NIBLACK RECLAMATION AND CLOSURE PLAN

2025 Post-Construction Update

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ACRONYMS AND ABBREVIATIONS

ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
ADOLWD	Alaska Department of Labor and Workforce Development
BMP	Best Management Practice
CBR	Committee Bay Resources
LAD	Land Application/Dispersion
LTMM	Long-Term Monitoring and Maintenance
NAG	Non-Acid-Generating
NPLLC	Niblack Project LLC
PAG	Potentially Acid-Generating
SWPPP	Storm Water Pollution Prevention Plan
WMP	Waste Management Permit

1 INTRODUCTION

The Niblack Exploration Project is a copper-gold- zinc-silver prospect located off Moira Sound on southeastern Prince of Wales Island, approximately 30 miles southwest of the town of Ketchikan, Alaska (Figure 1-1). The project is limited to development within private land holdings, with the exception of the tideland lease area managed by the Alaska Department of Natural Resources (ADNR). A list of all properties, including legal description, of where all work will occur is detailed in Section 6. Niblack Project LLC (NPLLC) is the owner and sole operator of the exploration property. Site activities operate under the Alaska Department of Environmental Conservation (ADEC) WMP 2013-DB0001.

This reclamation and closure plan has been prepared as required by AS 27.19, 11 AAC 97, and AS 27.05.010(b). This document serves to update the Niblack Reclamation and Closure Plan, 2017 Post-Construction Update (NPLLC 2017), and Niblack Reclamation and Closure Plan 2012 Post-Construction Update (Integral 2012), Appendix 6 to the Underground Exploration Plan of Operations (Integral 2012a). The original reclamation and closure plan was approved on June 29, 2007 (ADNR 2007) and a renewal was approved Aug 23, 2012 (ADNR 2012). Updates to the 2012 plan provided in the 2017 Post-Construction Update (NPLLC 2017), approved May 1, 2018 (ADNR 2018) included the following:

- Updates to fuel, analytical, transportation, and other costs to reflect current market values
- Updates to indirect costs to reflect reasonable estimates
- Expansion of the project schedule to continue through 2022, or beyond.

On March 2, 2023, an administrative extension was granted for the 2018 RPA until April 30, 2025. Along with this extension, it was stated that an updated financial cost estimate would be submitted by April 30, 2024 and a reclamation plan submission would be submitted no later than March 14, 2025 (Buckley 2023, pers. Comm). An updated financial assurance cost estimate was provided to ADNR on April 9, 2024 (Neale 2024, pers. Comm.). This cost estimate serves as the basis of 2025 Post-Construction Update, with updated inflation and labor rates, as per conversations with ADNR (Kreel 2025, pers. Comm). Updates to the 2024 financial assurance provided herein include the following:

- Updates to inflation costs to reflect the average inflation rate over the last 5 years (ADOLWD 2025)
- Updates to labor rates to reflect rates provided in Pamphlet No. 600 (ADOLWD 2024)
- Updates to PAG volumes to reflect underground workings constructed to date
- Updates to equipment rates to reflect updated quote (Harper 2025, pers. Comm.), (Thomas 2025, pers. Comm)
- Updates to mobilization / demobilization rates to reflect current services provided to Niblack Project LLCb (Boyer Towing Inc. 2024), (Misty Fjords Air and Outfitting Inc. 2025)

The principal purpose of this 2025 Reclamation and Closure Plan Post-Construction Update is to identify, describe, and cost the required reclamation tasks that are to be completed either concurrently with, or at the cessation of the exploration activities. Cost estimates for implementing these reclamation tasks are provided for the purpose of establishing a bond amount estimate, and determining the best bonding mechanism for the project, to ensure that adequate funds are available for reclamation, post-closure monitoring, and maintenance purposes. This document presents conceptual reclamation plans; prior to site closure, a final closure plan with details regarding the specific reclamation activities and schedules will be submitted to ADNR for approval. While preparing this Reclamation and Closure Plan Post- Construction Update, consultation with ADNR and ADEC staff in 2012 was taken into account, as were past (ADNR 2009) and current (DOWL 2015) guidelines.

The major components associated with the Project are an underground mine exploration adit and portal entrance, a temporary storage facility for potentially acid-generating (PAG) waste rock, a non-acid

generating (NAG) waste rock disposal area, settling/treatment ponds, a water land application/dispersion (LAD) discharge system, access roads, and a marine dock. Ancillary facilities include topsoil stockpiles, an ore stockpile, diversion systems, fuel storage, and supply laydown and staging areas. The PAG waste pile is temporary and is designed to store PAG waste until the end of the exploration project, after which

the material will be relocated in the underground adit for permanent disposal.

The current phase of underground development on the Niblack Exploration Project was initiated by Niblack Mining Corporation on September 21, 2007, and was completed on July 12, 2008. As indicated on post-construction as-built drawings and information compiled by Niblack Exploration Project onsite staff, the site structures and facilities have been constructed in general accordance with the original design plans as presented in the Underground Exploration Plan of Operations (NMC 2007b); deviations from original design proposals were minimal. The updated cost estimate for reclamation and closure presented herein is largely based on the same assumptions and criteria outlined in the Reclamation and Closure Plans (RTR 2007b; Integral 2012c). Updates to selected costs (e.g., fuel, labor, materials and analytical expenses) have been made, as appropriate. No additional expansion of the underground workings is anticipated at this time. However, if future expansion does occur, the site design plans presented in the original Niblack Solid Waste Landfill Application under the WMP 2013- DB0001 and the Underground Exploration Plan of Operations 2012 Post-Construction Update (Integral 2012b) will be followed, and an updated Reclamation and Closure Plan will be submitted.

Alaska Statute AS 27.19.030(b) and Alaska Administrative Code 11 AAC 97.310(b) (6) & (7) allow the owner of private land to have an alternate post-mining (post-project) land use. The post-project land use for privately held patented mineral claims at Niblack is mineral development or other commercial use. Access roads and other surface structures (e.g., land camp area) will be retained post-closure and bonding will not be required for their removal.

2 SUMMARY OF ACTIVITIES

This section summarizes construction activities conducted since the Niblack exploration project was initiated on September 21, 2007. The current phase of underground construction and excavation commenced on September 21, 2007 and was completed on July 12, 2008. Placement of NAG material at construction sites was completed shortly thereafter, as was the loading of the temporary PAG waste rock storage facility, completed in spring 2008. No additional expansion of the underground workings, or associated production of waste rock, is anticipated at this time. However, if future expansion does occur, the site design plans presented in the Niblack Solid Waste Landfill Application under the WMP 2013-DB0001 and the Underground Exploration Plan 2012 Post-Construction Update (Integral 2012b) will be followed, and an updated Reclamation and Closure Plan will be submitted.

Construction of the sediment ponds, and piping from the adit portal to the ponds, was complete prior to commencement of excavation activity in 2007. The water treatment plant and components of the LAD water discharge system were completed in early 2008. Land application of effluent water from the settling ponds began in October 2007.

2.1 SURFACE FEATURES

The total surface area cleared or disturbed at the project site is 13.5 acres. Photographs of site facilities are presented in the Niblack Project Underground Exploration Plan of Operations 2012 Post-Construction Update (Integral 2012b).

Surface disturbance is shown on the site-wide as-built maps (Figures 2-1 and 2-2) and includes the following:

- Access roads
- Ditches, culverts, and settling basins/sediment traps for stormwater management
- Construction of laydown areas for equipment/supply storage, including a fuel storage facility, magazine sites (currently decommissioned), portal area, shop area (old camp)
- Settling ponds and LAD water discharge system
- Barge landing and dock facilities
- Surface drilling landing
- Temporary PAG waste rock storage facility
- Temporary mineralized ore stockpile
- NAG waste disposal area
- Topsoil and growth media stockpiles

2.1.1 Waste Rock Storage Facilities

The temporary PAG waste rock storage site (Figure 2-3) was constructed on a foundation of crushed rock overlain by a 6-in. layer of compacted sand, and lined with 80-mil high-density polyethylene (geo-membrane) between two layers of geotextile fabric. The liner system was overlain by another 6-in. layer of compacted sand as a service layer. Waste rock storage size designs, assumptions, and operating considerations are described in the Geotechnical Summary of Niblack Project Waste Rock Dumps (NMC

2007a, Appendix A).

The PAG liner construction deviated slightly from the original specifications within the original Niblack Solid Waste Landfill Application under the WMP (NMC 2007a), which specified that liner bedding would be placed in two horizontal layers of 12 in. maximum uncompacted depth. During construction, 6-in. layers of sand were used instead of the maximum of 12-in. layers originally specified. Additionally, a waiver of the intermediate cover requirement (18 AAC 60.243) under WMP 2006-DB0037 was granted by ADEC on January 26, 2009 (Buteyn 2009, pers. comm.). In January 2009, former site owners Committee Bay Resources requested approval to leave the pile uncovered for large-scale kinetic testing (Kleespies 2009a, pers. comm.). The leachate and runoff water captured in the PAG pond is monitored on a monthly basis, and seasonal PAG monitoring reports are submitted to ADEC. A cover will be placed on the PAG pile if required due to a change in the chemistry of the PAG effluent or at the request of ADEC or ADNR.

The PAG temporary storage facility is built on a cut platform and the full base liner is sloped to collect and convey all PAG runoff and leachate to the PAG collection pond, as shown on Figure 2-4. Figure 2-5 details the engineered liner construction at the PAG site; Detail B of this figure shows how runoff captured on the PAG liner flows to the PAG pond. The QA/QC Plan for PAG/ML Temporary Storage Facility Liner Installation was submitted as Appendix C to the 2007 permit application (NMC 2007a). This plan includes the 80-mil HDPE geomembrane liner properties.

During drift construction, 574 yd^3 of well-mineralized PAG material was stockpiled for future geochemical test work and processing. This material is stored in a temporary, lined and covered stockpile adjacent to the PAG temporary storage facility. The pile is covered with 80-mil HDPE geomembrane so as to prevent any introduction of surface water onto the pile. The mineralized ore stockpile was not included in the original Underground Exploration Plan of Operations (NMC 2007b) or the Reclamation and Closure Plan for the Niblack Underground Exploration Project (RTR 2007b). If the mineralized ore stockpile is not removed from the site for processing, it will be hauled back underground with the PAG materials and the stockpile site will be reclaimed.

Most of the NAG material removed during underground excavation was utilized in the construction of site roads and facilities. A portion of this material, originally placed on the lower NAG haul road, has been sorted and stored in a “fines stockpile” (Figure 2-1) near the barge landing that is used for road maintenance. If additional underground development occurs, NAG waste will be utilized onsite and/or placed in the NAG disposal area, following the design plans presented in the Niblack Solid Waste Landfill Application under the WMP and Underground Exploration Plan of Operations.

2.1.2 Water Management Features

Figures 2-1 and 2-2 present overview and detail views of stormwater and surface water control features, including diversion ditches at the PAG and NAG areas, the PAG runoff capture pond, the settling/treatment ponds, and sediment traps adjacent to the access road. Figure 2-6 shows streams, surface water bodies, and water quality monitoring stations. The PAG temporary storage facility was designed to route all run-on around the facility. PAG facility runoff and leachate are routed to the PAG pond, and then piped to the site settling/treatment ponds. The settling ponds also receive underground water from the exploration drift, which is piped from the adit portal. If necessary, water may be pumped from the first pond through a water-treatment chemical mixing tank, which can be used to increase pH and reduce trace element concentrations through lime addition and flocculation. The second pond allows for additional precipitation and settling of trace elements. From the settling ponds, water is routed to the LAD system, where it is discharged through a network of low-flow emitters for infiltration into site soils and final polishing. The treatment scheme is shown in Appendix A, Figure A-1. To date, low concentrations of trace elements in effluent water and passive treatment through settling and natural soil attenuation have controlled effluent water quality, and chemical water treatment has not been necessary. The water treatment plant was tested for effectiveness in September 2009 and is ready to begin the treatment of mine wastewater should the need arise. Regular surface water and groundwater quality monitoring is conducted, as described in the Water Quality Monitoring Plan 2012 Post-Construction Update (Integral 2012a). Water quality monitoring

results have been summarized in quarterly and annual reports.

The hydrologic analysis for stormwater management was based on a 5-in. rainfall event and is presented as Appendix B to the original Niblack Solid Waste Landfill Application under the WMP (NMC 2007a). BMPs are described in detail in the Niblack Storm Water Pollution Prevention Plan (SWPPP) (NPLLC 2025) and the Niblack Wastewater Treatment and Disposal Application under the WMP (RTR 2007a).

2.2 UNDERGROUND DEVELOPMENT

The total underground development consists of 2,772 linear ft on the main access drift, 372 ft of short cross-cuts and utility bays, and 144 ft for two sumps, one near the portal and the other near the end of the drift (Figure 2-7). The total volume excavated during the access drift construction period (2007 through 2008) was approximately 66,150 tons (39,300 yd^3).

The Niblack exploration drift totals 3,288 linear ft (main drift plus cross-cuts and sumps) and was constructed with a total of 286 blast rounds. Of this total, 43 rounds constituting 495 linear ft of drifting (approximately 9,960 tons or 5,920 yd^3) were determined to consist of PAG materials, the majority of which (26 rounds for 299 linear ft) consisted of sulfide mineralization within the Lookout Rhyolite, and related footwall alteration, at the end of the drift. The first four rounds excavated from the Lookout Rhyolite (48 linear ft of the drift representing approximately 965 tons or 574 yd^3 of material) consisted of well-mineralized rock and was set aside for future test work. This material is stored in the covered and lined temporary mineralized ore stockpile (Figure 2-1). The remainder of the PAG material (approximately 8,995 tons or 5,346 yd^3 of material) was placed on the temporary PAG storage site. NAG waste rock, dominated by mafic volcanic rocks and mafic dykes, totaled 2,793 linear ft of the total excavation and represented some 56,200 tons, or 33,400 yd^3 of material. All NAG waste rock has been used in construction activities, including the laydown areas expansion, the NAG site access roads and berms, the base for the temporary PAG storage facility, and road maintenance. Additional NAG material was sorted through a 6-in. grizzly to create a small “fines” stockpile for road maintenance.

Table 2-1 summarizes the waste rock volumes produced during construction of the initial 3,288 ft of adit excavation.

2.2.1 Waste Rock Characterization

A detailed geochemical characterization program was conducted during adit excavation in order to determine the potential for the rock comprising each blast round to be potentially acid generating or metals leaching. PAG and NAG material were segregated as described in the Niblack Project Operational Characterization Plan (Knight Piésold 2007a). Segregation of PAG versus NAG waste rock was determined by onsite analysis of a sample of blast-hole drill cuttings collected from each round of development rock for total sulfur and pH following oxidation with hydrogen peroxide. Additional waste rock characterization conducted during drift construction included acid/base accounting and total metals analysis. Analytical results are included within a master acid base accounting geochemical database. The database is included in the appendices of the 2007, 2008, and 2009 Niblack Annual Reports (Integral 2008, 2009a, 2010). Based on the quality assurance and quality control verification analyses conducted as part of the geochemical characterization program, the material in the PAG pile is expected to average approximately 1 percent total sulfur, predominately as sulfide-sulfur. The material has low neutralization potentials, with less than 20 kg $CaCO_3$ per ton equivalent and corresponding neutralization potential ratios of less than 0.5 (pHase 2011).

Ongoing monitoring of waste rock weathering was conducted with three field barrel kinetic tests located immediately east of the PAG waste rock pile. The field kinetic test barrels were monitored until July 2015, when they were covered and the study put on hold. The temporary closure of the study can be reversed and sampling resumed at the discretion of NPLLC. Additionally, per agreement with ADEC (Buteyn 2009, pers. comm.), the PAG temporary storage pile is uncovered in order to allow for large, field-scale

monitoring and evaluation of the weathering behavior of the PAG material. Until the study was put on hold, NPLLC, with support from pHase Geochemistry Inc., presented the results of PAG pile kinetic monitoring in annual reports to ADEC.

2.3 EXPLORATION DRILLING

Overall, a total of 245 surface core boreholes and 164 underground core boreholes have been drilled on the Niblack property between 1975 and late 2011. NPLLC has drilled approximately 168,000 ft in 130 holes (113 underground and 17 surface holes) since 2009.

In May and June 2011, a helicopter-supported surface drill rig was added to the Niblack exploration program to test exploration targets in the area of Lookout Mountain and the historic Niblack Mine. Seven surface holes totaling approximately 5,000 ft were drilled. Surface disturbance in 2011 was approximately 0.1 acre, including all drill sites and helicopter landing zones. The majority of surface drilling activity in 2011 took place on patented claims; nevertheless, these sites were reclaimed according to the standards for state or federal land. One location was inside the boundaries of the Tongass National Forest.

In August and September 2012, 10 surface holes totaling approximately 15,563 ft were drilled. Surface disturbance in 2012 was approximately 0.15 acre, including all drill pads, helicopter landing zones, and walking paths. Of the three locations used for surface drilling in 2012, one drill pad was left intact for future use. This pad was already in place from previous operators and was stabilized and used in 2012. One additional location had a drill pad (and landing zone) prepared and constructed for drilling activities, but was not used. This site was left intact for use in potential future drill programs. All other areas disturbed during the course of the exploration program were restored.

In November and December 2020, a track-mounted drill was used to perform approximately 5.815 ft of core drilling in 12 surface holes. The drill was track mounted which made it unnecessary to construct conventional drill pads. Sumps were constructed adjacent to the drill pads and drill return water and cuttings were discharged into the sumps. Drill sites were cleaned of refuse and small hand dug sumps were backfilled and capped with organic material. The sump at site 3 was not backfilled at the end of the drill season because drill water had not completely soaked into the ground. Drill site 3 sump will be backfilled when staff are back at site in early 2021 and as soon as the sump is empty of drill water. Total disturbance at site in 2020 was limited to the 3 drill sumps comprising approximately 0.002 acres.

In April 2021, a limited 4-hole underground drilling campaign totaling approximately 5938 ft were drilled. No formal drill pads were constructed on any surface drill sites in 2021. All previous drill site disturbance has been reclaimed.

Surface drilling and associated reclamation activities were and will continue to be conducted as described in the Plan of Operation for Mineral Exploration at the Niblack Project (NPLLC 2012a).

2.4 RECLAMATION

Construction reclamation and interim reclamation activities have been conducted at the site in accordance with the original Niblack Project Reclamation and Closure Plan (RTR 2007b). These activities are discussed in Section 3.4.

3 GUIDELINES FOR RECLAMATION AND CLOSURE

This section summarizes the guidelines for reclamation including policies, goals, requirements, principles, processes, and criteria for closing the Niblack Exploration Project. The guidelines for reclamation and closure are unchanged from those set forth in the original Reclamation and Closure Plan (RTR 2007b), 2012 renewal (Integral 2012c), and 2017 renewal (NPLLC, 2017) except where otherwise noted.

3.1 RECLAMATION GOALS

NPLLC's long-term goals of reclamation during and after underground exploration activities are to return the land to a safe and stable condition, consistent with the establishment of productive post-project closure land uses. The designated post-project closure uses for the project area are defined as mineral development or other commercial use. Wildlife habitat and recreation will also be a consideration for post-project closure use.

NPLLC will develop and implement the following reclamation goals at the project site:

1. Stabilization and protection of soil materials from wind and water erosion
2. Stabilization of steep slopes through recontouring and leveling to provide rounded landforms and suitable growth media surfaces for natural invasion and recolonization by native plants
3. Establishment of long-term, self-sustaining vegetation communities by reseeding with native plants and promoting natural recolonization and succession
4. Protection of surface water and groundwater quality, and compliance with all applicable water quality standards during operation and at closure
5. Protection of public health by reducing potential hazards typically associated with construction sites
6. Protection of fisheries, wildlife habitat, and recreational resources
7. Minimization of long-term closure requirements, especially for ongoing care and maintenance.

3.2 SUMMARY OF SITE-SPECIFIC RECLAMATION GOALS

The first step in the reclamation process involves the removal and storage of topsoil and other growth media from all areas to be disturbed, prior to facility construction. Stockpiled topsoil and growth media was seeded or covered with salvaged vegetation to reduce the potential for erosion during storage and to maintain viability. Topsoil stockpiles generated during the site construction period (2007–2008) are located adjacent to the access road, as shown on Figure 2-1.

Project closure is expected to be within 2 years of cessation of all exploration activities. At that time, PAG material will be relocated from the temporary storage site to the underground drift for permanent storage. Portal closure, including installation of cement plug, will commence after all PAG material has been relocated to the back of the adit. Other reclamation will include recontouring and topsoil placement at the PAG site, NAG site, and water treatment facility/settling ponds. Later stages of final reclamation may include the removal of stormwater diversions and sedimentation ponds/sediment traps where they are no longer needed. All reclaimed areas will be seeded to aid erosion control and re-establish natural vegetation.

Finally, a monitoring program will be implemented to track reclamation success.

Roads will remain in place as required for post-closure monitoring activities and for designated post-closure land use (mineral development and other commercial uses). Post-closure operation and maintenance of the road, including culverts and bridge crossing, will be in accordance with the terms and conditions of the Alaksa Department of Fish and Game (ADF&G), Division of Habitat Fish Habitat Permit (FH-09-VII-0021) and U.S. Army Corps of Engineers Permit (POA-1982-290-N).

Reclamation of barge landing and mooring facilities will occur upon termination of the Tideland Lease, and is bonded (performance guarantee) separately from the rest of the project site. Operation, maintenance, and ultimate reclamation of the barge landing and mooring facility will be in accordance with the terms and conditions of the ADNR Division of Mining, Land and Water Tideland Lease (ADL 107544), and U.S. Army Corps of Engineers Permits (POA-1982-290-N).

In 2015/2016 NPLLC received authorization for a marine discharge system from the main sediment ponds and tideland entry to construct. NPLLC has not yet constructed this system and has requested, and received authorization for, extensions from ADEC (Collingwood 2016a, pers. Comm). This system is bonded (performance guarantee) separately from the rest of the project site. Operation, maintenance, and ultimate reclamation of the discharge facility will be in accordance with the terms and conditions of the ADEC Alaska Pollutant Discharge Elimination System (APDES AK0053708) and ADNR Division of Mining, Land and Water Entry Authorization (ADL 108261).

3.3 RECLAMATION AND CLOSURE PRINCIPLES

In addition to the goals discussed above, the following general reclamation and closure principles will apply for the life of the project and during closure:

1. The reclamation plan will describe reclamation requirements as they relate to interim reclamation, temporary closure, and final reclamation at closure.

