part of the natural habitat in which they are found; (B) oil; or (C) a substance defined as a hazardous substance under 42 U.S.C. 9601(14).
 - 3) **"Secondary containment"** means an impermeable diked area or portable impermeable containment structure capable of containing 110 percent of the volume of the largest container. Double-walled tanks do not qualify as secondary containment unless valves and piping are contained within the outer double wall.

- 4) **"Surface liner"** means any safe, non-permeable container (e.g., drips pans, fold-a-tanks, etc.) designed to catch and hold fluids for the purpose of preventing spills. Surface liners should be of adequate size and volume based on worst-case spill risk.
- f. **Notification.** As soon as a person has knowledge of an unauthorized discharge of oil to water, any discharge of hazardous substances (other than oil), any discharge of oil greater than 55 gallons to land, or any unplanned fires or explosions within the facility; the Permittee shall notify the Department of Environmental Conservation (DEC) and DNR.

If a discharge, including a cumulative discharge, of oil is greater than 10 gallons but less than 55 gallons solely to land, or if a discharge of oil greater than 55 gallons is made to an impermeable secondary containment area or structure, the Permittee shall report the discharge within 48 hours. Any discharge of oil greater than one gallon, but less than 10 gallons, solely to land, including a cumulative discharge, must be reported in writing on a monthly basis.

Notification of discharge during normal business hours must be made to the DEC Northern Alaska Region: (907) 451-2121, fax (907) 451-2362; The DEC spill reporting number outside of normal business hours is (800) 478-9300.

Notification of discharge must be made to DNR's Northern Region Office, preferably by e-mail: email dnr.nro.spill@alaska.gov, or (907) 451-2739; the Permittee shall supply the DNR with all cleanup plans, disposal plans, interim reports, and final incident reports submitted to DEC.

Display discharge notification placards where hazardous substances or oils are regularly handled. Use a placard specific to the Ft. Knox Mine or the placard available on DEC's website (<http://dec.alaska.gov/media/17434/spill-reporting-placard.pdf>).

- g. **Remediation.** Should any unlawful discharge, leakage, spillage, emission, or pollution of any type occur due to the Permittee's, or its employees', agents', contractors', subcontractors', licensees', or invitees' act or omission, the Permittee, at its expense, shall be obligated to clean the area to the reasonable satisfaction of the State of Alaska.

Inspection and Entry. The Permittee shall allow authorized representatives of ADNR to enter into and upon the area and facilities covered under this plan approval at all reasonable times without notice for the purpose of inspecting the area and activities covered under this plan approval. Said inspections shall be subject to the safety and security procedures adopted by the Permittee.

At any time upon ADNR's written request, the Permittee shall promptly make any and all records, documents, or other information required to be kept or maintained by law, regulation, ordinance or this Plan of Operations Approval available to ADNR for inspection and copying,

as reasonably required by ADNR, to determine the Permittee's compliance with local, state and federal laws applicable to the operations authorized under this plan approval.

Violations. This authorization is revocable immediately upon violation of any of its terms, conditions, stipulations, nonpayment of fees, or upon failure to comply with any other applicable laws, statutes and regulations (federal and State).

Assignment. This plan approval may be transferred or assigned with prior written approval from ADNR. ADNR will only disapprove a transfer with good cause and will evaluate whether the proposed assignee (1) is qualified to hold interests in state mining rights under AS 38.05.190 and to acquire all other permits and authorizations necessary to conduct operations under the plan; (2) is on notice of default or subject to an enforcement action by any state agency on any lease, reclamation bond, or other permit within the state. Any assignee must commit in writing to be bound by this plan approval to the same extent as the Permittee, and must provide to ADNR all proofs of insurance, bonds, or undertakings required by this plan approval. Transfer of this plan approval may, at ADNR's discretion, require bond review and update.

Other Authorizations. The issuance of this authorization does not alleviate the necessity of the Permittee to obtain authorizations required by other agencies for this activity.

Valid Existing Rights. This authorization is subject to all valid existing rights in and to the land under this authorization. The State of Alaska makes no representations or warranties whatsoever, either expressed or implied, as to the existence, number, or nature of such valid existing rights.

Reservation of Rights. ADNR reserves the right to grant additional authorizations to third parties for compatible uses on the land under this authorization per terms of the Mine Millsite Lease ADL 233521.

Change of Address. Any change of address must be submitted in writing to the Authorized Officer.

Modifications. Any request for modification of the plan of operations and any other affected permits or authorizations must be made by written application to ADNR. Amendments to the Plan of Operations may, at the discretion of ADNR, require bond review and update.

Statutes and Regulations. This plan approval is subject to all applicable state and federal statutes, including state, federal, and any local statutes and ordinances in effect on the effective date of this plan approval, new statutes, regulations, and ordinances enacted or promulgated after said effective date, and changes to existing statutes and regulations made after the effective date, to the extent constitutionally permissible.

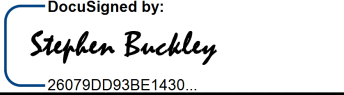
Severability. If any clause or provision herein contained shall be adjudicated to be invalid, it shall not affect the validity or effect of any other clause or provision of this plan approval, nor constitute any cause of action in favor of either the Permittee or ADNR as against the other.

Save Harmless. The recipient of this Plan of Operations Approval shall indemnify, save harmless, and defend the ADNR, its agents and its employees from any and all claims, actions or liabilities for injuries or damages sustained by any person or property arising directly or indirectly from approved activities or the Permittee's performance under this Plan of Operations Approval. However, this provision has no effect, if, and only if, the sole proximate cause of injury is the ADNR's negligence.

Project Specific Stipulations

Permit Renewal. At least 120 days before the expiration of the plan approval, the Permittee must submit to the department an updated reclamation plan and cost estimate for approval.

Commencement of permitted activities will be considered an acceptance by Teck Alaska Incorporated of these stipulations.

Approved:  5/28/2020
Steve Buckley
Chief, Mining Section
Division of Mining, Land & Water
Alaska Department of Natural Resources
Date