2. All surface mining disturbances associated with the Niblack Construction and Exploration Project will be bonded for an amount equal to the actual cost estimate of reclaiming the disturbed areas.

3. Bond release criteria will be developed for all reclamation activities.

4. Soil or soil-like growth media (organic material and/or suitable subsoil) will be inventoried for volume and general reclamation suitability and stored for future reclamation use. Protection from erosion will be provided.

5. Disturbed areas no longer involved in exploration activities will receive reclamation treatment within 2 years, as described in this reclamation plan.

6. Best management practices (BMPs) for interim drainage stabilization and erosion control will be implemented during the life of the project.

7. Sediment control facilities such as dispersion terraces, ponds, dikes, and infiltration basins will be designed and installed before surface-disturbing activities begin. These facilities will be inspected regularly, and maintained according to the schedule defined in the SWPPP (NPLLC 2025).

8. Following construction, cut-and-fill embankments and growth media stockpiles will be seeded with

native grasses or covered with salvaged vegetation to reduce the potential for soil erosion and to enhance natural plant reinvasion.

9. Unchanneled runoff from disturbed surface areas will be dispersed into undisturbed forest areas, to the extent practicable.

10. Engineered facilities and associated construction materials will be monitored during construction, operation, and a defined post-closure period. This will enhance waste management and recycle opportunities.

3.4 OVERVIEW OF THE RECLAMATION AND CLOSURE PROCESS

NPLLC considers reclamation to be a progressive process directly integrated with the design, construction, operation, and closure of the operation. Reclamation will, therefore, generally occur in the following phases, with some overlap:

1. Construction reclamation
2. Interim reclamation
3. Surface drilling reclamation
4. Temporary closure
5. Final reclamation and closure
6. Post-closure monitoring and maintenance.

Construction, interim, and surface drilling reclamation activities have been conducted at the site in accordance with the original Niblack Project Reclamation and Closure Plan (RTR 2007b), as described below.

3.4.1 Construction Reclamation

Construction reclamation activities are those activities that occur during and directly after the exploration adit and associated facilities are constructed. This phase of reclamation involves the removal and storage of topsoil and growth media from disturbed areas. During construction, vegetation was cleared from the surfaces that were developed, primarily from the PAG temporary storage area and the settling/water treatment ponds area. Topsoil and soil-like growth media were removed where possible and stockpiled for reclamation. Stockpiles are located along the outer edge of access roads and laydown areas (Figure 2-1). Following the construction of the majority of the site facilities and access roads in 2007, there has been only minor construction reclamation activity. This was limited to the completion of the NAG site, which consisted of the felling of trees and construction of access roads, run-on diversion ditches, and berms. Concurrent reclamation of the lower NAG haul road included placement of topsoil along the lower side of the road and berm.

3.4.2 Interim Reclamation

Interim reclamation is defined as temporary measures for reducing the potential for erosion and sedimentation, and other activities required to protect surface and groundwater resources.
Interim reclamation will be done to stabilize road cuts, stockpiles and other disturbances that result from

construction and exploration activities. Interim reclamation measures may involve seeding, temporary diversions, sedimentation control systems, and other BMPs commonly used for construction and exploration projects. These are listed in the U.S. Forest Service Soil and Water Conservation Handbook (USFS 1996).

3.4.3 Surface Drilling Reclamation

Surface drilling reclamation activities are conducted as described in the Plan of Operation for Mineral Exploration at the Niblack Project (NPLLC 2012a). The majority of surface drilling activity took place on patented claims; nevertheless, all sites were reclaimed according to the standards for state or federal land. In 2012, one location had a drill pad (and landing zone) prepared and constructed for drilling activities, but was not used. This site was left intact for use in potential future drill programs (NPLLC, 2013a). All other areas disturbed during the course of the exploration program were restored. In accordance with AS 27.19, all areas disturbed during the course of exploration activities were restored to the extent possible, and reasonable measures were taken to prevent and undo unnecessary degradation.

Surface drilling reclamation involves disassembly of drill pads, removal of milled timbers, and tree handling, including bucking, limbing, and laying flat on the ground. Disturbance to topsoil is not expected to occur. Reseeding of drill sites with native species will only be conducted if specifically required to prevent the unintentional introduction of non-indigenous/invasive plants to the area. All garbage and waste from the drill sites will be removed and disposed of in the camp incinerator. Finally, drill holes will be plugged in accordance with the Annual Placer Mining Application(s) and applicable Alaska regulations, as described in the Plan of Operation for Mineral Exploration at the Niblack Project (NPLLC 2012a).

Because surface drilling sites are remediated individually following completion of drilling, surface drilling reclamation costs are not included in the site reclamation and closure cost estimates presented in Appendix B of this report.

3.4.4 Temporary Closure

Temporary closure means the cessation of the exploration activities for a period of between 90 days and 3 years. If conditions require temporary closure to extend beyond 3 years, final reclamation and permanent closure activities would begin unless NPLLC is granted an approval for extension by ADNR and ADEC. Temporary closure scenarios that require modifications to the plan of operations or reclamation plan would be coordinated with and submitted to ADNR and ADEC for approval.

The Niblack Exploration Project underwent a period of temporary closure from January 13, 2009 to August 26, 2009. This closure was requested in order to provide Committee Bay Resources (CBR; the project owners at that time) an opportunity to compile and examine the data and findings generated during Phase I of the underground drill program (Kleespies 2009a). The site was maintained in accordance with all operating permits, and environmental monitoring continued on a regular basis. A small care and maintenance crew remained onsite throughout the temporary closure period, allowing for continuous visual monitoring of site conditions. Interim reclamation activities during this time included ditch and grade stabilization. During the temporary closure period, the water was allowed to accumulate in the underground exploration drift. CBR requested, and received, approval from ADEC (Kleespies 2009b, pers. comm.) to conduct a dewatering operation to remove water that had accumulated in the underground exploration drift while the project was in temporary closure. The dewatering was initiated on August 26, 2009 and completed on September 11, 2009. During this period, approximately 2.4 million gallons of water were removed from the underground exploration drift (Turner 2009, pers. comm.). Additional water quality monitoring was conducted during and after mine dewatering. Water quality results from this monitoring indicated that drift dewatering did not negatively impact surface or groundwater quality; the results are included in the Third Quarter 2009 Water Quality Monitoring Report (Integral 2009b).

The Niblack Project underwent a second period of temporary closure between October 26, 2011 and June 30, 2012. This closure was necessary to provide NPLLC an opportunity to compile and examine the data and findings generated during the previous two years of underground drilling. Similar to the previous period

of temporary closure, the site was maintained in accordance with all operating permits, and environmental monitoring continued on a regular basis. A small care and maintenance crew remained onsite throughout the temporary closure period, allowing for continuous visual monitoring of site conditions. Interim reclamation activities during this time included ditch and grade stabilization. As most of the underground water sources had been plugged or sealed, the drift was not setup for water accumulation.
Water was routinely pumped from the underground sumps to the settling ponds and discharged through the LAD system.

As NPLLC's 2012 exploration program involved surface drilling only, the adit remained under temporary closure. Water was routinely pumped from the underground sumps and all environmental monitoring continued as if there were fulltime underground activity. Upon completion of 2012 surface drilling, Niblack Exploration Project entered its current period of temporary closure on October 28, 2012, which has continued through 2017. The site has been maintained in accordance with all operating permits, and environmental monitoring and facility maintenance continued on a regular basis. Water has continued to be routinely pumped from the underground sumps. As water flow is significantly reduced and will not accumulate in the drift, a major dewatering program is not anticipated upon reopening of the drift.

A reduction in environmental monitoring requirements during temporary closure was granted under a modification of the Suspension of Operations Plan (Niblack 2013) in January 2014 by ADEC (Evans 2014, pers. comm.). The monitoring frequency for locations and activities is monthly (when it is safe to do so), and includes the following:

- Daily LAD flow meter readings while personnel are on the project site and it is safe to do so
- Regular visual inspection of the LAD once per month during non-freezing conditions
- Monthly water quality field parameters of monitoring sites EFF1 and PAG facility
- Monthly visual site inspections
- Monthly SWPPP inspections.

A supplemental reduction in environmental monitoring requirements during temporary closure was granted under a modification of the Suspension of Operations Plan (NPLLC, 2013b) June 29, 2016 by ADEC (Collingwood 2016b, pers. comm.). The monitoring and reporting frequency is annually, during late summer or early fall, when concentrations of metals exhibit seasonal highs.

The following paragraphs set out general guidelines to be followed for periods of temporary closure for the Niblack Project.

Temporary closure may include planned or unplanned cessation of exploration activities. Planned temporary closures that have specific conditions defining their beginning and end include the following:

- Temporary halt in activity to evaluate exploration results and plan further development
- Ongoing permitting requiring plan amendment based on exploration results
- Change in ownership requiring the temporary cessation of operations while operating permits are transferred to the new owner/operator.

Unplanned temporary closures may include the following:

- Closure because of significant weather events
- Discontinuation of operations due to temporary market conditions or unforeseen labor disputes
- Interruptions in work schedule due to underground conditions

- The discontinuation of operations due to litigation or other legal constraints.

NPLLC will notify ADNR (authorized officer) in writing at least 30 days prior to any planned temporary closure of 90 days or longer. For any unplanned temporary closure expected to last 90 days or longer, NPLLC would notify ADNR within 10 days of the first day of the temporary closure. These notifications will include a written description of the nature of actions to be implemented by the company to maintain full compliance with applicable permits and plan approvals. If a temporary closure extends beyond 3 years, it is understood that ADNR may deem exploration to be permanently abandoned. This situation may require that final reclamation must commence.

NPLLC's objective during temporary closure is to maintain the site and facilities in a safe condition. This includes proactive temporary sediment and erosion control BMPs. All related water management activities and monitoring would also be carried out by the company.

Notification principles or requirements include the following:

- Reasons for shutdown
- Estimated schedule for resuming constructions
- Outline of reclamation, water management, and monitoring activities to be implemented by NPLLC during this period.

During temporary closure, NPLLC also maintains compliance with all environmental permits and programs as applicable. Interim reclamation activities continue as planned, and all permit requirements are met.

3.4.5 Final Reclamation and Permanent Closure

Closure is defined as the cessation of all exploration activities upon project completion, or because the further development of the project is no longer feasible. Final reclamation and closure activities will occur according to the provisions of this reclamation and closure plan. A final closure plan that includes detailed design and construction plans and schedules will be submitted to ADEC for approval prior to initiating permanent site closure reclamation.

Notification of final closure would be given to the state agencies 60 days prior to cessation of exploration activities. This notice will include the date on which final reclamation activities would begin. Final reclamation involves relocation of PAG material to underground workings, portal plug and closure, and surface reclamation, including recontouring, topsoil placement, and reseeding at disturbed surface areas. A reclamation schedule detailing estimated timelines to complete reclamation tasks is provided in Appendix B. Physical reclamation is estimated to take 8 weeks to complete, and would be completed within approximately 2 years after cessation of exploration activities.

3.4.6 Post Closure Monitoring and Maintenance

Post-closure reclamation activities consist of monitoring and maintenance until closure and reclamation performance standards are achieved. General post-closure reclamation/revegetation monitoring is expected to be required for 3 years, whereas visual and water quality monitoring is expected to be required for up to 30 years (as dictated by relevant ADEC and ADNR permits); this condition would be reviewed annually, and reclamation progress may result in a reduction or extension of the post-closure monitoring period. The post-closure monitoring and maintenance program is discussed in further detail in Section 4.7 and within the Niblack Water Quality Monitoring Plan 2012 Post-Construction Update (Integral 2012a).

3.5 SOIL SALVAGING, VEGETATION SALVAGING AND REVEGETATION METHODS

3.5.1 Topsoil Salvage and Stockpiling

For the purposes of this plan, the term “growth media” is defined as all native soil material with physical and chemical properties capable of establishing and sustaining vegetation with or without soil amendments. Growth media can also be glacial till. Upland soils in the Niblack area are generally moderately well drained silt or sandy soils spread over bedrock or glacial till. Salvaged material will consist of A and B horizon material and will include some underlying glacial till in order to obtain the required volume. Topsoil (Horizons A and B) would be salvaged and stored separate from other acceptable growth media.

A summary of requirements for reclaiming facilities that require topsoil is presented in Table 3-1. Estimates of topsoil requirements are based a planned 6 inch topsoil layer placed over post-construction footprints of surface areas which will be reclaimed upon site closure.
These estimates show that a total volume of approximately 4,000 yd^3 of topsoil will be needed for site reclamation. During construction activities conducted in 2007 and 2008, approximately 3,500 yd^3 of topsoil was stockpiled along the access road (Figure 2-2). If additional topsoil is needed for final reclamation activities, material may be sourced from another location.

If additional construction occurs at the site in the future, topsoil stripping and stockpiling will continue as the facilities are developed. In some cases, topsoil will be stripped and directly placed on areas undergoing reclamation. All topsoil stockpiles will be located and shaped so that run-on and run-off is controlled. Stockpiled topsoil would be seeded or covered with salvaged vegetation to reduce the potential for erosion during storage and to maintain viability. Where adequate topsoil is not available, a replacement scheme involving other growth media would be developed for agency approval.

During reclamation, topsoil will be placed over all disturbed areas selected for reclamation excluding rock cuts, areas of riprap, open water, and slopes too steep to retain topsoil.
Development rock storage piles would be treated as described later in this document.

A minimum of 6 inches of topsoil is the goal for application to disturbed areas. The quantity of topsoil is expected to be limited based on measured depths of the A- and B-horizons throughout the planned disturbance area. Therefore, an average application rate 6 inches has been used for the inventory calculations.

3.5.2 Revegetation Methods and Materials

The overall goal of disturbed site revegetation is to mimic the adjacent undisturbed vegetation communities, to the extent possible. The focus of the revegetation effort will be on establishing

grasses, shrubs, and forbs to stabilize the reclaimed landforms and to provide successful plant communities that would lead to the natural recolonization of the appropriate vegetation community.

In general, revegetation methods and materials will be as follows:

Growth Media Placement and Grading. Topsoil salvaged from the disturbed areas will be used for the growth media source (see Section 3.5.1 above). A minimum of 6 inches of stockpiled topsoil will be placed and graded over areas identified in Section 3 as requiring topsoil.
During the distribution process, some areas may receive more or less material than the target numbers; however, the average distribution of topsoil within a particular site will be near the target depth.

Growth Media Scarification. Where necessary, growth media will be scarified. A roughened configuration will serve to trap moisture, reduce wind shear, and minimize surface erosion by increasing infiltration. These areas will also serve to create micro-habitats conducive to seed germination and revegetation.

Seeding. The focus of initial revegetation is on establishing grasses for growth media stabilization that allow successional plant communities of forbs, alder, and native evergreen species to establish. All of the construction and development activities are scheduled to take place solely in upland areas. The seed mix proposed for reclamation is presented in Table 3-2. Any changes to the proposed seed mix, or the use of non-Alaskan seed sources, must be approved by ADNR.

Consideration will be given to inclusion of a 10 percent annual rye grass mix for treatment of localized areas subject to high erosion potential. Selective application of erosion blankets may also be used in these locations. Native Alaskan plants are available through various suppliers in Alaska and will be pursued as the preferred species as recommended by agency specialists. The species list for the project site is based on current and projected availability of native species and their projected success.

Revegetation will be implemented using broadcast seeding. Because of rough terrain, restricted access, and relatively small acreage of disturbance of areas being reclaimed, for costing purposes it has been assumed handseeders will be used to spread seed. Generally, seeding will be implemented from spring (May) until mid-September, during periods with minimum standing water to maximize germination. Seed will be applied at the rate of 30 to 45 pounds per acre (pure live seed).

3.6 RECLAMATION PERFORMANCE CRITERIA

3.6.1 General Reclamation Completion Criteria

The Project will be considered successfully reclaimed when all activities identified in the final closure plan have been completed. This will include facility and reclamation shutdown and reclamation tasks such as relocation of PAG waste rock, portal closing, regrading and revegetation, in accordance with the facility-specific plans described below in Section 4. NPLLC will seek release of the reclamation surety on a phased basis, as quantitative data indicate that the agreed-upon reclamation and revegetation criteria have been met. The following summarizes general site reclamation and closure completion criteria proposed by NPLLC for the project. These completion criteria are unchanged from those set forth in the original Reclamation and Closure Plan (RTR 2007b) and renewal (Integral 2012c).

1. All applicable activities have been completed consistent with this reclamation plan and the final closure plan, including demolition, regrading, and other applicable activities.

2. Absence of erosional features of sufficient size and/or density to effect long term stability and vegetation cover. Any reclaimed area of 0.5 acre or more which exhibits more than 10 rills and gullies greater than 6 inches deep (or other erosional feature that clearly effects long term stability) will be filled with borrow material, regraded and seeded. Remediation of the site drainage contributing to the rills and gullies will be completed. Subsequent inspections will be completed to verify rills and gullies do not persist.

3. Establishment of vegetative cover meeting the revegetation success criteria (Section 3.6.2 below). If vegetative cover does not meet the success criteria 3 years after seeding, NPLLC will assess the conditions and initiate mitigation, such as fertilizer, seed mixture change, re-seeding, or remediation of soil contamination. If 2 years after these specific mitigation efforts are implemented and the site still does not meet the criteria, then NPLLC will submit a plan to ADNR for approval and propose further action, consisting of either remedial measures or criteria

modification.

4. Establishment of plant diversity. If after 3 years a diverse plant community cannot be re-established at the site using the above-mentioned seed mix and reclamation activities, NPLLC will assess the condition and determine appropriate action(s). If 2 years after these specific mitigation efforts are implemented and the site still does not meet the criteria, then NPLLC will submit a plan to the state for approval and propose further action, consisting of either remedial measures or criteria modification.

5. Establishment of natural succession. Natural succession will be determined by the plant species present for a given site, and be considered successful if two or more native species from natural succession are present and the site is free of invasive species (to the extent practicable). If after 3 years natural succession has not been established, NPLLC will assess the condition and determine appropriate action(s). If 2 years after these specific mitigation efforts are implemented and the site still does not meet the criteria, then Niblack will submit a plan to the state for approval and propose further action, consisting of either remedial measures or criteria modification.

As specified in the Reclamation Plan Approval (ADNR 2018) and 11 AAC 97.200, erosion features, such as rills and gullies, which form in areas that have been regraded and covered with topsoil, will be stabilized if they affect the long-term stability of the reclaimed area, or if they may lead to additional erosion and sedimentation. Actions to stabilize erosional features will be conducted in a manner that minimizes disturbance to adjacent areas. Subsequent inspections will be completed to verify that erosion features do not persist. If chronic or long-term erosion features are identified, remediation of the drainage that is contributing to the erosion will be completed. Areas that have been regraded will also be monitored for conditions of slope saturation caused by subsurface flow. If such conditions are observed and may result in instability, measures will be taken to remediate the drainage that is contributing to the saturation.

3.6.2 Revegetation Success Criteria

Post-closure monitoring plans described in Section 4.7 call for soil and vegetation monitoring for all reclaimed areas for the first 3 years following site closure. Additional soil and vegetation monitoring will be conducted in post-closure years 5 and 10 in conjunction with the water quality monitoring events. As specified in the Reclamation Plan Approval (ADNR 2018) and 11 AAC 97.200, a vegetative cover of 70% should be achieved 3 years after the last application of topsoil, seed, or fertilizer is placed before financial assurance will be released for reclaimed areas. Requests may be made to ADNR to waive the 70% cover criteria for areas that are stable, have minimal potential to adversely impact surface water quality, and are consistent with post-mining land use.

This program will focus on monitoring reclaimed areas for vegetation success and identifying any erosion problems. Monitoring may consist of digital photography of the reclaimed sites and transmittal of photos, with a photo-location map, to ADNR. Quantitative vegetative surveys may also be completed to evaluate revegetation success criteria.

Revegetation criteria will be used to quantify revegetation success. Undisturbed reference sites will be used to judge revegetation performance for reclaimed areas. The reference sites will be used to assess the existing percent aerial cover required as release criteria.
Representative reference sites will be selected and agreed upon by the ADNR and NPLLC. Quantitative analysis would be conducted at the end of the growing season (end of August) by a qualified agency representative or an independent professional.

3.7 UPDATING THE RECLAMATION PLAN

Additional updates to this reclamation and closure plan will be submitted in the future if the project is materially changed. Updated as-built maps will be presented to delineate new areas of disturbance and update quantities estimated in the previous plan. Additional information including characterization of site conditions and soils, closure water quality standards, and data compiled from ongoing monitoring will be considered in revising the reclamation plan. A final closure plan and schedule will be prepared prior to closure.

The reclamation bond will be recalculated each time that the reclamation plan is updated. The updated bond calculation will include adjustment to reclamation quantities based on current conditions at the time the estimate is prepared, adjustments to labor and equipment rates, appropriate adjustments to indirect rates, and recalculation of the estimated inflation cost. The reclamation plan will be submitted to ADNR and ADEC for review and comment during each revision. Any modifications to the reclamation plan must be approved by the responsible agencies.

4 FACILITY-SPECIFIC RECLAMATION AND CLOSURE PLANS

This section describes the specific reclamation and closure guidelines for facilities and areas which currently exist at the Niblack Project. The facility-specific plans for reclamation and closure presented here are unchanged from those set forth in the original Reclamation and Closure Plan (RTR 2007b) and renewal(s) (Integral 2012c), (NPLLC 2017), except where otherwise noted. Detailed information on the reclamation schedule and equipment used is presented in Table B-1.

4.1 SITE DISTURBANCE SUMMARY

For the purposes of this reclamation and closure plan, the Niblack Exploration Project has been delineated into five primary reclamation zones or task areas. These represent the main areas of disturbance for construction and exploration activities that are to be reclaimed: the PAG temporary storage facility, the portal, the NAG disposal area, the water treatment/settling ponds, and the stormwater management areas.

Facility-specific reclamation plans, including goals and objectives, reclamation and closure tasks, post-closure monitoring and maintenance, and estimated reclamation costs are described below for each of the task areas. Acreage of disturbance for the various facilities is tabulated in Section 3.5.1 and presented in Table 3-1. The volume of waste rock generated during excavation of the currently active exploration drift is presented in Table 2-1. These plans form the basis for the reclamation cost estimate provided as Appendix B, Project Reclamation Cost Estimate.

4.2 TASK 1 – PAG FACILITY (WASTE ROCK RELOCATION AND SITE RECLAMATION)

Reclamation of the PAG temporary waste rock facility will commence once the exploration activities have been terminated. Concurrent reclamation opportunities at adjacent cut and fill slopes will be continuously assessed during operations to determine if stabilization of the area can be achieved prior to the closure period. If material remains in the mineralized ore stockpile located adjacent to the PAG facility, this material will be managed in the same manner as the PAG waste rock, and the stockpile site will be reclaimed as described below.

The reclamation and closure plan for the PAG temporary storage facility is a requirement of the Industrial Solid Waste Monofill Permit Application, and is prepared in accordance with 18 AAC 60.200, 18 AAC 60.485(b), and 18AAC 60.485(d). A total of 66,160 tons of waste rock (39,300 yd^3 expanded waste volume) was generated from 2007 through 2008 during excavation of the underground workings to 3,288 ft. Of this total, approximately 9,960 tons (5,920 yd^3) was classified as PAG material based on geochemical analyses (Table 2-1). This includes 8,995 tons of material placed in the PAG temporary storage facility, and 965 tons of material placed in the mineralized ore stockpile.

The reclamation plan presented herein has been updated from the 2017 Post-Construction Update to address PAG material that has been generated thus far. Any future expansion of the underground workings will be addressed in an update to this Reclamation and Closure Plan.

4.2.1 Reclamation Goals and Objectives

Reclamation activities for the PAG temporary waste rock storage site and adjacent mineralized ore stockpile are focused on protecting local surface water and groundwater quality long-term after the

cessation of the project, and returning the land to a safe and stable condition, suitable for use as wildlife habitat. PAG waste rock and mineralized ore will be removed and placed back underground, followed by grading, stabilization, and establishment of a long-term, self- sustaining vegetation community at the temporary storage area.

4.2.2 Reclamation and Closure Tasks

The total amount of PAG material and mineralized ore extracted during exploration (5,920 yd^3) will be placed back underground at the southern-most segment of the adit. This design leaves PAG waste rock isolated underground below the water table, where oxidation and acid generation will cease as oxygen is excluded by the flooding groundwater. To reduce the potential for PAG waste to cause short-term degradation of the groundwater that floods the drift, the paste pH or drainage quality of the PAG waste will be measured before it is placed back in the drift, and if it is acidic, lime will be added to neutralize porewater acidity before placement.

PAG material would be hauled, end-dumped, and pushed in a typical backfill mode. Other activities include removal of the PAG facility HDPE liner and disposal underground[1], removal of the cover and liner from the mineralized ore stockpile and disposal underground, filling of the PAG pond, and reclamation of other water management structures such as the PAG liner leak detection system. Topsoil and/or growth media will be used to cover the footprint of the site, and the area will be seeded. The PAG site would then be recontoured, and stormwater conveyance cleaned and stabilized. Figures A-1 (Site Overview) and A-2 (Site Detail) present the current post-construction footprint of the PAG facility and the mineralized ore stockpile, superimposed over the original design drawings. Figure 2-3 provides an as-built cross section of the PAG pile.

4.2.3 Post-Closure Monitoring and Maintenance

Post-closure monitoring and maintenance for the PAG site will evaluate the success of vegetation, and provide periodic maintenance of erosion controls if required. Section 4 describes the scope of anticipated monitoring and maintenance programs. Post-closure monitoring is also a requirement of the SWPPP (NPLLC 2025) and the WMP 2013-DB0001. These programs will all be integrated into a single monitoring scheme.

4.2.4 Estimated Reclamation and Closure Costs

Closure costs for the PAG temporary storage site are estimated at $167,633 as outlined in Table 5-1 and Appendix B (Task 1). This subtotal includes cost of hauling waste underground, earthworks to regrade the rock storage facility, place growth media, and seeding the area. The time required to reclaim the PAG storage facility is estimated at 19 days. Cost and time estimates to reclaim the mineralized ore stockpile are included in the Task 1 calculations.

4.3 TASK 2 – ADIT PLUG AND PORTAL ENTRANCE RECLAMATION

Reclamation activities for the adit and portal entrance area will commence after all PAG waste has been relocated back underground. The 14.5 ft. x 13 ft adit extends through approximately 2,800 linear ft of drift, as shown on Figure 2-7. Because the adit opening and portal entrance were constructed to the same dimensions proposed in the original design plans, no changes have been made to the original plans for adit plug and portal entrance reclamation presented in RTR (2007b).

[1] Section 1.14 of the Niblack Waste Management Permit (2013-DB0001) lists the types of solid waste which may be disposed of underground at closure. Approved materials include waste rock, drill steel, tubing, tires, geosynthetic liners, settled solids, and used plastic and glass.

This document presents conceptual reclamation plans; prior to site closure, a final closure plan with details regarding the specific construction and placement of the adit plug will be submitted to ADNR for approval. As specified in the Reclamation Plan Approval (ADNR 2018), the final adit plug design will include consideration of the chemical stability of the concrete, grout, and surrounding rock in the anticipated post-closure groundwater environment. The plan must also evaluate groundwater quantity and quality discharging from drill holes.

4.3.1 Reclamation Goals and Objectives

A cement plug will be installed to seal the PAG waste rock in the adit to prevent seepage. All temporary structures at the portal entrance not required for designated post-closure land uses will be removed from the property, followed by grading, stabilization, and establishment of a long-term, self-sustaining vegetation community.

4.3.2 Reclamation and Closure Tasks

The 14.5 ft. x 13 ft adit extends through 2,772 ft of drift. The adit will be closed after the PAG material backfill is complete, using a cement plug and NAG material at the portal. The exact location of this plug will be determined at cessation of all exploration activities based on actual underground geotechnical conditions, safety and groundwater quality and quantity. The over- sized plug zone would be grouted to limit hydrostatic pressures and adit drainage. The portal entrance/laydown area, which involves about 0.25 acre, would be cleared of all buildings and/or appurtenances and utilities. The area would then be topsoiled and seeded using broadcast seeding. Because of rough terrain, restricted access, and relatively small acreage of disturbance of areas being reclaimed, it has been assumed handseeders will be used to spread seed. The stormwater conveyance network would be stabilized for long-term stormwater management.

4.3.3 Post-Closure Monitoring and Maintenance

Post-closure monitoring and maintenance for the adit and portal area will evaluate the success of vegetation, and provide periodic maintenance of erosion controls if required. If water discharges from the adit following plugging and closure, a water quality monitoring program will be initiated. Section 5 describes the scope of anticipated monitoring and maintenance programs. Post-closure monitoring is also a requirement of the SWPPP (NPLLC 2025) and WMP 2013-DB0001. These programs will all be integrated into a single monitoring scheme.

4.3.4 Estimated Reclamation and Closure Costs

Closure costs for sealing of the adit, including installation of an engineered cement plug and regrading the portal entrance, are estimated at $165,214 as outlined in Table 5-1 and Appendix B. The time required to close the adit is estimated at 25 days.

4.4 TASK 3 – NAG WASTE ROCK STORAGE AREA

Reclamation activities in the NAG waste rock storage area will commence once the exploration activities have been terminated. Concurrent reclamation opportunities will be continuously assessed during operations to determine if stabilization of the area can be achieved prior to the closure period. Table 2-1 provides a breakdown of development rock generated during the project. Approximately 56,200 tons (33,400 yd^3) of NAG material was generated from 2007 through 2008 during excavation of the underground workings to 3,288 ft. The reclamation plan presented herein has been updated from the 2017 Post-Construction Update to address PAG material that has been generated thus far. Any future expansion of the underground workings will be addressed in an update to this Reclamation and Closure Plan.

This document presents reclamation plans based on the current mining disturbance; prior to site closure, a final closure plan will be submitted to ADNR for approval. As specified in the Reclamation Plan Approval (ADNR 2018) and 11 AAC 97.200, the final closure plans must include consideration of water quality monitoring data and waste rock geochemical monitoring results. Exceedances of water quality related to the NAG waste rock are not expected; however, if seepage from the NAG waste area were to exceed water quality standards, ADNR may require reclamation of this facility to minimize infiltration. The final facility closure plans must specify slopes, growth medium replacement depths, erosion control measures, and surface flow diversion ditches.

4.4.1 Reclamation Goals and Objectives

Reclamation activities will focus on closure of the NAG development rock disposal area. The NAG development rock will be left in place, graded, stabilized, and protected from erosion. The reclaimed surface will be treated to establish a long-term, self-sustaining vegetation community.

4.4.2 Reclamation and Closure Tasks

During construction and operation of the underground access tunnel, it is estimated that any NAG material which is not used in facility construction or reclamation will be stored within the NAG waste rock disposal area. Figures A-1 (Site Overview) and A-2 (Site Detail) present the current post-construction footprint of the NAG disposal area, superimposed over the original design drawings. Figure A-4 presents the conceptual NAG waste rock pile pre-reclamation cross-section design. During closure, the deposit will be graded to reduce the slope to conform to local topography in a stable configuration.

The closure surface will be graded using an excavator to cut material from the upper section of the slope and fill along the slope toe. The conceptual grading plan shows a final crest elevation that will be back-sloped during grading to reduce runoff to the slope face. Final contouring of the material will be dependent upon the quantity of rock placed in the facility, and grading will likely include a mid-slope bench to reduce the length of the continuous slope. A volume of approximately 18,250 yd^3 of grading at closure was estimated for the conceptual closure surface (RTR 2007b).

The graded development rock surface will be covered with a minimum thickness of 6 in. of topsoil or other growth media. The treated surfaces will be scarified with an excavator along contour where practical and seeded using the upland seed mixture discussed in Section 3.5.2.

4.4.3 Post-Closure Monitoring and Maintenance

Post-closure monitoring and maintenance for the NAG facility will evaluate the success of vegetation, and provide periodic maintenance of erosion controls if required. Section 5 describes the scope of anticipated monitoring and maintenance programs. Post-closure monitoring is also a requirement of the SWPPP (NPLLC 2025) and WMP 2013-DB0001. These programs will all be integrated into a single monitoring scheme.

4.4.4 Estimated Reclamation and Closure Costs

Closure costs for the NAG waste rock storage site are estimated at $27,511 as outlined in Table 5-1 and Appendix B (Task 3). The time required to reclaim the NAG waste rock storage site is estimated at 16 days. This subtotal includes cost of earthworks to regrade the development rock storage facility, place growth media, and seeding the area using broadcast seeding. Because of rough terrain, restricted access, and relatively small acreage of disturbance of areas being reclaimed, it has been assumed handseeders will be used to spread seed.

4.5 TASK 4 – WATER TREATMENT AND SETTLING PONDS

Reclamation and closure of the settling ponds and water treatment/discharge system will be initiated following placement of the adit plug and reclamation of the waste rock disposal areas. At closure, the site water treatment/settling ponds and PAG leachate capture pond would be filled. Prior to filling, the geosynthetic liners would be cut, folded, and sealed in place. Fill material from the NAG pile would be used.[2] Drip emitter lines, piping conveyance, and all other appurtenances and utilities would be removed from the area for reuse, and/or demolition and shipment offsite, and/or disposed underground. The settling pond areas would then be regraded and topsoil applied, followed by broadcast seeding. Because of rough terrain, restricted access, and relatively small acreage of disturbance of areas being reclaimed, it has been assumed handseeders will be used to spread seed.

4.5.1 Reclamation Goals and Objectives

The primary reclamation goal for the settling pond area is to return the land to a safe and stable condition, suitable for use as wildlife habitat. Closure may include converting part of the facility to a wetland; otherwise, upland vegetation species as listed in section 3.5.2 will be used.

4.5.2 Reclamation and Closure Tasks

Reclamation and closure of the settling ponds and water treatment/discharge system will be initiated following placement of the adit plug and reclamation of the waste rock disposal areas, and subsequent monitoring to confirm that reclamation was successful and that impacts to site water quality are not expected. At closure, the geosynthetic pond liners will be cut, folded, and sealed in place. The ponds will then be filled using material from the NAG pile. The LAD system drip emitter lines, piping conveyances, and all other appurtenances and utilities would be removed from the area for reuse, and/or demolition and shipment offsite, and/or disposed underground. The settling pond areas will then be regarded, capped with topsoil, and seeded. Because of rough terrain, restricted access, and relatively small acreage of disturbance of areas being reclaimed, it has been assumed handseeders will be used to spread seed. If the final reclamation plan specifies that part of the settling pond area is to be reclaimed as a wetland, a portion of the facility will be graded to allow for ponding and the establishment of a shallow wetland feature, and an appropriate vegetation mix will be applied. Otherwise, upland vegetation species as listed in section 3.5.2 will be used.

4.5.3 Post-Closure Monitoring and Maintenance

Post-closure activities for the settling ponds and water treatment areas will consist of monitoring to evaluate the success in establishment of a long-term, self-sustaining vegetative community. Section 5 describes the scope of anticipated monitoring and maintenance programs. Post-closure monitoring is also a requirement of the SWPPP (NPLLC 2025) and WMP 2013-DB0001. These programs will all be integrated into a single monitoring scheme.

4.5.4 Estimated Reclamation and Closure Costs

Water treatment/settling pond closure costs are estimated at $28,500, as outlined in Table 5-1 and Appendix B (Task 4). The time require to reclaim the site is 10 days. This subtotal includes cost for hauling fill, removing piping (including LAD drip emitters), regrading, seeding and planting.

[2] Note that this reclamation and closure plan assumes that sufficient volumes of NAG material will be available for reclamation purposes (e.g., filling of the settling ponds). For the purpose of estimating conceptual closure costs, it has been assumed that, at closure, the site will contain rock which will provide a readily available source of clean fill.

4.6 TASK 5 – STORMWATER MANAGEMENT AREAS

Stormwater capture, conveyance, settling, and dispersion structures downgradient of the NAG site will be closed and reclaimed following stabilization of the reclaimed NAG waste pile, and once subsequent water quality monitoring shows that the site exhibits baseline conditions. The reclamation activity would include placement of the originally excavated soil (stored beside the storm management structures) back into the diversion ditches, sediment ponds and sediment traps. The backfill will be graded to mimic the surrounding topography, and reseeded.
Stormwater management structures associated with the access road will be retained and maintained in accordance ADEC MSGP Permit (AKR06GC00), Alaska Department of Fish and Game, Division of Habitat permit (FH-09-VII-0021) and COE permit (POA- 1982-290-N) stipulations, in order to keep the access road available for designated post-closure land use.

4.6.1 Reclamation Goals and Objectives

The primary reclamation goal for the stormwater management areas is to return the land to a safe and stable condition, suitable for use as wildlife habitat and for recreational use.

4.6.2 Reclamation and Closure Tasks

Reclamation activities for the stormwater management facilities will be completed once facilities are no longer required. This will follow stabilization of the reclaimed NAG waste pile, and following water quality monitoring to establish that the site exhibits baseline conditions. This will be accomplished prior to Niblack leaving the site. Filling and grading of the stormwater management areas will be completed to contour and smooth the areas. A minimum of 6 in. of topsoil or other growth media will be placed on the sites. The sites will be scarified along contours and seeded using the upland seed mixture presented in Section 3.5.2. Because of rough terrain, restricted access, and relatively small acreage of disturbance of areas being reclaimed, it has been assumed handseeders will be used to spread seed. Natural succession of upland species from surrounding areas will occur once activities within the area are discontinued. Niblack will monitor the success of establishing upland habitat prior to closure and determine if any additional reclamation measures are required.

4.6.3 Post-Closure Monitoring and Maintenance

Post-closure activities for the stormwater management areas will consist of monitoring and maintenance of BMPs for erosion control and monitoring of seeded areas to evaluate revegetation success. Section 5 describes the scope of anticipated monitoring and maintenance programs. Post-closure monitoring is also a requirement of the SWPPP (NPLLC 2025) and WMP 2013-DB0001. These programs will all be integrated into a single monitoring scheme.

4.6.4 Estimated Reclamation and Closure Costs

Closure costs for the stormwater management facilities are estimated at $6,786, as outlined in Table 5-1 and Appendix B (Task 5). The time required to reclaim the stormwater management facilities is three days. This subtotal includes cost for regrading the area growth media placement and seeding.

4.7 TASK 6 – POST-CLOSURE MONITORING AND MAINTENANCE

A long-term monitoring and maintenance (LTMM) program is included with the reclamation and closure plan cost estimates presented in Appendix B. Specific LTMM plans regarding each facility and parcel are discussed above in Sections 4.2 through 4.6.

Post-closure visual and water quality monitoring will be performed according to the Water Quality Monitoring Plan 2012 Post-Construction Update (Integral 2012a), and as stipulated in WMP 2013-DB0001. The post-closure water monitoring schedule includes visual monitoring and biannual water quality sampling at four groundwater wells and two surface water stations in years 1 and 2. Additional water quality sampling will be conducted at one groundwater well and two surface water stations once annually in years 5, 10, 20 and 30. Additionally, if the closed adit fills and water discharges from the portal, post-closure monitoring of the discharge water is required for years 1, 2, 5, 10, 20, and 30.

During exploration activities, inspections and monitoring will be part of the normal project operation and maintenance schedule. Therefore, important information necessary for developing detailed post-closure monitoring and maintenance schedules and costs and related financial assurance requirements would be collected during this time. This would involve special efforts necessary to document unusual climatic events that could result in extraordinary maintenance needs. Monitoring would continue after exploration ceases and would include inspections during the vegetation reestablishment period. The LTMM schedule would include the following:

- Visual and water quality monitoring as required by applicable permits still in force
- Sediment and debris build-up in the diversions would be assessed annually during operation
- Annual inspections of the site would occur during the first 3 years after cessation of exploration activities, or until release from the reclamation surety
- Any necessary remedial work would be carried out as needed, based on site inspections
- Maintenance of the physical integrity of the adit portal closure, diversions, and roads.

Soil and vegetation monitoring will also include all reclaimed areas (site-wide), with inspections and maintenance activities planned during years 1, 2, and 3 during the post-closure period.
Additional soil and vegetation monitoring will be conducted in post-closure year 5 in conjunction with the water quality monitoring event. This program will focus on monitoring reclaimed areas for vegetation success and identifying and correcting any erosion problems.

Goals for the Niblack Exploration Project reclamation were described above in Section 3. The objective of the LTMM program is to monitor the success of reclamation by comparing monitoring results with performance standards associated with each reclamation goal.
Reclamation bond release or initiation of contingency actions can be triggered if a reclamation goal is met or not.

4.7.1 Estimated Monitoring and Maintenance Costs

Post-closure monitoring costs for the Niblack site are estimated at $138,546 including inflation and 5% contingency, as outlined in Table 5-1 and Appendix B (Task 6). Appendix B includes analytical, materials, and labor costs used to estimate the total.

5 RECLAMATION ASSURANCES

The cost estimates presented herein update the cost estimates provided in the Reclamation and Closure Plan, 2017 Post-Construction Update (Integral 2012c) and the financial assurance cost estimate provided to ADNR on April 9, 2024 (Neale 2024, pers. Comm.). The overall estimated cost to reclaim the Niblack Exploration Project is **$1,186,302.** This total includes direct costs to complete the physical reclamation and post-closure monitoring, indirect costs, and inflation.
The cost breakdown tables and supporting assumptions are summarized below and presented in Appendix B. Tables 5-1 and B-2 summarizes overall costs by task. Tables B-3 through B-6 detail cost calculations and assumptions for Tasks 1-5 by component; Tables B-7 and B-8 details cost calculations and assumptions for Task 6. The cost estimates were compiled from current equipment rental, fuel, analysis, and other costs. They reflect actual site conditions, topography, and equipment and utilization factors that are representative of southeast Alaska. The updated cost estimate for reclamation and closure is largely based on the same assumptions and criteria outlined in the 2024 update to financial assurance cost estimates (Neale 2024, pers. Comm). Updates to selected costs (e.g., fuel, wages, materials and analytical expenses) have been made, as appropriate. Accordingly, Tables 5-1 and B-2 provide an overall up-to-date cost estimate, as well as 2024 costs for comparison purposes; Tables B-3 through B-8 provide cost breakdowns per task, as well as 2024 costs.

5.1 SUMMARY OF ESTIMATED RECLAMATION COSTS

Cost estimates for reclaiming and closing each facility are discussed above in Section 4. The total estimated cost for physical reclamation at the Niblack Exploration Project (Tasks 1 through 5) is $1,047,756, as outlined Tables 5-1 and B-2, and includes indirect costs, including overheads and contingencies. The cost breakdown tables and supporting assumptions are presented in Tables B-3 through B-8. The most significant changes from the 2024 cost estimates were related to a decrease in inflation rates, updated labor costs and an update in the volume of PAG material to be moved underground to reflect the current development of the underground workings, as shown in Table B-6.

5.2 SUMMARY OF POST-CLOSURE MONITORING AND MAINTENANCE COSTS

The total estimated cost for post-closure monitoring in years 1, 2, 3, 10, 20, and 30, is $131,949, as outlined in Tables 5-1 and B-2. Table B-7 presents the estimated material, transportation, and analytical costs for post-closure monitoring. Table B-8 details estimated monitoring labor rates, and total monitoring costs (including materials and transportation) for each monitoring year.

5.3 INDIRECT COSTS, CONTINGENCY AND INFLATION

Indirect costs have been either included in the cost estimate as line items or applied as a percentage of the direct cost total.

Per follow up meetings with NPLLC, ADEC and ADNR (NPLLC 2012b), it was determined indirect costs estimates in 2012 were low and recommendations were to follow ADNR Guidelines (ADNR 2009), taking into account some of the uncertainties (volumes, characteristics, etc.) pre-construction in 2007 had defined values post-construction in 2012. Those discussions and guidelines were taken into account in this cost estimate and the approach used in estimating each indirect cost is discussed below. Indirect costs in this estimate total $252,714.

5.3.1 Mobilization/Demobilization and Transportation

A mobilization/demobilization allowance of $102,100 is provided to account for mobilization and demobilization of equipment, including cost for removing salvaged equipment and materials. This allowance includes $58,300 to transport equipment to Ketchikan (Harper 2025, pers. Comm.), (Thomas 2025, pers. Comm.). This also includes an allowance of $43,800,provided for three equipment barge roundtrips from Ketchikan at the start, middle and end of the reclamation project, based on current services provided to Niblack project LLC (Boyer Towing Inc. 2024).

An allowance of $20,160 is also shown for the cost for personnel transportation (floatplane or air taxi), based on current services provided to Niblack Project LLC (Misty Fjords Air and Outfitting Inc. 2025). More details on mobilization/demobilization and transportation costs can be found in Table B-5.

5.3.2 Contractor Overhead and Profit

Contractor overhead and profit were estimated at 7% and 8% respectively, as a percentage of the total estimated direct physical reclamation costs. Contractor overhead totals $45,209, and contractor profit totals $34,422.

5.3.3 Other Indirect Costs

Other indirect costs were estimated as a percentage of the total estimated direct costs. Engineering and redesign are estimated at 5% of direct costs (Tasks 1 through 5), and totals $32,292. Liability Insurance has been added at 1.5% of total labor costs of $141,113, as shown in Table B-6, and totals $2,117.

5.3.4 Contingency

Per recommendations from the 2012 meeting (NPLLC 2012b), contingency costs have been estimated at 17% and divided between Bid (10%) and Scope (7%) per ADNR recommendations (NPLLC 2012b) and guidelines (ANDR 2009). Bid contingency totals $64,584 and scope contingency totals $45,209.

5.3.5 Agency Oversight

Per guidelines,(ADNR 2009) a lump sum estimate for agency (ADNR and ADEC) oversight of reclamation activities has been estimated at 3% and totals $19,375.

5.3.6 Contract Performance and Payment Bond

A contract performance and payment bond of 1.5% of the total direct costs totals $9,688.

5.3.7 Inflation Cost

Inflation was added to the total direct and indirect cost to account for the potential period of time that could elapse between updating the reclamation plan and completing reclamation activities. A 5-year term is used for calculating inflation assuming that the project forfeits the bond at the end of the 60 month cycle for updating the reclamation plan, that 1 year passes before reclamation begins, and that reclamation occurs over a 2-year period. A construction cost inflation rate of 3.12% was used to calculate the inflation cost, based on the average inflation rate in Urban Alaska for the years 2019 – 2024 (ADOLWD 2025).

Inflation for Task 6, reclamation and water quality monitoring, was calculated based on individual sub-tasks and is included in the Task 6 total cost estimate. Post-closure water quality sampling is anticipated to be performed once annually for years 1, 2, 5, 10, 20 and 30, which correspond to post-construction years 6, 7, 10, 15, 25 and 35 for inflation calculations.

5.4 POST-CLOSURE FINANCIAL ASSURANCE

For the purposes of reclamation bonding, there will be three distinct phases of closure:

- Phase I will cover the period after operations cease and reclamation is actively under way.
- Phase II will cover the period after final reclamation has been completed; monitoring and maintenance would be ongoing. Phase II bonding would still be provided by the reclamation bond.
- Phase III will cover the period when all agencies accept the reclamation effort and release the bonds. Phase III financial assurance would be provided in accordance with the negotiated terms.

NPLLC will provide an acceptable financial assurance as a condition of the approval for the Plan of Operations. NPLLC anticipates applying for partial release of reclamation surety bond monies in subsequent years following cessation of exploration activities, as allotting credit for successfully completed discrete reclamation procedures reduces the final reclamation costs. A full release of the surety would be requested when all requirements of the final reclamation and closure plan have been met. The funds for long-term monitoring and maintenance costs, however, would still be guaranteed by establishment of a trust agreement.

In the event a new operator assumes control of the project, the new operator or landowner would agree to assume full responsibility for the reclamation and maintenance of all affected land and structures that are the subject of these principles. The new owner/operator would also be required to assume all related permit conditions that may apply to the overall reclamation process. The new operator would transfer to its name all applicable state and federal permits and provide evidence that a surety acceptable to the agency covering the reclamation of disturbed land, including post-closure monitoring and maintenance, is filed.

6 ADMINISTRATIVE INFORMATION AND LIST OF PROPERTIES

6.1 PROJECT OWNERSHIP AND CONTACT INFORMATION

Owner/Operator:: Niblack Project LLC
c/o Corporation Service Company 251
Little Falls Drive
Wilmington, Delaware 19808 U.S.A.
1 (416) 214-4654

Parent Company: NexGold Mining Corp.
20 Adelaide Street East, Suite 401
Toronto, Ontario
Canada, M5C 2T6
1 (416) 214-4654

Contact: Kyle Emslie
Director, Environment & Regulatory Affairs
NexGold Mining Corp.
899 Tree Nursery Road
Wabigoon, Ontario
Canada P0V 2W0
Telephone: (807) 700-7146

All notices or other communication related to the Reclamation Plan under 11 AAC 97.310 are to be directed to the Contact listed above.

6.2 LIST OF PROPERTIES AND CLAIMS WHERE WORK WILL BE CONDUCTED

The Niblack property is located approximately 30 miles southwest of the town of Ketchikan in the mouth of Moira Sound, Prince of Wales Island (Figure 1). The developed footprint as described in the Reclamation and Closure Plan is composed of 3 staked federal lode claims, 5 patented claims and 1 Alaska State tideland claim. The claims are shown on Figure 6-1 and listed in Table 6-1, Table 6-2, and Table 6-3. The claims are within Township 78 South, Range 88 East, Copper River Meridian, Sections 28, 33, and 34, Ketchikan Recording District, Alaska. All claims are owned 100 percent by Niblack Project LLC.

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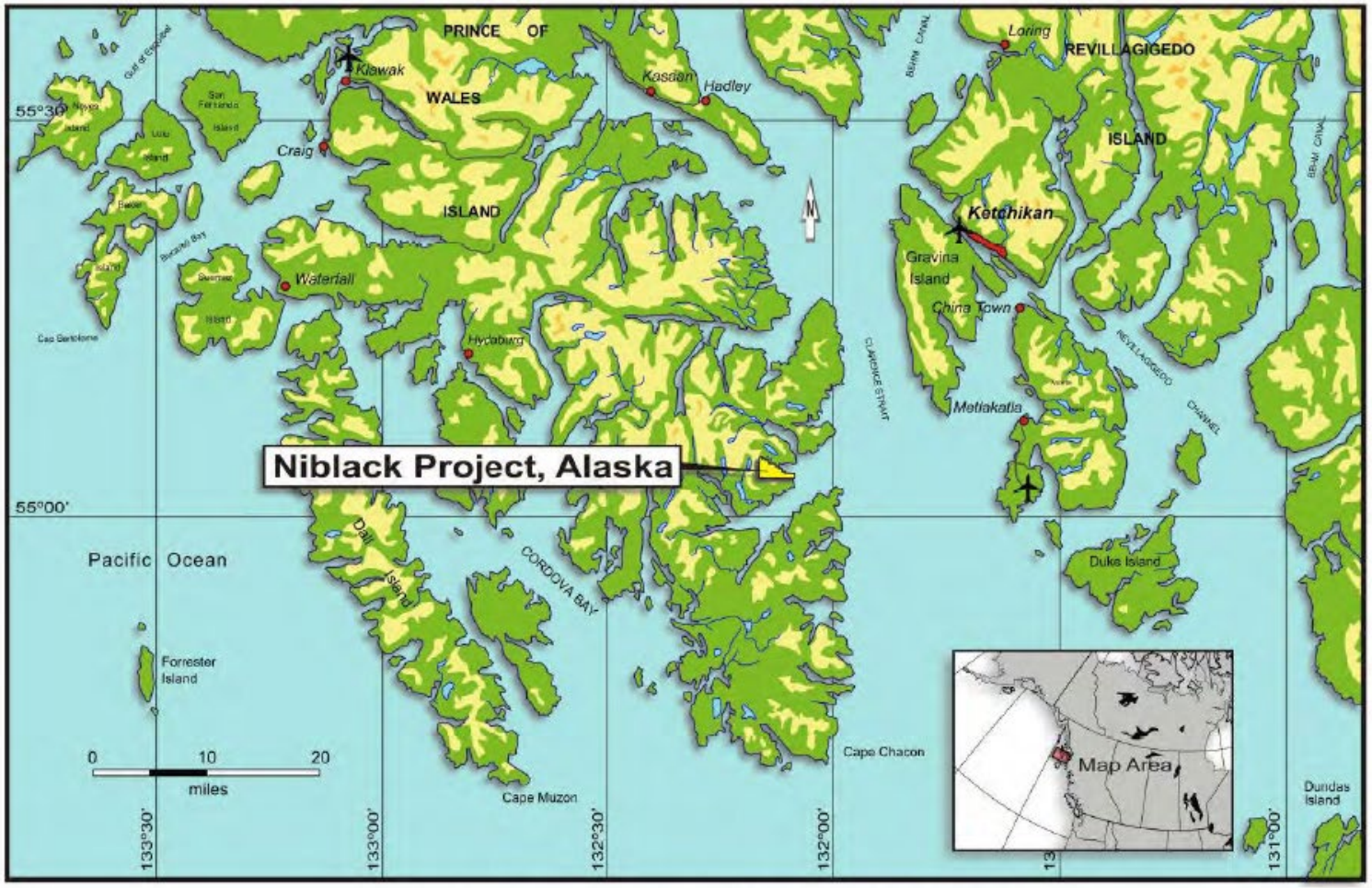
Figures



Niblack Project Location Map

May, 2006

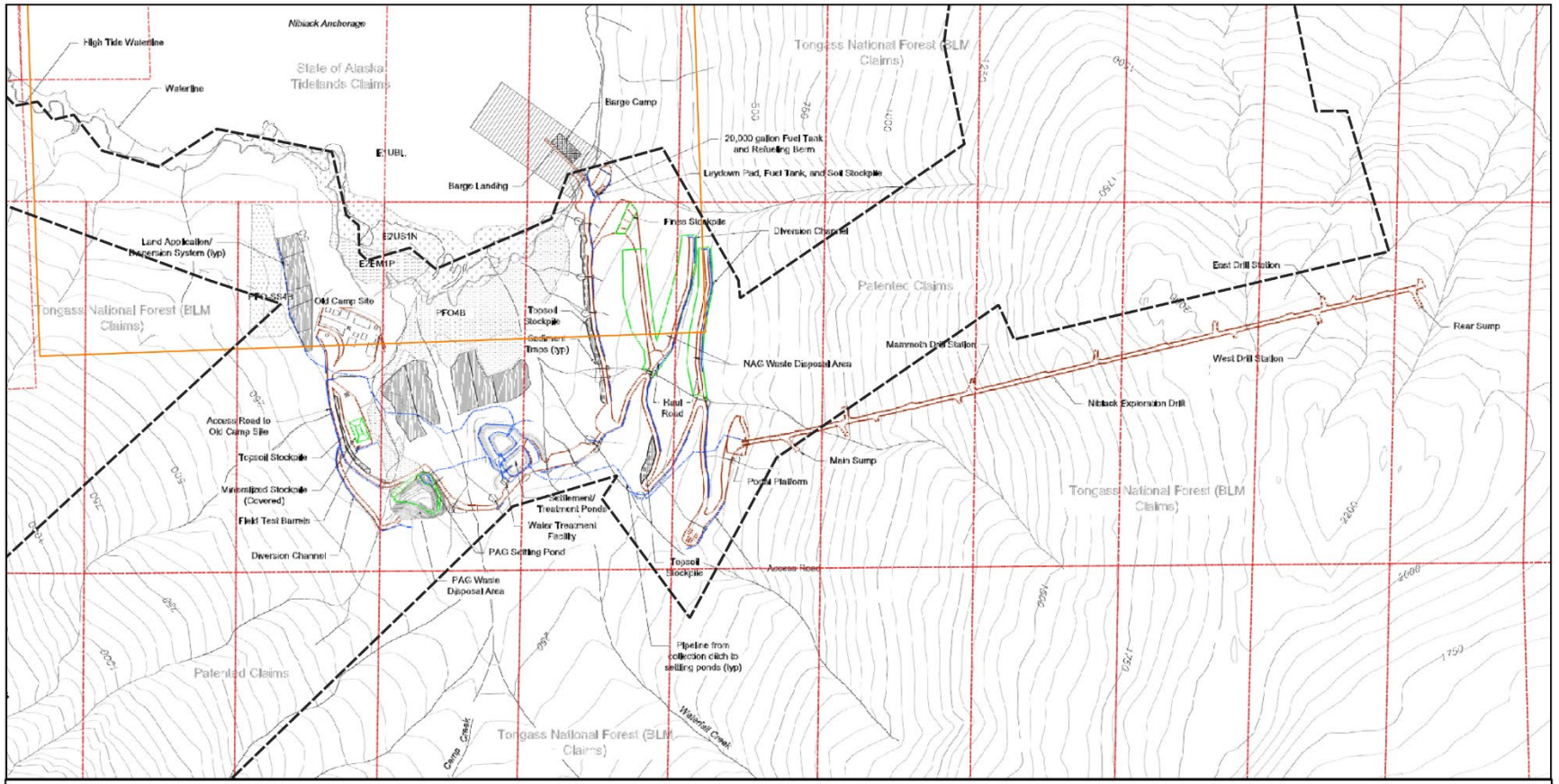


Figure 2-1.
General Site Plan
Niblack Exploration Project
2025 Reclamation and Closure Plan

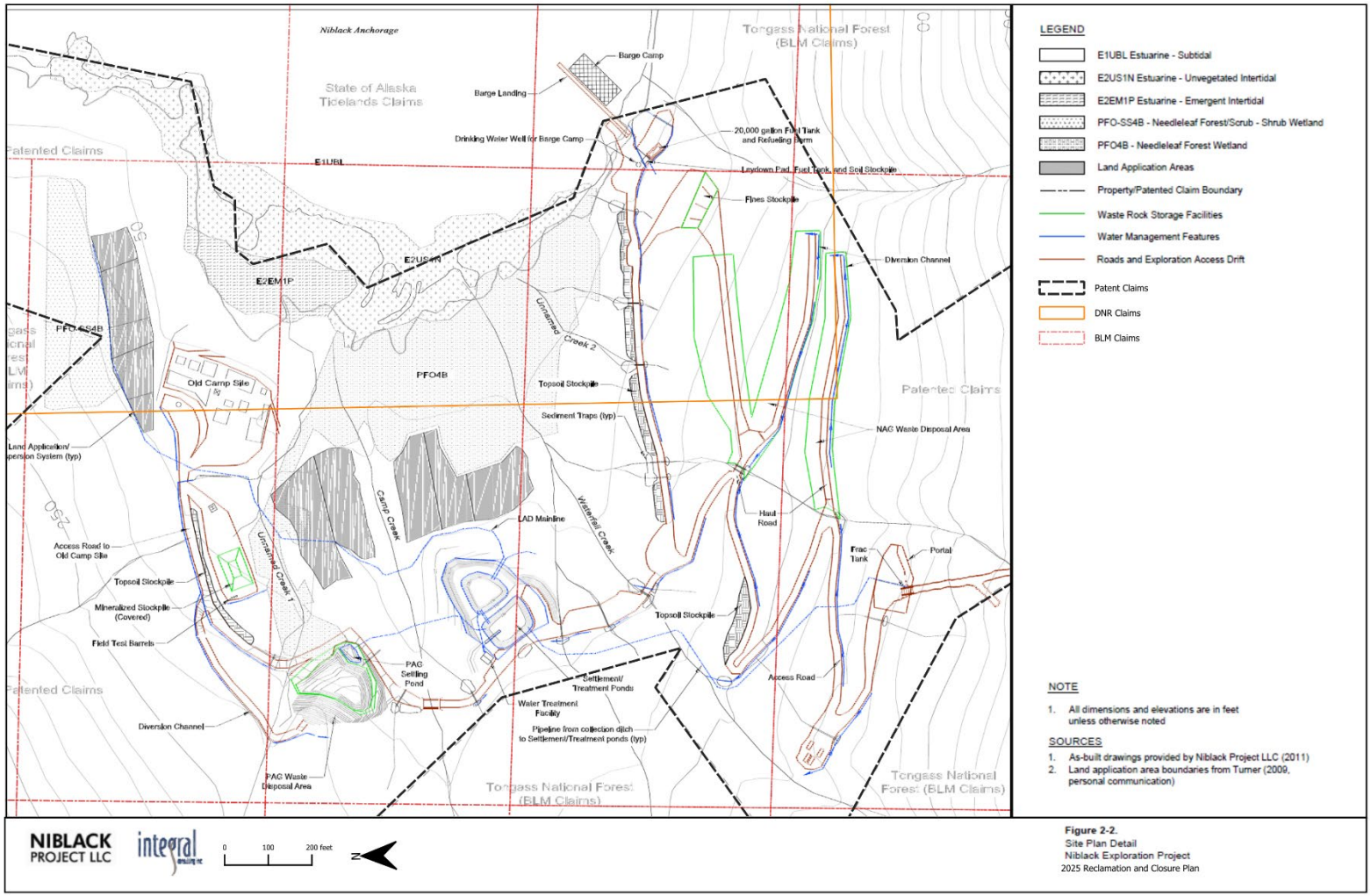


Figure 2-2.
Site Plan Detail
Niblack Exploration Project
2025 Reclamation and Closure Plan

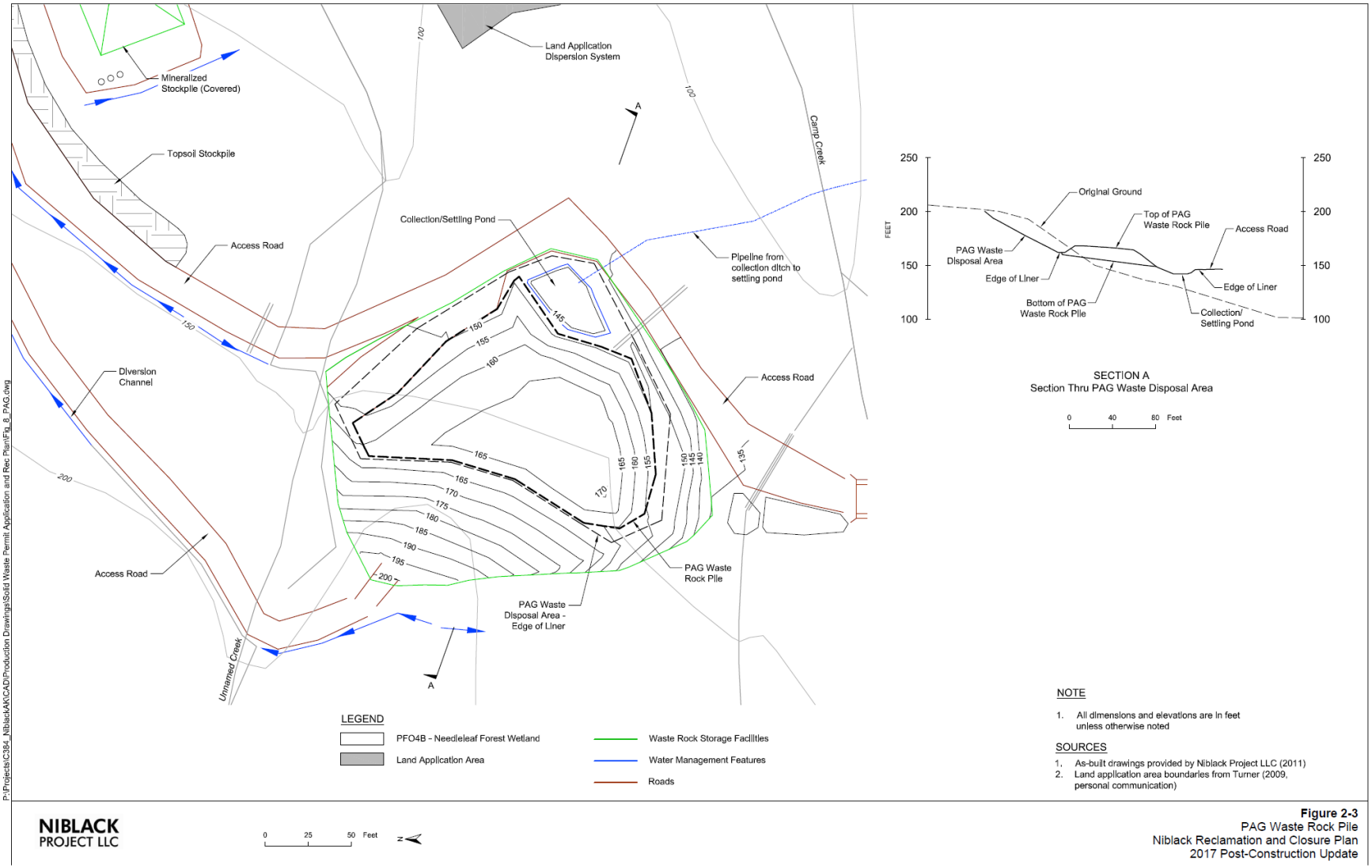
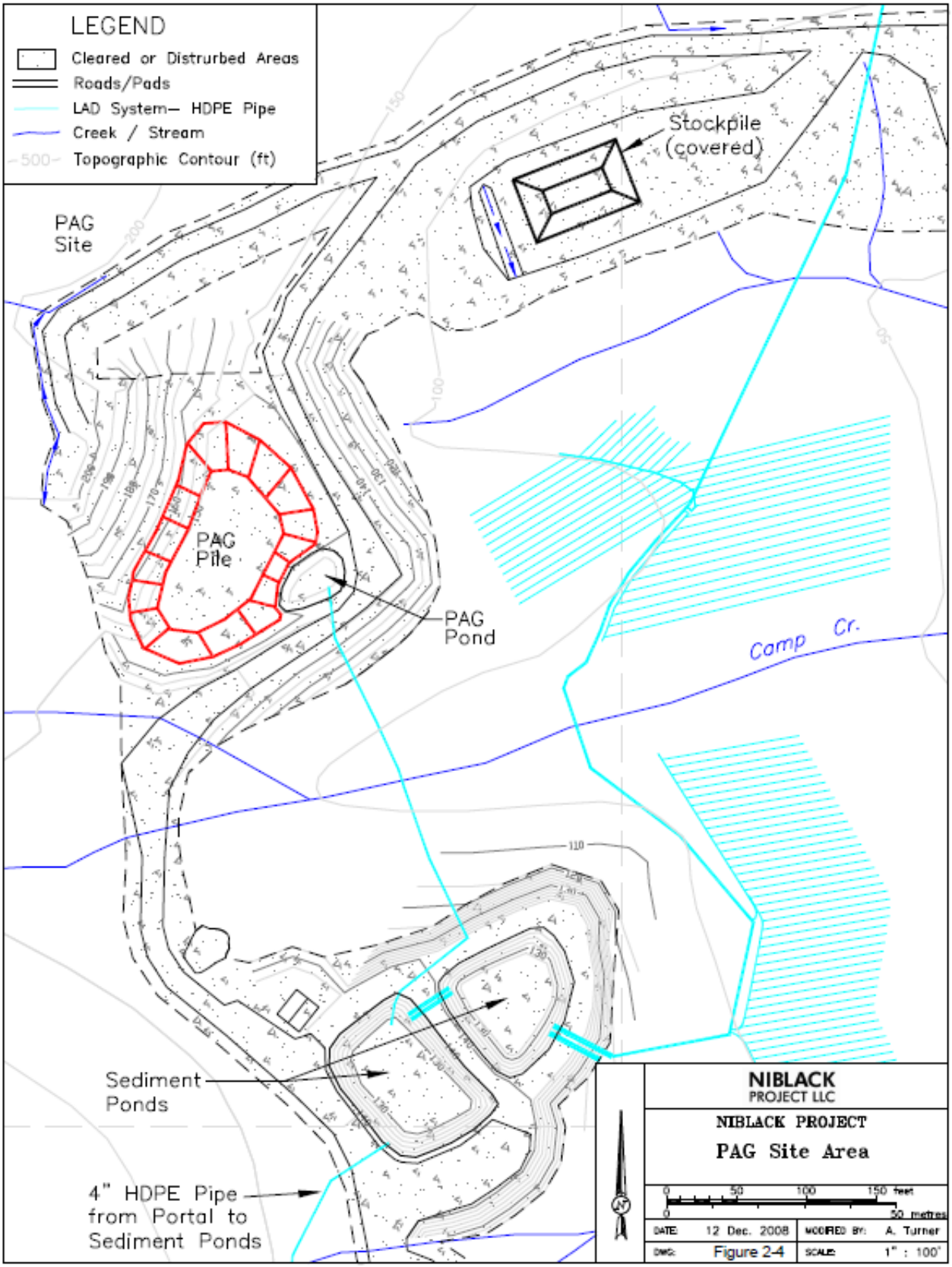
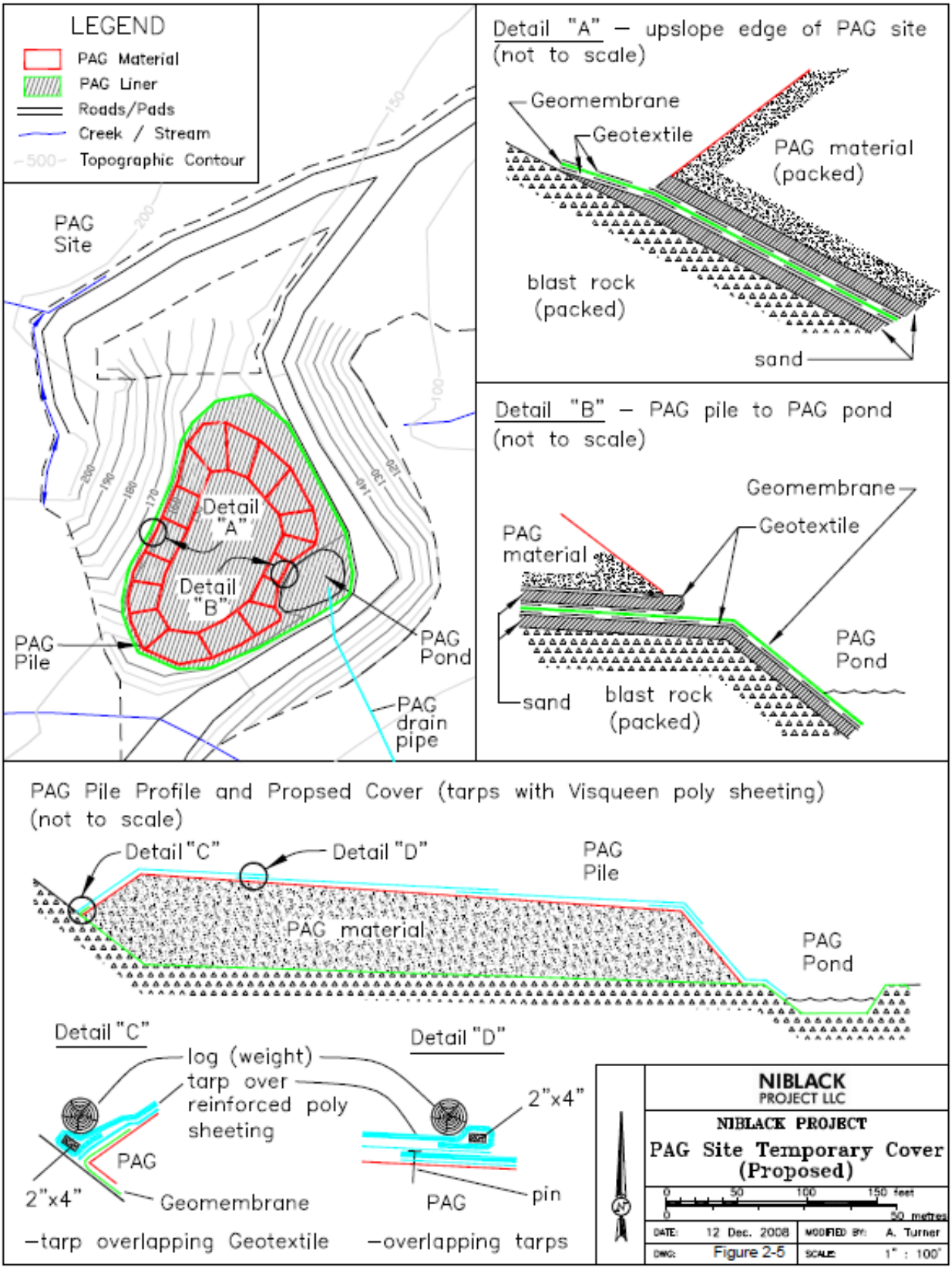
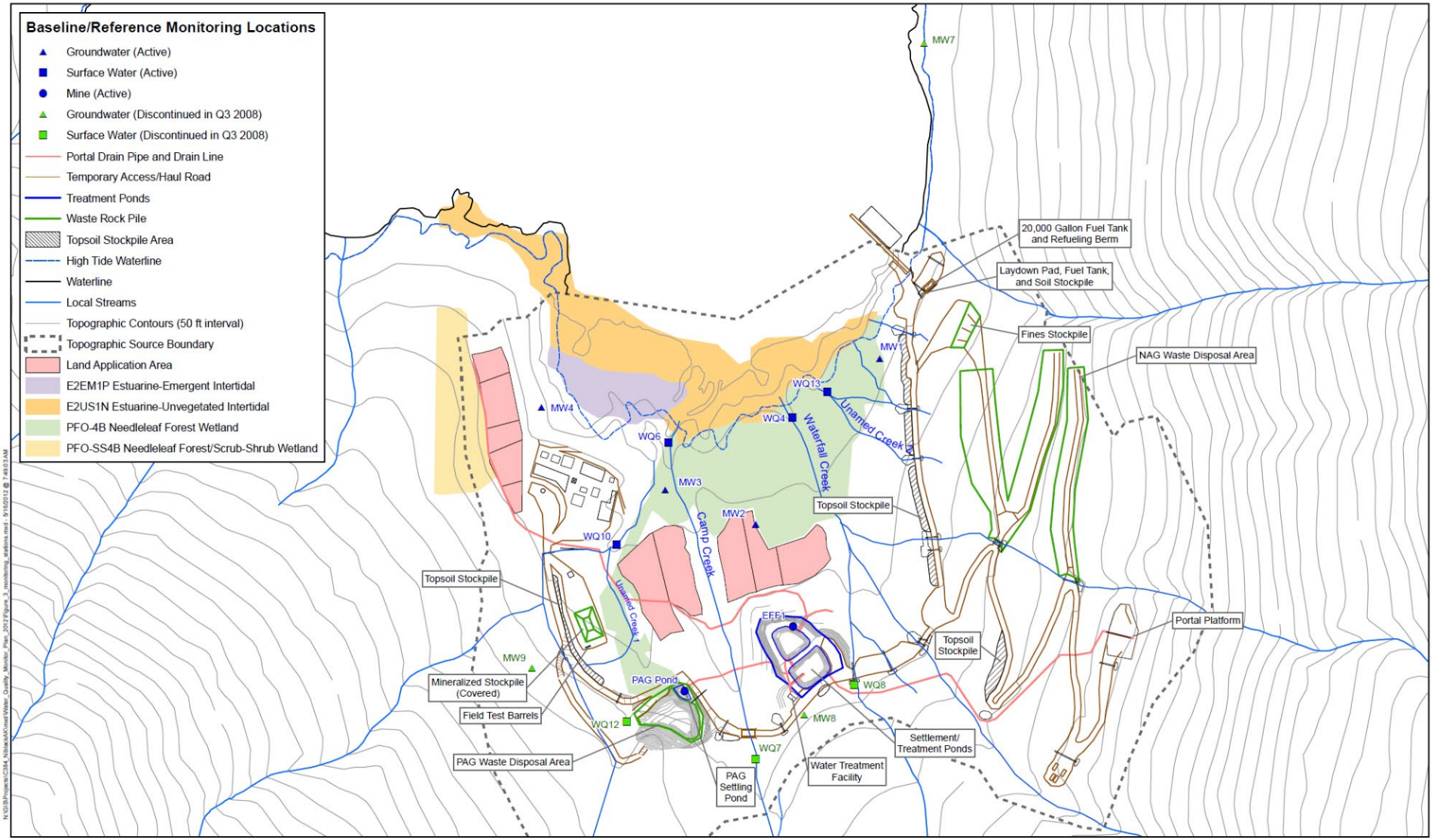


Figure 2-3
PAG Waste Rock Pile
Niblack Reclamation and Closure Plan
2017 Post-Construction Update


LEGEND
Cleared or Distrurbed Areas
Roads/Pads
LAD System– HDPE Pipe
Creek / Stream
500 Topographic Contour (ft)
Stockpile (covered)
PAG Site
PAG Pile
PAG Pond
Camp Cr.
Sediment Ponds
4" HDPE Pipe from Portal to Sediment Ponds
NIBLACK PROJECT LLC
NIBLACK PROJECT
PAG Site Area
0 50 100 150 feet
0 50 metres
DATE: 12 Dec. 2008
MODIFIED BY: A. Turner
DWG: Figure 2-4
SCALE: 1" : 100'

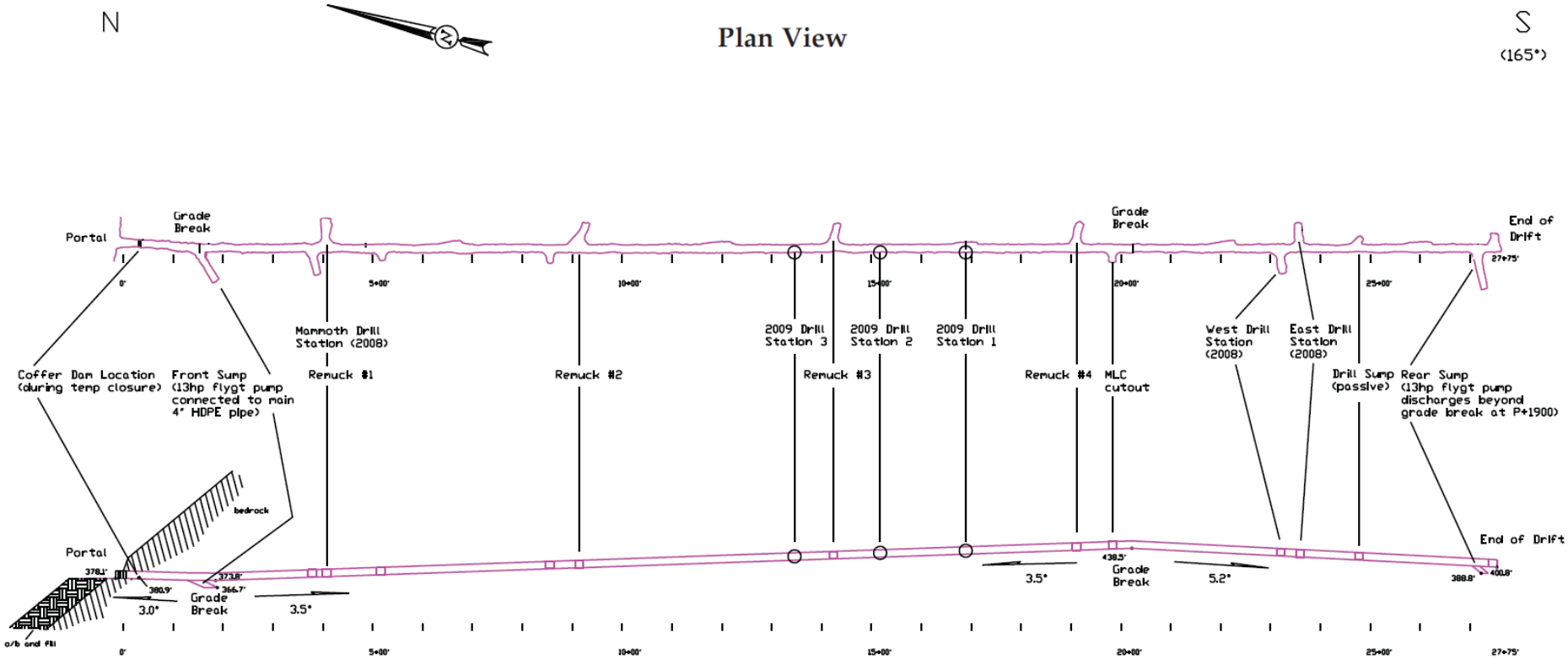

LEGEND
PAG Material
PAG Liner
Roads/Pads
Creek / Stream
Topographic Contour
PAG Site
Detail "A"
Detail "B"
PAG Pile
PAG Pond
PAG drain pipe
Detail "A" – upslope edge of PAG site (not to scale)
Geomembrane
Geotextile
PAG material (packed)
blast rock (packed)
sand
Detail "B" – PAG pile to PAG pond (not to scale)
Geomembrane
Geotextile
PAG material
PAG Pond
sand
blast rock (packed)
PAG Pile Profile and Propsed Cover (tarps with Visqueen poly sheeting) (not to scale)
Detail "C"
Detail "D"
PAG Pile
PAG material
PAG Pond
Detail "C"
log (weight)
tarp over reinforced poly sheeting
PAG
2"x4"
Geomembrane
–tarp overlapping Geotextile
Detail "D"
2"x4"
PAG
pin
–overlapping tarps
NIBLACK PROJECT LLC
NIBLACK PROJECT
PAG Site Temporary Cover (Proposed)
0 50 100 150 feet
0 50 metres
DATE: 12 Dec. 2008
MODIFIED BY: A. Turner
DWG: Figure 2-5
SCALE: 1" : 100'



NIBLACK PROJECT LLC

Feature Sources:
Base layers from Knight Piesold, 2007. Water Quality Baseline and Site Monitoring Plan.
Land Application Area from Turner, 2009. Personal communication.
Waste rock areas, portal drains, roads, and ground cover zones from Niblack Project LLC.

Figure 2-6
Water Quality Monitoring Stations
Niblack Reclamation and Closure Plan
2017 Post-Construction Update



NIBLACK PROJECT LLC

Figure 2-7
Niblack Project Exploration Drift
Plan and Section Views

Scale in Feet
0 50 100 150 200 400
Scale in metres
0 125

DATE:	23 November 2009	MODIFIED BY:	A. Turner
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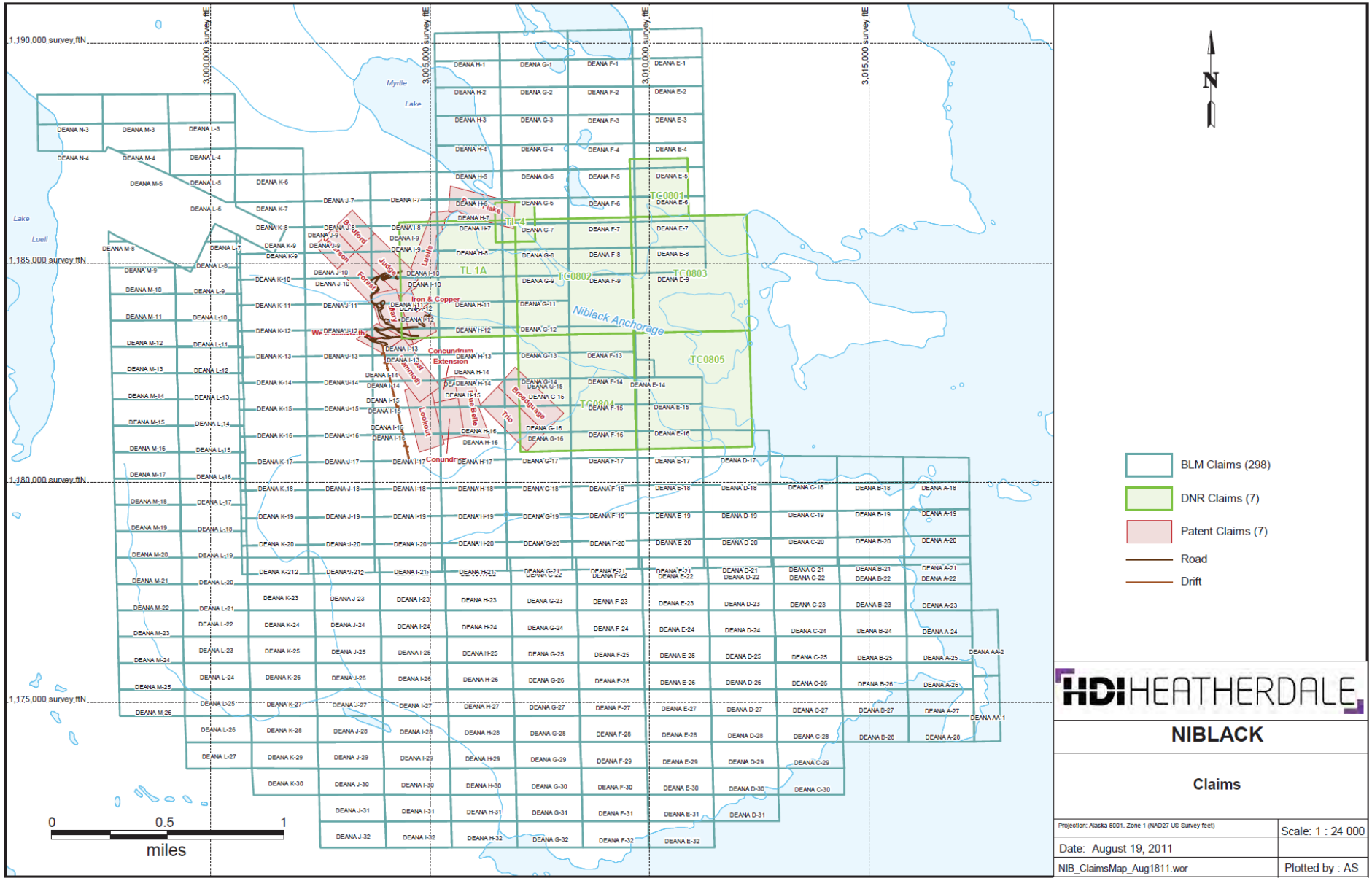


Figure 6-1
Claims Map
Niblack Reclamation and Closure Plan
2025 Post-Construction Update

NIBLACK PROJECT LLC

Tables

Table 2-1. Volumes of Potentially Acid-Generating and Non-Acid-Generating waste Rock Produced during Excavation of the Niblack Exploration Drift

Source: pHase Geochemistry, Vancouver, BC. Monthly Report. December 2011. Uncovered (PAG) Waste Rock Storage Facility, Monitoring Program.

Description	Volume Generated (cubic yards)	Volume Generated (tons)	Drift Length (linear feet)	Number of Blast Rounds	Primary Composition	Notes
PAG Waste Rock	5346	8995	447	39	Sulfide mineralization within the Lookout Rhyolite and related footwall alteration	Stored in temporary PAG facility
Mineralized Ore Stockpile	574	965	48	4	Lookout Rhyolite	Well-mineralized PAG material stockpiled for potential future testing; stored adjacent to temporary PAG facility
NAG Waste Rock	33400	56200	2793	243	Mafic volcanic rocks and mafic dykes	All NAG materials were used in site construction
Totals	39320	66160	3288	286		

Niblack Project, Alaska. Report prepared for Niblack Project LLC. 2/29/2012.

Notes:

NAG = Non-acid generating

PAG = potentially acid generating

Table 3-1: Estimates of Topsoil Requirements for Surface Reclamation

Area Description	2025 Estimates (Updated Based on As-Built Dimensions)		2024 Estimates (Updated Based on As-Built Dimensions)		Notes
	Surface Area to be Reclaimed (acres)	Required Topsoil (cubic yards)*	Surface Area to be Reclaimed (ac.)	Required Topsoil (cubic yards)*	
PAG Temporary Storage Facility	0.82	662	0.82	662	Surface area includes the PAG pile base liner and PAG pond.
Mineralized Ore Stockpile	0.16	126	0.16	126	The mineralized ore stockpile is a covered and lined facility of well-mineralized PAG material reserved for potential future testing; this was not included in 2007 cost estimates.
Portal Platform / Entrance Area	0.25	201	0.25	201	The original design estimate of 0.25 acres was used in the 2017 estimates in order to provide a conservative estimate of required topsoil. The as-built size of the portal platform is 0.0087 ac.
NAG Waste Rock Stockpile Area	2.5	2,040	2.5	2,040	
Water Treatment Facility (Settling Ponds)	0.79	637	0.79	637	
Stormwater Management Features	0.50	403	0.50	403	Features include sediment traps adjacent to access roads. The original design estimate of 0.5 acres was used in the 2017 estimates in order to provide a conservative estimate of required topsoil. The as-built size of the existing sediment traps is 0.1 ac.
Total Topsoil Required	**5.1**	**4,069**	**5.1**	**4,069**	

Notes:
* Based on 0.5 foot average cover
NAG – non-acid-generating
PAG – potentially acid generating
Estimates based on current, post-construction, as-built facility dimensions.

Table 3-2. Seed Mix Proposed for Surface Reclamation

Species	Percent Seed Mixture
Boreal red fescue (Festuca rubra)	30
Nortan tufted hairgrass (Deschampsia caespitosa)	60
Blue joint (Calamogrostis Canadensis)	10

Source: Reclamation and Closure Plan for the Niblack Underground Exploration Project (RTR 2007b)

Table 5-1. Summary of Total Estimated Reclamation Costs, including Reclamation, Mobilization, and Monitoring

Task #	Reclamation Task	2025 Cost	2024 Cost (for Comparison)
Task 1	Relocation of PAG and site reclamation	$ 167,633	$ 201,303
Task 2	Portal closure, plugging, and site reclamation	$ 165,214	$ 153,285
Task 3	Fill placement and grading, final contouring at NAG site	$ 27,511	$ 34,833
Task 4	Reclaim water treatment facilities site and sediment pond	$ 28,500	$ 26,895
Task 5	Reclaim stormwater management system	$ 6,786	$ 8,143
	Equipment mobilization and demobilization	$ 102,100	$ 85,000
	Personnel transport	$ 20,160	$ 16,800
	Equipment standby	$ 2,280	$ 30,990
	Support equipment including barge camp	$ 125,658	$ 134,469
	Subtotal	$ 645,843	$ 691,717
	Liability Insurance (1.5%)	$ 2,117	- 2,711
	Contractor Overhead (7%)	$ 45,209	$ 48,420
	Contractor Profit (8%)	$ 34,240	$ 55,337
	Engineering Design (5%)	$ 32,292	$ 34,586
	Bid Contingency (10%)	$ 64,584	- 69,172
	Scope Contingency (7%)	$ 45,209	$ 48,420
	Agency Oversight (3%)	$ 19,375	$ 20,752
	Contract Performance & Payment Bond (1.5%)	$ 9,688	$ 10,376
	Direct and Indirect Costs Subtotal	$ **898,557**	**$ 981,491**
	Inflation at 3.12% / 3.4% for 5 years	$ 149,199	$ 167,416
Total Tasks 1 through 5		**$ 1,047,756**	**$ 1,148,906**
Task 6	Reclamation and Water Quality Monitoring (including 3.12% / 3.4% inflation per year)	$ 131,949	$ 110,005
	Contingency (5%)	$ 6,597	$ 5,500
	Total Task 6 (including 3.12% / 3.4% inflation per year)	**$ 138,546**	**$ 115,505**
	GRAND TOTAL	**$ 1,186,302**	**$ 1,264,412**

Table 6-1. Patented Claims Controlled by Niblack Project LLC

Patented Claims Controlled by Niblack Project LLC							
Mineral Survey #	**Recording District**	**Claim(s)**	**U.S. Mineral Certificate or U.S. Patent**	**Meridian**	**Township**	**Range**	**Section**
553	Ketchikan[a]	West Mammoth Lode (Mining Claim)	Mineral Certificate 36	Copper River	078S	088E	33
644	Ketchikan	Judge Lode (Mining Claim), Forest Lode (Mining Claim), Iron and Copper Lode (Mining Claim)	Patent 217463	Copper River	078S	088E	28
1437	Ketchikan	Mary Lode (Mining Claim)	Patent 898220	Copper River	078S	088E	NE ¼ 33 / NW ¼ 34

[a] Ketchikan Recording District, First Judicial District, State of Alaksa

Table 6-2: Federal claims in the Niblack project development footprint

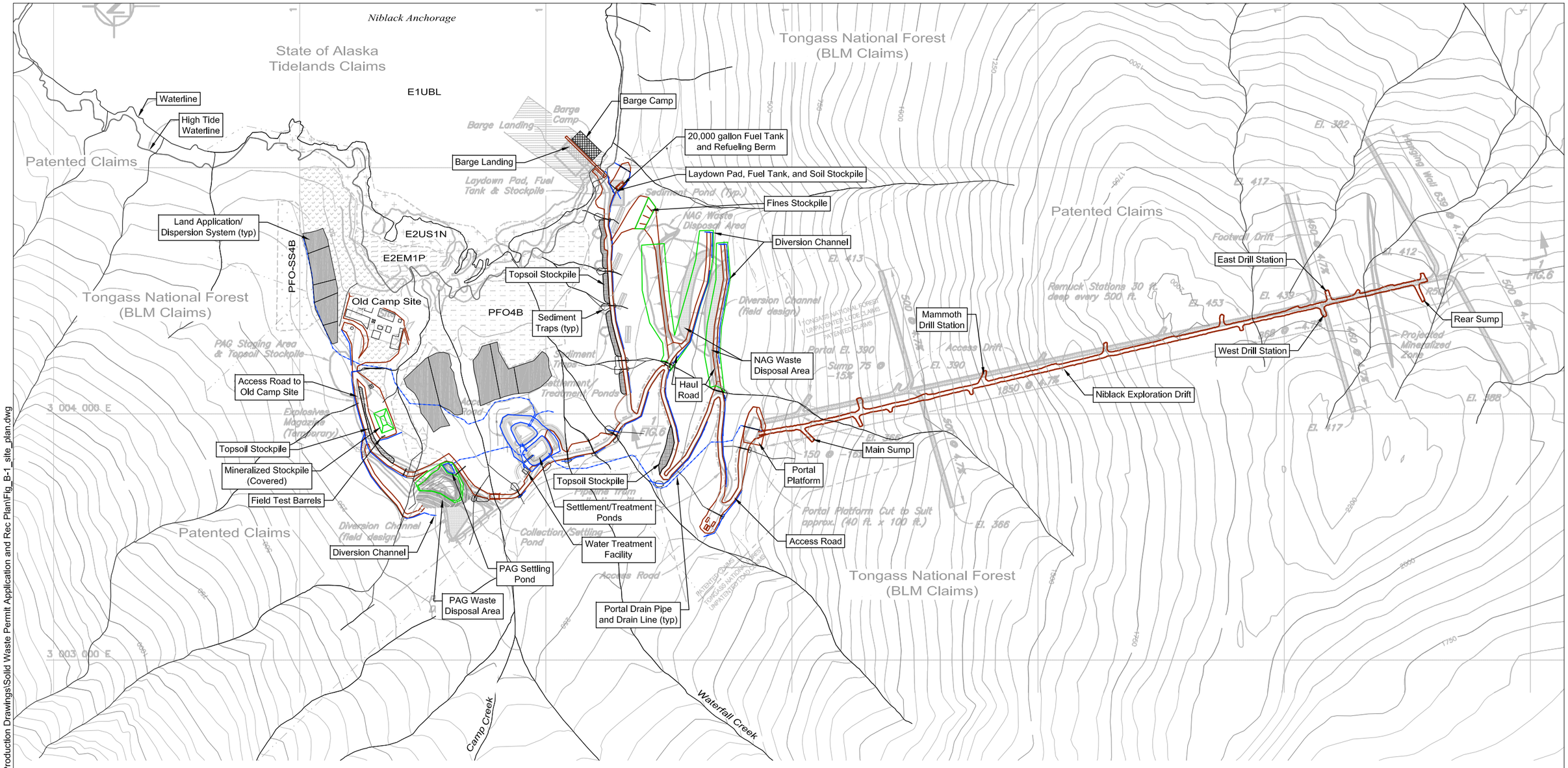
Case Type	Claim Name	Claimant	Claim Number	MTRS
384101	DEANA NO I 10	NIBLACK PROJECT LLC	AKAA 014369	C 78S 88E 34
384101	DEANA NO I 11	NIBLACK PROJECT LLC	AKAA 014370	C 78S 88E 34
384101	DEANA NO 1 12	NIBLACK PROJECT LLC	AKAA 014371	C 78S 88E 34
384101	DEANA NO 1 13	NIBLACK PROJECT LLC	AKAA 014372	C 78S 88E 34
384101	DEANA NO H 12	NIBLACK PROJECT LLC	AKAA 014356	C 78S 88E 34 NW

Table 6-3: State claims in the Niblack project development footprint

Case ID	Claim Name	Customer Name	Map Label	Reference Township Section
ADL 648388	TL 1A	Niblack Project LLC	LL648388	C078S088E34

APPENDIX A

SITE DESIGN PLANS



LEGEND

- E1UBL Estuarine - Subtidal
- E2US1N Estuarine - Unvegetated Intertidal
- E2EM1P Estuarine - Emergent Intertidal
- PFO-SS4B - Needleleaf Forest/Scrub - Shrub Wetland
- PFO4B - Needleleaf Forest Wetland
- Land Application Areas
- Land Application Areas (2007)
- Tideland Lease Area
- Property/Patented Claim Boundary
- 2007 Design Plan (RTR 2007)
- Waste Rock Storage Facilities
- Water Management Features
- Roads and Exploration Access Drift

NOTE

1. All dimensions and elevations are in feet unless otherwise noted

SOURCES

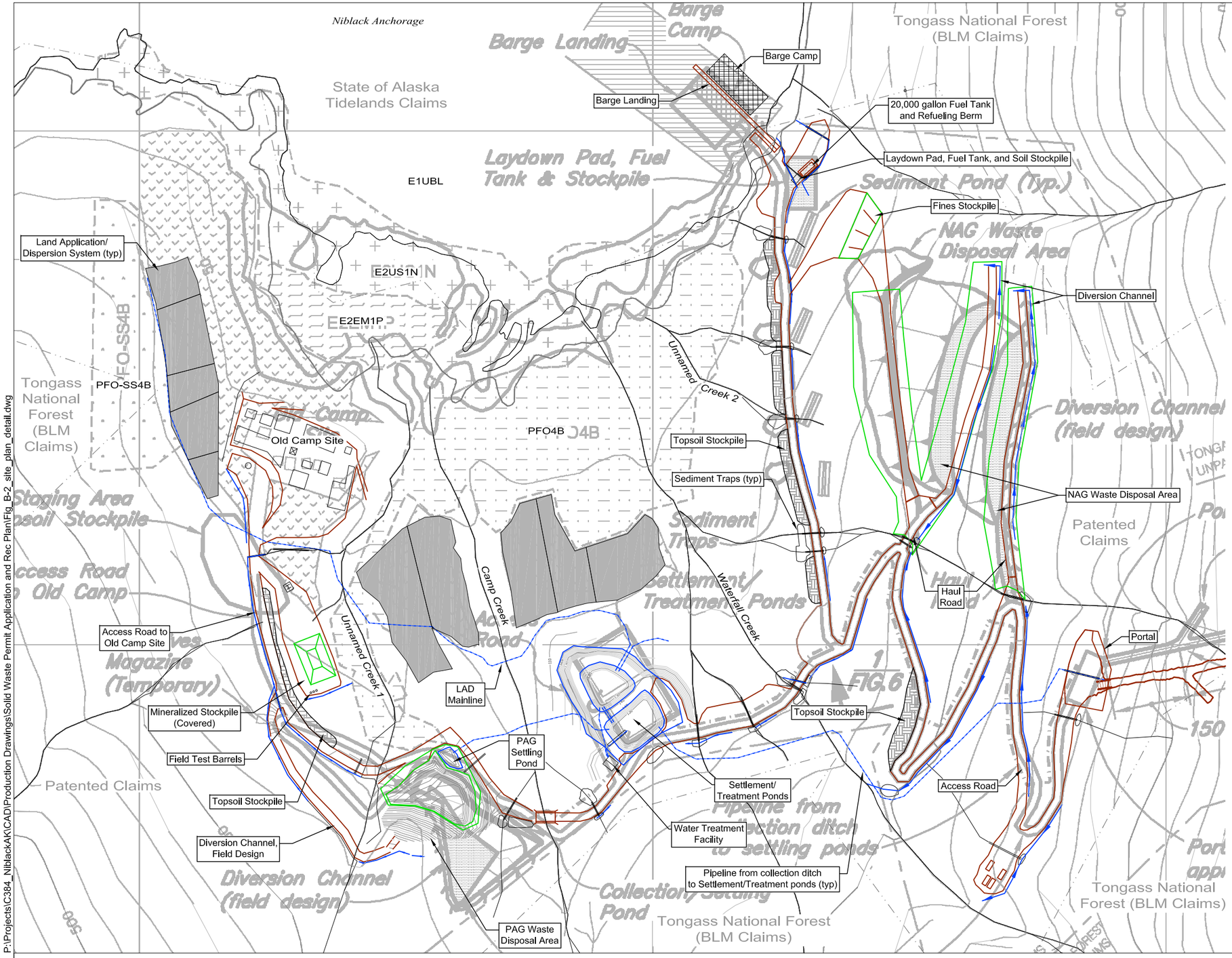
1. Original design drawings reproduced from Figure 2 of the Reclamation and Closure Plan for the Niblack Underground Exploration Project (RTR 2007)
2. As-built drawings provided by Niblack Project LLC (2011)
3. Land application area boundaries from Turner (2009, personal communication)

NIBLACK PROJECT LLC

0 200 400 Feet N

Figure A-1
General Site Plan - As-built Drawings and Design Plan Niblack Reclamation and Closure Plan
2017 Post-Construction Update

P:\Projects\C384_NiblackAK\CAD\Production Drawings\Solid Waste Permit Application and Rec Plan\Fig_B-1_site_plan.dwg



P:\Projects\C384_NiblackAK\CAD\Production Drawings\Solid Waste Permit Application and Rec Plan\Fig_B-2_site_plan_detail.dwg

NOTE

1. All dimensions and elevations are in feet unless otherwise noted

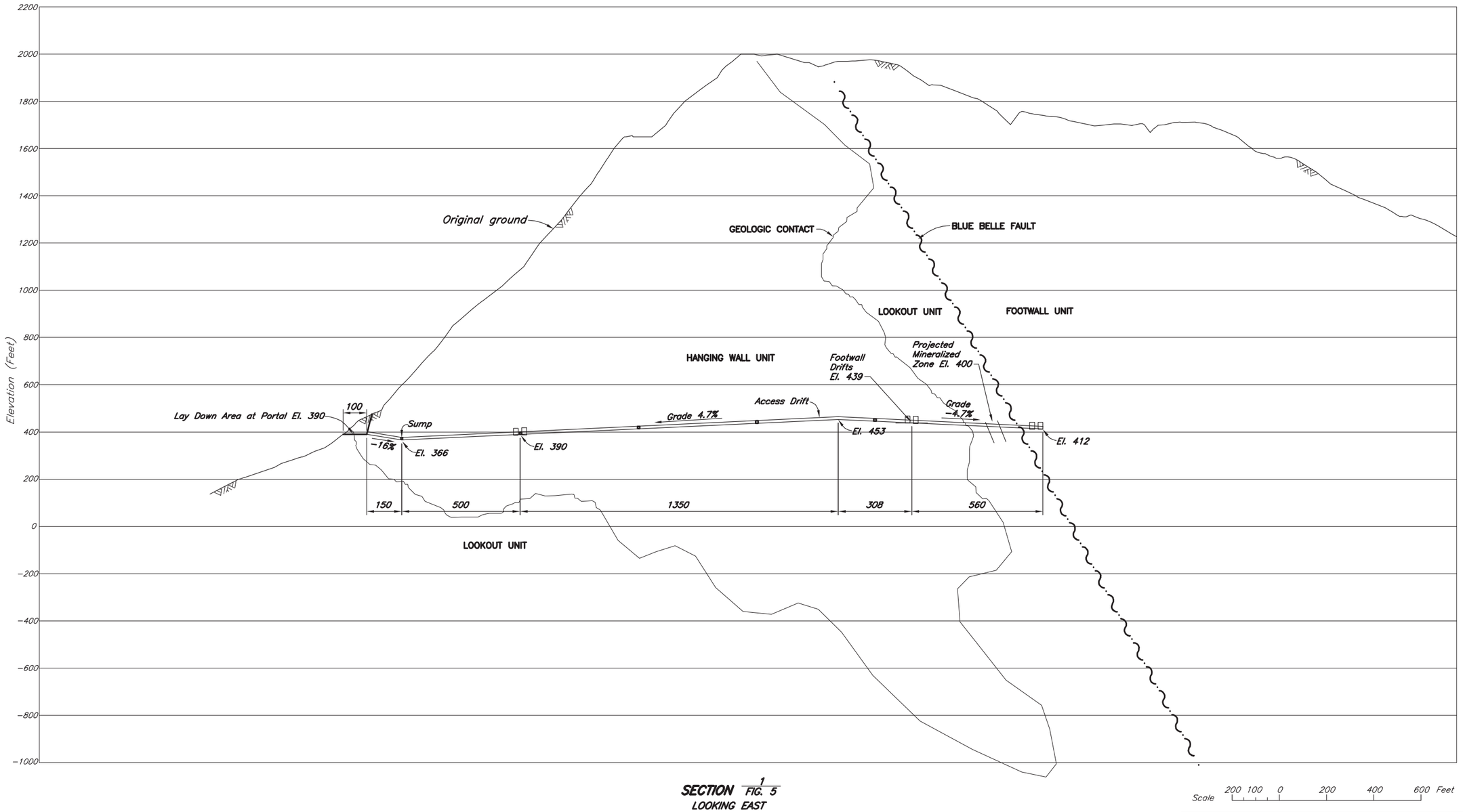
SOURCES

1. Original design drawings reproduced from Figure 2 of the Reclamation and Closure Plan for the Niblack Underground Exploration Project (RTR 2007)
2. As-built drawings provided by Niblack Project LLC (2011)
3. Land application area boundaries from Turner (2009, personal communication)

NIBLACK PROJECT LLC

0 100 200 Feet N

Figure A-2
Site Plan Detail - As-built Drawings and Design Plan
Niblack Reclamation and Closure Plan
2017 Post-Construction Update



SECTION 1 / FIG. 5
LOOKING EAST

NOTES

1. This figure produced from information provided by Beacon Hill Consultants (1988) Ltd.
2. All dimensions and elevations are in feet unless otherwise noted.

NIBLACK MINING CORP.	
PROPOSED EXPLORATION PROGRAM	
PROPERTY SECTION	
Knight Piésold CONSULTING	PROJECT/ASSIGNMENT NO. VA102-205/2 · REF. NO. VA07-00494 · FIGURE 6 · REV. 0

REV. 0 | 13APR'07 | ISSUED IN FINAL

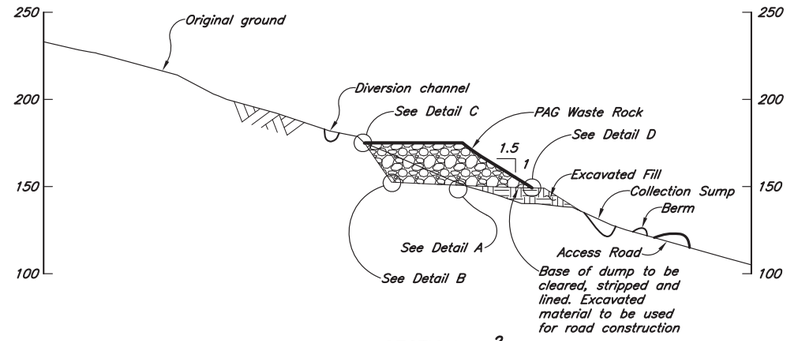
XREF FILE :

VANCOUVER B.C. CAD FILE: M:\1\02\05205\02\A\Acad\Figs\BB1.dwg 1"=400' PLOT T=1(PS) Apr 12, 2007 by:shbar

NIBLACK PROJECT LLC

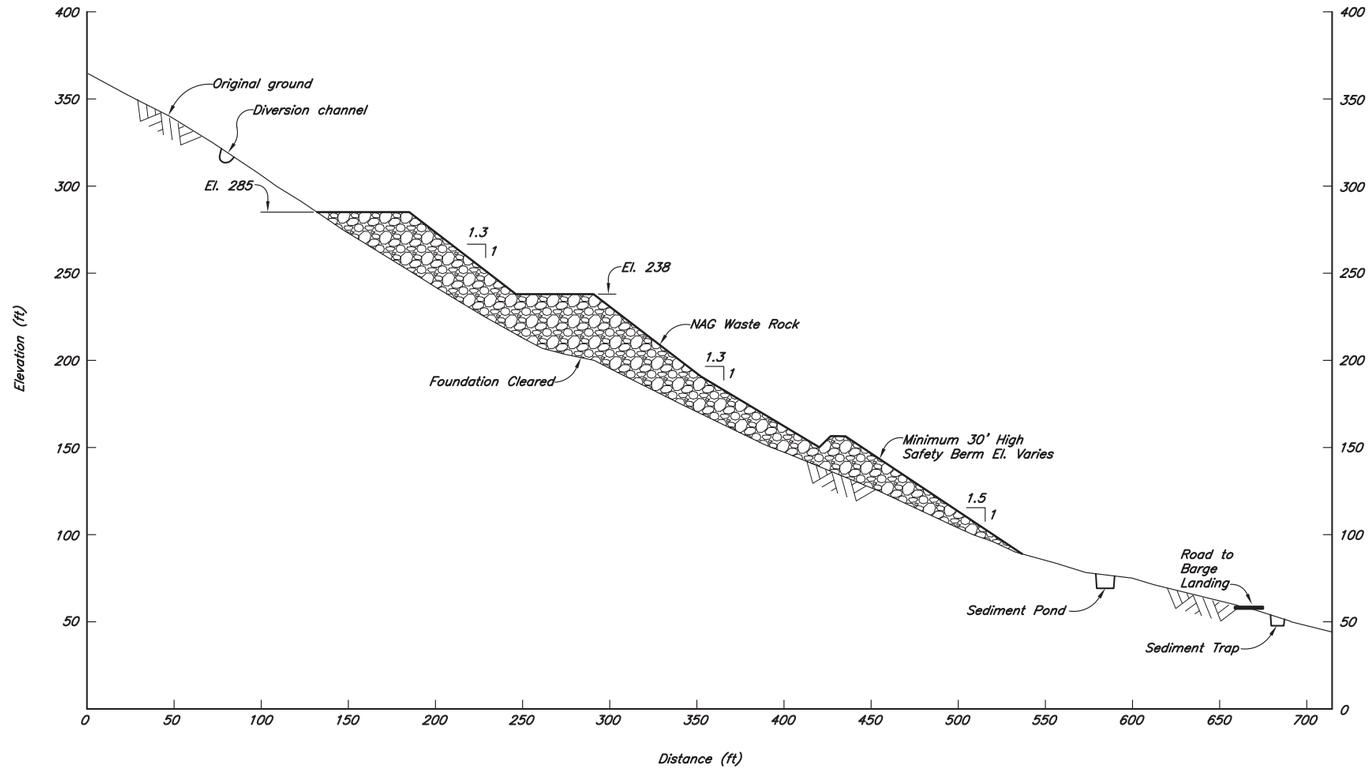
Source: NMC 2007a

Figure A-3
Property Section
Niblack Reclamation and Closure Plan
2017 Post-Construction Update



SECTION 2/FIG.2

SECTION THRU PAG WASTE ROCK DUMP



SECTION 3/FIG. 2

SECTION THRU NAG WASTE ROCK DUMP

NOTE

1. All dimensions and elevations are in feet unless otherwise noted.

Scale 40 0 40 80 120 Feet

CAD FILE: M:\1\02\00205\02\A\cad\Figs\BF76.dwg 1"=80' PLOT T=1(PS) Apr 12 2007 bgrashizar

VANCOUVER B.C.

XREF FILE :

REV.	DATE	ISSUED
0	13APR'07	ISSUED IN FINAL

NIBLACK MINING CORP.

PROPOSED EXPLORATION PROGRAM

CROSS-SECTIONS OF NAG & PAG WASTE ROCK STORAGE FACILITIES

Knight Piésold CONSULTING

PROJECT/ASSIGNMENT NO.	REF. NO.
VA102-205/2	VA07-00493
FIGURE 5	REV. 0

NIBLACK PROJECT LLC

Source: NMC 2007a

Figure A-4
Cross-Sections of NAG & PAG Waste Rock Storage Facilities
Niblack Reclamation and Closure Plan
2017 Post-Construction Update

APPENDIX B

PROJECT RECLAMATION COST ESTIMATE

1 NIBLACK PROJECT RECLAMATION COST ESTIMATES

This appendix summarizes assumptions and background information used to develop costs estimates for future reclamation and closure of the Niblack Exploration Project. The cost estimates presented herein update the cost estimates provided in the Niblack Reclamation and Closure Plan, 2017 Post-Construction Update (NPLLC 2017), and Niblack Reclamation and Closure Plan 2012 Post-Construction Update (Integral 2012b), Appendix 6 to the Underground Exploration Plan of Operations (Integral 2012a). The original reclamation and closure plan was approved on June 29, 2007 (ADNR 2007) and a renewal was approved Aug 23, 2012 (ADNR 2012). A subsequent renewal was approved on May 1, 2018 (ADNR 2018), and on March 2, 2023 an administrative extension was granted for the 2018 RPA until April 30, 2025. Along with this extension, it was stated that an updated financial cost estimate would be submitted by April 30, 2024 and a reclamation plan submission would be submitted no later than March 14, 2025 (Buckley 2023, pers. Comm). An updated financial assurance cost estimate was provided to ADNR on April 9, 2024 (Neale 2024, pers. Comm.). As there have been no significant changes to project infrastructure, and thereby reclamation tasks, updates to the 2017 plan provided herein reflect updates to fuel, labor, materials, and analytical and other costs to reflect current market values. The volume of PAG material, and associated costs have been updated to reflect the underground workings constructed to date.

The current phase of underground development on the Niblack Exploration Project was initiated by Niblack Mining Corporation on September 21, 2007, and was completed on July 12, 2008. As indicated on post-construction as-built drawings and information compiled by Niblack Exploration Project onsite staff, the site structures and facilities have been constructed in general accordance with the original design plans as presented in the Underground Exploration Plan of Operations (NMC 2007b); deviations from original design proposals were minimal. The updated cost estimate for reclamation and closure presented herein is largely based on the same assumptions and criteria outlined in the Reclamation and Closure Plans (RTR 2007; Integral 2012b). Updates to selected costs (e.g., fuel, labor, materials and analytical expenses) have been made, as appropriate. No additional expansion of the underground workings is anticipated at this time. However, if future expansion does occur, the site design plans presented in the original Niblack Solid Waste Landfill Application under the Waste Management Plan 2013-DB0001 (ADEC 2013) and the Underground Exploration Plan of Operations 2012 Post-Construction Update (Integral 2012a) will be followed, and an updated Reclamation and Closure Plan will be submitted. Accordingly, the tables presented in this appendix provide an up-to-date cost estimate, as well as the 2024 costs for comparison purposes.

Table B-2 summarizes total estimated reclamation costs. Tables B-3 through B-6 provide equipment, fuel, labor, material, camp, and mobilization/demobilization costs with an itemized breakdown for each reclamation Task 1-5. A single wage rate ($78.79 per hour) for Group I Power Equipment Operators was used for estimating purposes based on the September 2024 Pamphlet 600 guidance (ADOLWD 2024), and is assumed to include $50.39 per hour base salary,$11.75 per hour for health and welfare, $15.50 per hour for pension fund, $1.05 per hour for training, and $0.10 per hour for labor / management fund. To the extent practical, the estimate reflects actual site conditions, topography, and equipment and utilization factors that are representative of southeast Alaska. Table B-7 and B-8 provide itemized breakdowns for Task 6.

1.1 TASK 1 – PAG FACILITY (WASTE ROCK RELOCATION AND SITE RECLAMATION)

All of the PAG material stored at the Niblack Project site will be placed back underground at the southern-most segment of the adit. The cost estimates are based on a total volume of 5,920 yd^3, which includes 5,346 yd^3 of PAG material stored at the engineered temporary storage facility and 574 yd^3 of well-mineralized ore that was placed in a lined and covered storage stockpile adjacent to the temporary PAG facility. At this time, additional excavation and generation of waste rock material is not anticipated. Any future expansion of the underground workings will be addressed in an update to this Reclamation and Closure Plan. Reclamation design plans (RTR 2007) specify that material would be hauled from the PAG site to the southern end of the adit in underground haul trucks and end-dumped. An underground load-haul-dump (LHD) unit would pick up the PAG material, move it to the end of the adit, and pack it tight. The longest distance from the PAG site to the back of the adit was used in the cost estimates; this length is approximately 5,600 ft (2,800 ft from the PAG site to the portal and 2,800 ft for the full length of the drift). A 30-minute roundtrip is estimated, based on a haul truck traveling at 6 mph with loading/unloading taking a total of 10 minutes. Other activities include removal of the HDPE liner and disposal underground or recycling; recontouring, placing topsoil, and seeding the PAG site; and cleaning and stabilizing the stormwater conveyance system.

1.2 TASK 2 – PORTAL CLOSURE INCLUDING ADIT PLUG

The 14.5 ft x 13 ft adit, involving approximately 2800 linear ft of main drift (with potential for expansion up to 6,000 ft), will be closed after the backfill is complete, using a concrete plug in the adit and pushed NAG material (about 250 yd^3) at the portal. The plug zone would be approximately 16 ft long and excavated 2 ft oversize (nominally 18.5 ft x 17 ft). Both ends of the plug would be formed, and concrete would be batched onsite and pumped between the forms. The oversized plug “zone” would be grouted to limit ground groundwater flow past the plug. The portal entrance/laydown area, which involves about 0.25 acre, would be cleared of all buildings and/or appurtenances and utilities. The area would then be topsoiled and broadcast seeded and the stormwater conveyance material network would be stabilized for long- term stormwater management. Because of rough terrain, restricted access, and relatively small acreage of disturbance of areas being reclaimed, it has been assumed handseeders will be used to spread seed.

1.3 TASK 3 – NAG SITE RECLAMATION

The NAG storage site must remain stable at closure and in a final form that blends into the local topography. It is understood that the majority of all NAG material generated by exploration activities was used in construction of roads and facilities.[1] Prior to closure, NPLLC will evaluate the actual closure configuration, considering the final volume of rock deposited in the facility. Limited final grading is contemplated, given the bottom up construction approach.
Any final grading may include a midslope bench to reduce the length of continuous slopes. Natural succession and some peripheral seeding will be the focus of the revegetation program, given the final slope angle. Graded rock will be covered with an average of 6 in. of topsoil.

1.4 TASK 4 – WATER TREATMENT FACILITY AND SEDIMENT POND RECLAMATION

At closure, the site water treatment/settling ponds and PAG leachate capture pond would be filled. Prior to filling, the geosynthetic liners would be cut, folded, and sealed in place. Fill material from the NAG pile would be used. The NAG pile is located 0.125 mile from the settling ponds, and the roundtrip is estimated

to take 15 minutes, based on a haul truck traveling at 6 mph and taking 10 minutes to load/unload. Drip emitter lines, piping conveyance, and all other appurtenances and utilities would be removed from the area for reuse, and/or demolition and shipment offsite. The settling pond areas would then be regraded and topsoil applied, followed by seeding.

1.5 TASK 5 – STORMWATER MANAGEMENT AREAS

Stormwater capture, conveyance, settling, and dispersion structures downgradient of the NAG site will be reclaimed following stabilization of the reclaimed NAG waste pile. On a conservative basis, this acreage is estimated at 0.5 acre. Reclamation activity would include placement of the originally excavated topsoil (stored near the barge camp) back in the sediment traps, followed by grading. This work would be completed by backhoe. Protection from erosion and sedimentation is a fundamental objective. Therefore, native species of grasses will be re-established.

1.6 TASK 6 – POST-RECLAMATION MONITORING AND MAINTENANCE

The post-closure water monitoring schedule includes visual monitoring and biannual water quality sampling at four groundwater wells and two surface water stations in years 1 and 2. Additional water quality sampling will be conducted at one groundwater well and two surface water stations once annually in years 5, 10, 20 and 30. Additionally, if the closed adit fills and water discharges from the portal, post-closure monitoring of the discharge water is required for years 1, 2, 5, 10, and 30.

Soil and vegetation monitoring will also include all reclaimed areas (site-wide), with inspections and maintenance activities planned during years 1, 2, and 3 during the post-closure period.
This program will focus on monitoring reclaimed areas for vegetation success and identifying and correcting any erosion problems. Vegetation surveys will be completed during each year to evaluate revegetation success criteria.

[1] Note that this reclamation and closure plan assumes that sufficient volumes of NAG material will be available for reclamation purposes (e.g., filling of the settling ponds). For the purpose of estimating conceptual closure costs, it has been assumed that, at closure, the site will contain rock which will provide a readily available source of clean fill.

2 REFERENCES

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Misty Fjords Air and Outfitting Inc. 2025. Personal communication (invoice dated March 25, 2025 to Niblack Project LLC for personnel transport via float plane from Ketchikan to Niblack Mine Site and from Niblack Mine Site to Ketchikan). Misty Fjords Air and Outfitting Inc. Ketchikan, AK.

Neale, S. 2024. Personal communication (letter to S. Buckley, dated April 9, 2024, regarding updated financial assurance cost estimate for Reclamation Plan Approval (J20182711RPA)). Niblack Project LLC. Vancouver, BC, Canada.

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TABLES

Table B-1. Niblack Exploration Project Conceptual Reclamation Schedule

Task Name	Duration *	Start	Finish
Task 1: Relocation of PAG Material and Reclaim Site (14,300 CYD)	**19 days**	**1-Jun**	**26-Jun**
Load haul trucks (Kobelco WLK25 loader)	12 days	1-Jun	13-Jun
Haul PAG rock from PAG site to ~6.000 ft. underground (2 - EJC 522 trucks)	12 days	1-Jun	13-Jun
Place PAG rock underground (6 cyd mucker w/ejector bucket)	12 days	1-Jun	13-Jun
Remove HDPE liner (Kobelco WLK25 loader)	1 day	13-Jun	14-Jun
Haul HDPE liner underground (2 - EJC 522 trucks)	1 day	13-Jun	14-Jun
Recontour site/restore stormwater conveyance (John Deere 200C Excavator)	4 days	20-Jun	24-Jun
Place topsoil (John Deere 200C Excavator)	1 day	25-Jun	26-Jun
Seeding	4 hrs	26-Jun	26-Jun
Task 2: Portal Closure Including Adit Plug	**25 days**	**14-Jun**	**16-Jul**
Remove mine utilities	4 days	14-Jun	18-Jun
Plug site excavation	4 days	18-Jun	22-Jun
Construct forms	4 days	22-Jun	26-Jun
Place concrete	1 day	26-Jun	27-Jun
Grout perimeter of plug	6 days	30-Jun	6-Jul
Load NAG fill and topsoil (Kobelco WLK25 loader)	1 day	6-Jul	7-Jul
Haul NAG fill and topsoil (JCB 714 dump truck)	1 day	7-Jul	8-Jul
Backfill portal (John Deere 200C Excavator)	1 day	14-Jul	15-Jul
Place topsoil (John Deere 200C Excavator)	1 day	15-Jul	16-Jul
Seeding	2 hrs	16-Jul	16-Jul
Task 3: Fill Placement and Grading, Final Contouring at NAG Site	**16 days**	**30-Jun**	**17-Jul**
Final grading (John Deere 200C Excavator)	12 days	30-Jun	12-Jul
Place topsoil (John Deere 200C Excavator)	2 days	12-Jul	14-Jul
Seeding	1 day	15-Jul	16-Jul
Silt fence	1 day	16-Jul	17-Jul

Table B-1. Niblack Exploration Project Conceptual Reclamation Schedule

Task Name	Duration *	Start	Finish
Task 4: Reclaim Water Treatment Facilities and Sediment Pond Areas	**10 days**	**15-Jun**	**30-Jun**
Remove and dispose of surface facilities (Kobelco WLK25 loader)	2 days	15-Jun	17-Jun
Load NAG fill material and topsoil (Kobelco WLK25 loader)	4 days	20-Jun	24-Jun
Haul NAG fill material and topsoil (JCB 714 dump truck)	4 days	20-Jun	24-Jun
Recontour site (John Deere 200C Excavator)	3 days	26-Jun	29-Jun
Place topsoil (John Deere 200C Excavator)	1 day	29-Jun	30-Jun
Seeding	3 hrs	30-Jun	30-Jun
Task 5: Stormwater Conveyance and Settling Ponds Below NAG Site	**3 days**	**16-Jul**	**19-Jul**
Recontour sites replace topsoil (John Deere 200C Excavator)	3 days	16-Jul	19-Jul
Seeding	6 hrs	19-Jul	19-Jul
Equipment on Site	**52 Days**	**30-May**	**20-Jul**
Barge Camp	52 Days	30-May	20-Jul
3/4 ton pick-up truck	52 Days	30-May	20-Jul
Generator/Fans/Compressor	52 Days	30-May	20-Jul
(2) EJC Underground haul trucks (22 tons)	17 Days	30-May	15-Jun
Jacklegs/misc. underground tools and equipment	52 Days	30-May	20-Jul
6 cyd mucker (w/ejector bucket)	17 Days	30-May	15-Jun
Reed concrete pump (40 cyd/hour)	33 Days	18-Jun	20-Jul
Grout pump	33 Days	18-Jun	20-Jul
Kobelco WLK25 loader (3 1/2 cyd bucket)	52 Days	30-May	20-Jul
John Deere 200C Excavator (1 1/2 cyd bucket)	33 Days	18-Jun	20-Jul
JCB 714 dump truck (9 1/2 cyd box)	33 Days	18-Jun	20-Jul

Notes:

* This conceptual site reclamation schedule has been adjusted to reflect actual unit weight PAG rock, and volumes brought to surface to date. Otherwise, all other task durations and general sequence of activities remains similar to and based on the 2007 Reclamation Plan (RTR 2007).
* Start and Finish Dates are based on a typical summer construction season. A final closure plan and schedule will be prepared prior to site closure.

Table B-2. Summary of Total Estimated Reclamation Costs, including Reclamation, Mobilization, and Monitoring

Task Number	Reclamation Task	2025 Estimates*	2024 Estimates (Presented for Comparison Purposes)
Task 1	Relocation of PAG Material and Reclaim Site	$ 167,633	$ 300,753
Task 2	Portal Closure Including Adit Plug	$ 165,214	$ 167,911
Task 3	Fill Placement and Grading, Final Contouring at NAG Site	$ 27,511	$ 33,283
Task 4	Reclaim Water Treatment/Settling Pond Areas	$ 28,500	$ 29,921
Task 5	Stormwater Management Area Reclamation	$ 6,786	$ 8,026
	Equipment Mob/Demob	$ 102,100	$ 85,000
	Personnel transport	$ 20,160	$ 19,200
	Equipment standby	$ 2,280	$ -
	Support equipment including barge camp	$ 125,658	$ 134,153
	Direct Costs Subtotal	**$ 645,843**	**$ 691,717**
	Liability Insurance (1.5%)	$ 2,117	$ 2,850
	Contractor Overhead (7%)	$ 45,209	$ 54,477
	Contractor Profit (8%)	$ 34,240	$ 37,843
	Engineering Design (5%)	$ 32,292	$ 38,912
	Bid Contingency (10%)	$ 64,584	$ 77,825
	Scope Contingency (7%)	$ 45,209	$ 54,477
	Agency Oversight (3%)	$ 19,375	$ 23,347
	Contract Performance & Payment Bond (1.5%)	$ 9,688	$ 11,674
	Direct and Indirect Costs Subtotal	**$ 898,557**	**$ 1,079,653**
	Inflation (3.1%/3.4% per year for 5 years)	$ 149,199	$ 196,453
	TOTAL TASK 1 THROUGH TASK 5	**$ 1,047,756**	**$ 1,276,106**
Task 6	Reclamation and Water Quality Monitoring Surveys:		
	Year 1		
	Reclamation/revegetation monitoring	$ 6,605	$ 6,713
	Water quality sampling	$ 18,501	$ 18,804
	Year 2		
	Reclamation/revegetation monitoring	$ 6,811	$ 6,942
	Water quality sampling	$ 19,078	$ 19,443
	Year 3		
	Reclamation/revegetation monitoring	$ 7,024	$ 7,178
	Year 5		
	Reclamation/revegetation monitoring	$ 7,469	$ 7,674
	Water quality sampling	$ 11,251	$ 11,560
	Year 10		
	Water quality sampling	$ 13,119	$ 13,664
	Year 20		
	Water quality sampling	$ 17,838	$ 19,089
	Year 30		
	Water quality sampling	$ 24,253	$ 26,668
	TOTAL TASK 6 (including 3.1%/3.4% inflation per year)	**$ 131,949**	**$ 137,735**
	Contingency (5%)	$ 6,597	$ 6,887
	TOTAL TASK 6 (incl. inflation and contingency)	**$ 138,546**	**$ 144,622**
	GRAND TOTAL	**$ 1,186,302**	**$ 1,420,728**

Notes:

* 1.5% Liability Insurance
* 7% Contractor Overhead and 8% Contractor Profit. The contractor profit is applied to the direct subtotal, minus equipment cost, since the equipment rates already include profit.
* 10% Bid Contingency and 7% Scope Contingency on direct reclamation costs included as per ADNR Guidelines.
* 5% contingency on post-closure monitoring costs (Task 6) used in 2012 (Integral 2012b) retained for this estimate.
* 2024 estimates based on 2012 (Integral 2012b) design plan estimates of material volumes generated and post-construction as-built facility dimensions.
* 2024 estimates based on current (2024) labor and fuel rates, as well as confirmed all inclusive contractor equipment rates.
* 2025 estimates based on 2024 estimates with updates to PAG volumes to reflect current development of underground workings, and updated labor and inflation rates.

Table B-3. Materials Costs for Portal Closure and Adit Plug (Task 2)

	2025 Cost Estimates *				2024 Cost Estimates	
	Materials				Materials	
	Quantity (units)	Units	Unit Rate ($/unit)	Cost ($)	Unit Rate ($/unit)	Cost ($)
Plug site excavation						
bits and steel	1	lump sum	$ 616	$ 616	$ 616	$ 616
explosives	155	rock tons	$ 4.5	$ 698	$ 4.5	$ 698
ground support	1	lump sum	$ 493	$ 493	$ 493	$ 493
misc.	1	lump sum	$ 1,232	$ 1,232	$ 1,232	$ 1,232
TOTAL				**$ 3,038**		**$ 3,038**
Construct forms						
8 x 8 timbers	2.73	MBF	$ 2,000	$ 5,460	$ 522	$ 1,425
plywood (3/4" CDX)	24	sheets	$ 36	$ 864	$ 36	$ 864
2 x 6	500	lft	$ 1	$ 500	$ 1	$ 500
#5 rebar	320	lft	$ 1	$ 320	$ 1	$ 320
misc.	1	lump sum	$ 2,500	$ 2,500	$ 2,000	$ 2,500
TOTAL				**$ 9,644**		**$ 9,644**
Place concrete						
concrete delivered to site	240	cyd	$ 325	$ 78,000	$ 325	$ 78,000
TOTAL				**$ 78,000**		**$ 78,000**
Grout perimeter of plug						
portland cement (94 lb. sacks)	400	sacks	$ 22	$ 8,800	$ 22	$ 8,800
bits and steel	1	lump sum	$ 500	$ 500	$ 500	$ 500
misc.	1	lump sum	$ 2,500	$ 2,500	$ 2,500	$ 2,500
TOTAL				**$ 11,800**		**$ 11,800**
Seeding						
Seed	0.25	acre	$ 1,086	$ 272	$ 1.086	$ 272
TOTAL				**$ 272**		**$ 272**

Notes:

* For the purposes of the 2024 cost estimate, commodity prices were checked and updated based on current estimates. Some of the commodity prices remained unchanged from the 2017 cost estimate if they were still reasonably representative.

Table B-4: Equipment Costs

	2025 Cost Estimates					*2024 Cost Estimates (for comparison)*				
Equipment	Total Rental Cost (including standby)	Hourly Operating Cost (less fuel)	Hourly Fuel Use (gal/hour)	Number of Hours	Total Cost	Total Rental Cost	Hourly Operating Cost (less fuel)	Hourly Fuel Use (gal/hour)	Number of Hours	Total Cost
Generator / Fans / Compressor	$35,705.05	$83.04	14	430	$59,783.65	$ 34,830.00	$81.00	14	430	$58,910.00
Underground Haul Truck (22 tons)	$51,961.62	$199.85	8	260	$60,281.62	$90,499.20	$188.54	8	480	$105,859.20
Jacklegs, misc UG equipment	$14,385.05	$33.45	0	430	$14,385.05	$13,570.80	$31.56	0	430	$13,570.80
6 cyd mucker (w/ ejector bucket)	$42,107.97	$280.72	10	150	$48,107.97	$68,855.80	$264.83	10	260	$79,255.80
Front end loader (3 ½ cyd bucket)	$14,795.48	$73.98	3.5	200	$17,595.48	$21,634.90	$69.79	3.5	310	$25,974.90
¾ ton pickup truck	$4,790.00	$9.21	2	520	$8,950.00	$11,705.60	$19.84	2	590	$16,425.60
Track Excavator (1 ½ cyd bucket)	$15,050.00	$53.75	4	280	$19,530.00	$23,102.80	$82.51	4	280	$27,582.80
Articulating dump truck (9 ½ cyd box)	$7,587.48	$151.75	2.5	50	$8,087.48	$7,158.00	$143.16	2.5	50	$7,658.00
Reed concrete pump (40 cyd/hr)	$708.29	$70.83	2	10	$788.29	$668.20	$66.82	2	10	$748.20
Grout pump	$2,001.49	$33.36	0	60	$2,001.49	$1,888.20	$31.47	0	60	$1,888.20
Barge Camp	$28,756.10	$55.30	2	520	$32,916.10	$31,302.00	$52.17	2	600	$36,102.00
Total					**$272,427.14**					**$373,975.50**
Generator (500 kW)	$31,336.25	$72.88	12	430	$51,976.25	$29,562.50	$68.75	12	430	$50,202.50
Compressor (185 cfm)	$3,000.00	$6.98	2	430	$6,440.00	$3,977.50	$9.25	2	430	$7,417.50
Fans	$1,367.40	$3.18	0	430	$1,367.40	$1,290.00	$3.00	0	430	$1,290.00
SUBTOTAL (reports to top line item)	**$35,703.65**	**$83.04**	**14**		**$59,783.65**	**$34,830.00**	**$81.00**	**14**	**430**	**$58,910.00**

Notes:

* Based on equipment costs obtained from general contractors working in Alaska (Harper 2025, pers. Comm.), (Thomas 2025, pers. Comm.). All equipment rates are all inclusive hourly rates (includes equipment maintenance, profit, etc.). Note that fuel cost is not included in the hourly rate, but it is added into the estimate separately.

Table B-5. Mobilization/Demobilization and Transportation Costs

Mob/Demob	2025 Cost Estimates			2024 Cost Estimates (for comparison only)		
	Rate / Trip	Number of Trips	Cost	Rate / Trip	Number of Trips	Cost
Transport underground equipment to Ketchikan	$ 58,300	1	$ 58,300	$ 55,000	1	$ 55,000
Equipment barge trips from Ketchikan to Niblack	$ 14,600	3	$ 43,800	$ 10,000	3	$ 30,000
Personnel transport	$ 840	24	$ 20,160	$ 800	24	$ 19,200

Notes:
2025 estimates updated to include the following:

* Transport underground equipment to Ketchikan: Increase of 6% from 2024 estimates based on communication with equipment contractor (Harper 2025, pers. Comm.)
* 3 barge trips from Ketchikan (Jun 1, Jun 18, Jul 20): @ $14,600 per trip (Based on current services provided to Niblack Project LLC)) (Boyer Towing Inc. 2024)
* Personnel transport: Float plane @ $840 per charter (Based on current services provided to Niblack Project LLC) (Misty Fjords Air and Outfitting Inc. 2025)

Table B-6. Reclamation Cost Estimate for Tasks 1 to 5
(Not Including Mobilization or Monitoring Costs)

		Equipment Rental Cost			Equipment Cost		Fuel Cost				Labor Cost				Material		Notes and Assumptions
Task	Duration (days)	Equipment Used	Quantity (each)	Time (hours)	Rate ($/hour)	Total ($)	Time (hours)	Rate (gal/hour)	Price ($/gal)	Total ($)	Quantity (each)	Time (hours)	Rate ($/hour)	Total ($)	Cost ($)	Total Cost ($)	
Task 1: Relocation of PAG Material and Reclaim Site (5,920 CYD or 10,064 tons)																	
Load haul trucks	12	Front end loader (3 1/2 cyd bucket)	1	120	$73.98	$ 8,877.29	120	3.5	$4.00	$1,680.00	1	144	$78.79	$11,345.76	$ -	$21,903.05	5920 cyd x 1.7 tons/cyd = 10,064 tons
Haul PAG rock to ~2500 ft underground	12	Underground haul truck (22 tons)	2	240	$199.85	$ 47,964.58	240	8	$4.00	$7,680.00	2	288	$78.79	$22,691.52	$ -	$78,336.10	2 trucks, 6000 ft haul, 2 trips/hour each, 22 tons/trip
Place PAG rock underground	12	6 cyd mucker (w/ejector bucket)	1	120	$280.72	$ 33,686.38	120	10	$4.00	$4,800.00	1	144	$78.79	$11,345.76	$ -	$49,832.14	
Remove HDPE liner from temporary PAG storage facility and ore stockpile	1	Front end loader (3 1/2 cyd bucket)	1	10	$ 73.98	$ 739.77	10	3.5	$4.00	$ 140.00	1	12	$78.79	$ 945.48	$ -	$ 1,825.25	1 operator, 1 laborer
Haul liner underground																	
Recontour site/restore stormwater conveyance at temporary PAG storage facility and ore stockpile	1	Underground haul truck (22 tons)	2	20	$199.85	$ 3,997.05	20	8	$4.00	$ 640.00	2	24	$78.79	$ 1,890.96	$ -	$ 6,528.01	2 trucks, 1 day each
	4	Track excavator (1 1/2 cyd bucket)	1	40	$ 45.61	$ 1,824.24	40	4	$4.00	$ 640.00	1	48	$78.79	$ 3,781.92	$ -	$ 6,246.16	
Place topsoil at temporary PAG storage facility and ore stockpile	1	Track excavator (1 1/2 cyd bucket)	1	10	$ 45.61	$ 456.06	10	4	$4.00	$ 160.00	1	12	$78.79	$ 945.48	$ -	$ 1,561.54	
Seeding at temporary PAG storage facility and ore stockpile	0.3										1	4	$78.79	$ 315.16	$ 1,086.00	$ 1,401.16	seed cost = $1086/acre, labor = 3 acres/day
Subtotal - Task 1						**$97,545.36**				**$15,740.00**				**$53,262.04**	**$ 1,086.00**	**$167,633.40**	
Task 2: Portal Closure Including Adit Plug																	
Remove utilities	4										4	192	$78.79	$15,127.68	$ -	$ 15,127.68	Assumes 4-man crew
Plug site excavation	4										4	192	$78.79	$15,127.68	$ 3,038.30	$ 18,165.98	Assumes 4-man crew
Construct forms	4										4	192	$78.79	$15,127.68	$ 9,644.00	$ 24,771.68	Assumes 4-man crew
Place concrete	1	Reed concrete pump (40 cyd/hr)	1	10	$ 70.83	$ 708.29	10	2	$4.00	$ 80.00	1	12	$78.79	$ 945.48	$ 78,000.00	$ 79,733.77	Assumes one continuous pour, including prep. time.
Grout perimeter of plug	6	Grout pump	1	60	$ 33.36	$ 2,001.49	60	0	$4.00	$ -	1	72	$78.79	$ 5,672.88	$ 11,800.00	$ 19,474.37	
Load NAG fill and topsoil	1	Front end loader (3 1/2 cyd bucket)	1	10	$ 73.98	$ 739.77	10	3.5	$4.00	$ 140.00	1	12	$78.79	$ 945.48	$ -	$ 1,825.25	450 cyd of NAG rock
Haul NAG fill and topsoil	1	Articulating dump truck (9 1/2 cyd box)	1	10	$151.75	$ 1,517.50	10	2.5	$4.00	$ 100.00	1	12	$78.79	$ 945.48	$ -	$ 2,562.98	1 truck, 122 ft haul, 6 trips/hour, 9cyd/trip
Backfill portal	1	Track excavator (1 1/2 cyd bucket)	1	10	$ 45.61	$ 456.06	10	4	$4.00	$ 160.00	1	12	$78.79	$ 945.48	$ -	$ 1,561.54	
Place topsoil	1	Track excavator (1 1/2 cyd bucket)	1	10	$ 45.61	$ 456.06	10	4	$4.00	$ 160.00	1	12	$78.79	$ 945.48	$ -	$ 1,561.54	
Seeding	0.2					$ -			$4.00	$ -	1	2	$78.79	$ 157.58	$ 271.50	$ 429.08	seed cost = $1086/acre, labor = 3 acres/day
Subtotal - Task 2						**$ 5,879.17**				**$ 640.00**				**$55,940.90**	**$102,753.80**	**$165,213.87**	
Task 3: Fill Placement and Grading, Final Contouring at NAG Site																	
Final grading	12	Track excavator (1 1/2 cyd bucket)	1	120	$ 45.61	$ 5,472.73	120	4	$4.00	$ 1,920.00	1	144	$78.79	$11,345.76	$ -	$ 18,738.49	
Place topsoil	2	Track excavator (1 1/2 cyd bucket)	1	20	$ 45.61	$ 912.12	20	4	$4.00	$ 320.00	1	24	$78.79	$ 1,890.96	$ -	$ 3,123.08	
Seeding	1										1	12	$78.79	$ 945.48	$ 3,258.00	$ 4,203.48	seed cost = $1086/acre, labor = 3 acres/day
Silt fence	1										1	12	$78.79	$ 945.48	$ 500.00	$ 1,445.48	
Subtotal - Task 3						**$6,384.85**				**$ 2,240.00**				**$15,127.68**	**$ 3,758.00**	**$ 27,510.53**	

Task	Duration (days)	Equipment Used	Equipment Rental Cost Quantity (each)	Time (hours)	Equipment Cost Rate ($/hour)	Total ($)	Fuel Cost Time (hours)	Rate (gal/hour)	Price ($/gal)	Total ($)	Labor Cost Quantity (each)	Time (hours)	Rate ($/hour)	Total ($)	Material Cost ($)	Total Cost ($)	Notes and Assumptions
Task 4: Reclaim Water Treatment Facilities and Sediment Pond Areas																	
Remove and dispose of surface facilities	2	Front end loader (3 1/2 cyd bucket)	1	20	$ 73.98	$ 1,479.55	20	3.5	$4.00	$ 280.00	1	24	$78.79	$ 1,890.96	$ -	$ 3,650.51	1 operator, 1 laborer
Load NAG fill material and topsoil	4	Front end loader (3 1/2 cyd bucket)	1	40	$ 73.98	$ 2,959.10	40	3.5	$4.00	$ 560.00	1	48	$78.79	$ 3,781.92	$ -	$ 7,301.02	3000 cyd NAG rock truck, 1000FT haul, 8 trips/hour, 9cyd/trip
Haul NAG fill material and topsoil	4	Articulating dump truck (9 1/2 cyd box)	1	40	$151.75	$ 6,069.98	40	2.5	$4.00	$ 400.00	1	48	$78.79	$ 3,781.92	$ -	$ 10,251.90	
Recontour site	3	Track excavator (1 1/2 cyd bucket)	1	30	$ 45.61	$ 1,368.18	30	4	$4.00	$ 480.00	1	36	$78.79	$ 2,836.44	$ -	$ 4,684.62	
Place topsoil	1	Track excavator (1 1/2 cyd bucket)	1	10	$ 45.61	$ 456.06	10	4	$4.00	$ 160.00	1	12	$78.79	$ 945.48	$ -	$ 1,561.54	
Seeding	0.25										1	3	$78.79	$ 236.37	$ 814.50	$ 1,050.87	seed cost = $1086/acre, labor = 3 acres/day
Subtotal - Task 4						**$12,332.87**				**$ 1,880.00**				**$13,473.09**	**$ 814.50**	**$ 28,500.46**	
Task 5: Stormwater Conveyance & Settling Ponds Below NAG Site																	
Recontour sites 7 replace topsoil	3	Track excavator (1 1/2 cyd bucket)	1	30	$ 45.61	$ 1,368.18	30	4	$4.00	$ 480.00	1	36	$78.79	$ 2,836.44	$ -	$ 4,684.62	
Seeding	0.5										1	6	$78.79	$ 472.74	$ 1,629.00	$ 2,101.74	
Subtotal - Task 5						**$ 1,368.18**				**$ 480.00**				**$ 3,309.18**	**$ 1,629.00**	**$ 6,786.36**	
Support Equipment																	
Task 1 and Task 2	43	Generator/Fans/Compressor	1	430	$ 83.04	$ 35,705.05	430	14	$4.00	$24,080.00				$ -	$ -	$ 56,783.65	
Task 1 and Task 2	43	Jacklegs, misc UG equipment	1	430	$ 33.45	$ 14,385.05	430	0	$4.00	$ -				$ -	$ -	$ 14,385.05	
Task 2	3	6 cyd mucker (w/ejector bucket)	1	30	$ 280.72	$ 8,421.59	30	10	$4.00	$ 1,200.00				$ -	$ -	$ 9,621.59	
All Tasks	59	3/4 ton pickup truck	1	520	$ 9.21	$ 4,790.00	520	2	$4.00	$ 4,160.00				$ -	$ -	$ 8,950.00	
	60	Barge Camp	1	520	$ 55.30	$ 28,756.10	520	2	$4.00	$ 4,160.00				$ -	$ -	$ 32,916.10	
Subtotal - Support Equipment						**$ 92,057.80**				**$33,600.00**				**$ -**	**$ -**	**$125,657.80**	
Equipment Standby																	
		Track Excavator (1 ½ cyd bucket)	1	50	$ 45.61	$2,280.30											
Subtotal – Equipment Standby						**$2,280.30**										**$ 2,280.30**	
TOTAL - All Tasks						**$217,848.54**				**$54,580.00**				**$141,112.89**	**$110,041.30**	**$523,582.72**	

2024 Cost Estimates (For Comparison)

Task	Duration (days)	Equipment Rental Cost: Equipment Used	Quantity (each)	Equipment Cost: Time (hours)	Rate ($/hour)	Total ($)	Fuel Cost: Time (hours)	Rate (gal/hour)	Price ($/gal)	Total ($)	Labor Cost: Quantity (each)	Time (hours)	Rate ($/hour)	Total ($)	Material Cost ($)	Total Cost ($)	Notes and Assumptions
Task 1: Relocation of PAG Material and Reclaim Site (5,920 CYD or 10,064 tons)																	
Load haul trucks	23	Front end loader (3 1/2 cyd bucket)	1	230	$69.79	$16,051.70	230	3.5	$4.00	$3,220.00	1	276	$81.95	$ 22,616.89	$ -	$ 41,888.59	14,300 cyd x 1.7 tons/cyd = 24,310 tons
Haul PAG rock to ~2500 ft underground	23	Underground haul truck (22 tons)	2	460	$188.54	$86,728.40	460	8	$4.00	$14,720.00	2	552	$81.95	$ 45,233.79	$ -	$146,682.19	2 trucks, 6000 ft haul, 2 trips/hour each, 22 tons/trip
Place PAG rock underground	23	6 cyd mucker (w/ejector bucket)	1	230	$264.83	$60,910.90	230	10	$4.00	$9,200.00	1	276	$81.95	$ 22,616.89	$ -	$ 92,727.79	
Remove HDPE liner from temporary PAG storage facility and ore stockpile	1	Front end loader (3 1/2 cyd bucket)	1	10	$ 69.79	$ 697.90	10	3.5	$4.00	$ 140.00	1	12	$81.95	$ 983.34	$ -	$ 1,821.24	1 operator, 1 laborer
Haul liner underground																	
Recontour site/restore stormwater conveyance at temporary PAG storage facility and ore stockpile	1	Underground haul truck (22 tons)	2	20	$188.54	$ 3,770.80	20	8	$4.00	$ 640.00	2	24	$81.95	$ 1,966.69	$ -	$ 6,377.49	2 trucks, 1 day each
	4	Track excavator (1 1/2 cyd bucket)	1	40	$ 82.51	$ 3,300.40	40	4	$4.00	$ 640.00	1	48	$81.95	$ 3,933.37	$ -	$ 7,873.77	
Place topsoil at temporary PAG storage facility and ore stockpile	1	Track excavator (1 1/2 cyd bucket)	1	10	$ 82.51	$ 825.10	10	4	$4.00	$ 160.00	1	12	$81.95	$ 983.34	$ -	$ 1,968.44	
Seeding at temporary PAG storage facility and ore stockpile	0.3										1	4	$81.95	$ 327.78	$ 1,086.00	$ 1,413.78	seed cost = $1086/acre, labor = 3 acres/day
Subtotal - Task 1						**$172,285.20**				**$28,720.00**				**$98,662.11**	**$ 1,086.00**	**$300,753.31**	
Task 2: Portal Closure Including Adit Plug																	
Remove utilities	4										4	192	$81.95	$ 15,733.49	$ -	$ 15,733.49	Assumes 4-man crew
Plug site excavation	4										4	192	$81.95	$ 15,733.49	$ 3,038.30	$ 18,771.79	Assumes 4-man crew
Construct forms	4										4	192	$81.95	$ 15,733.49	$ 9,644.00	$ 25,377.49	Assumes 4-man crew
Place concrete	1	Reed concrete pump (40 cyd/hr)	1	10	$ 66.82	$ 668.20	10	2	$4.00	$ 80.00	1	12	$81.95	$ 983.34	$ 78,000.00	$ 79,731.54	Assumes one continuous pour, including prep. time.
Grout perimeter of plug	6	Grout pump	1	60	$ 31.47	$ 1,888.20	60	0	$4.00	$ -	1	72	$81.95	$ 5,900.06	$ 11,800.00	$ 19,588.26	
Load NAG fill and topsoil	1	Front end loader (3 1/2 cyd bucket)	1	10	$ 69.79	$ 697.90	10	3.5	$4.00	$ 140.00	1	12	$81.95	$ 983.34	$ -	$ 1,821.24	450 cyd of NAG rock
Haul NAG fill and topsoil	1	Articulating dump truck (9 1/2 cyd box)	1	10	$143.16	$ 1,431.60	10	2.5	$4.00	$ 100.00	1	12	$81.95	$ 983.34	$ -	$ 2,514.94	1 truck, 122 ft haul, 6 trips/hour, 9cyd/trip
Backfill portal	1	Track excavator (1 1/2 cyd bucket)	1	10	$ 82.51	$ 825.10	10	4	$4.00	$ 160.00	1	12	$81.95	$ 983.34	$ -	$ 1,968.44	
Place topsoil	1	Track excavator (1 1/2 cyd bucket)	1	10	$ 82.51	$ 825.10	10	4	$4.00	$ 160.00	1	12	$81.95	$ 983.34	$ -	$ 1,968.44	
Seeding	0.2					$ -			$4.00	$ -	1	2	$81.95	$ 163.89	$ 271.50	$ 435.39	seed cost = $1086/acre, labor = 3 acres/day
Subtotal - Task 2						**$ 6,336.10**				**$ 640.00**				**$ 58,181.14**	**$102,753.80**	$ 167,911.04	
Task 3: Fill Placement and Grading, Final Contouring at NAG Site																	
Final grading	12	Track excavator (1 1/2 cyd bucket)	1	120	$ 82.51	$ 9,901.20	120	4	$4.00	$ 1,920.00	1	144	$81.95	$ 11,800.12	$ -	$ 23,621.32	
Place topsoil	2	Track excavator (1 1/2 cyd bucket)	1	20	$ 82.51	$ 1,650.20	20	4	$4.00	$ 320.00	1	24	$81.95	$ 1,966.69	$ -	$ 3,936.89	
Seeding	1										1	12	$81.95	$ 983.34	$ 3,258.00	$ 4,241.34	seed cost = $1086/acre, labor = 3 acres/day
Silt fence	1										1	12	$81.95	$ 983.34	$ 500.00	$ 1,483.34	
Subtotal - Task 3						**$ 11,551.40**				**$ 2,240.00**				**$ 15,733.49**	**$ 3,758.00**	$ **33,282.89**	

Task	Duration (days)	Equipment Used	Quantity (each)	Equipment Rental Cost Time (hours)	Equipment Rental Cost Rate ($/hour)	Equipment Rental Cost Total ($)	Fuel Cost Time (hours)	Fuel Cost Rate (gal/hour)	Fuel Cost Price ($/gal)	Fuel Cost Total ($)	Labor Cost Quantity (each)	Labor Cost Time (hours)	Labor Cost Rate ($/hour)	Labor Cost Total ($)	Material Cost ($)	Total Cost ($)	Notes and Assumptions
Task 4: Reclaim Water Treatment Facilities and Sediment Pond Areas																	
Remove and dispose of surface facilities	2	Front end loader (3 1/2 cyd bucket)	1	20	$ 69.79	$ 1,395.80	20	3.5	$4.00	$ 280.00	1	24	$81.95	$ 1,966.69	$ -	$ 3,642.49	1 operator, 1 laborer
Load NAG fill material and topsoil	4	Front end loader (3 1/2 cyd bucket)	1	40	$ 69.79	$ 2,791.60	40	3.5	$4.00	$ 560.00	1	48	$81.95	$ 3,933.37	$ -	$ 7,284.97	3000 cyd NAG rock truck, 1000FT haul, 8 trips/hour, 9cyd/trip
Haul NAG fill material and topsoil	4	Articulating dump truck (9 1/2 cyd box)	1	40	$143.16	$ 5,726.40	40	2.5	$4.00	$ 400.00	1	48	$81.95	$ 3,933.37	$ -	$ 10,059.77	
Recontour site	3	Track excavator (1 1/2 cyd bucket)	1	30	$ 82.51	$ 2,475.30	30	4	$4.00	$ 480.00	1	36	$81.95	$ 2,950.03	$ -	$ 5,905.33	
Place topsoil	1	Track excavator (1 1/2 cyd bucket)	1	10	$ 82.51	$ 825.10	10	4	$4.00	$ 160.00	1	12	$81.95	$ 983.34	$ -	$ 1,968.44	
Seeding	0.25										1	3	$81.95	$ 245.84	$ 814.50	$ 1,060.34	seed cost = $1086/acre, labor = 3 acres/day
Subtotal - Task 4						**$ 13,214.20**				**$ 1,880.00**				**$ 14,012.64**	**$ 814.50**	**$ 29,921.34**	
Task 5: Stormwater Conveyance & Settling Ponds Below NAG Site																	
Recontour sites 7 replace topsoil	3	Track excavator (1 1/2 cyd bucket)	1	30	$ 82.51	$ 2,475.30	30	4	$4.00	$ 480.00	1	36	$81.95	$ 2,950.03	$ -	$ 5,905.33	
Seeding	0.5										1	6	$81.95	$ 491.67	$ 1,629.00	$ 2,120.67	
Subtotal - Task 5						**$ 2,475.30**				**$ 480.00**				$ 3,441.70	**$ 1,629.00**	$ 8,026.00	
Support Equipment																	
Task 1 and Task 2	43	Generator/Fans/Compressor	1	430	$ 81.00	$ 34,830.00	430	14	$4.00	$24,080.00				$ -	$ -	$ 58,910.00	
Task 1 and Task 2	43	Jacklegs, misc UG equipment	1	430	$ 31.56	$ 13,570.80	430	0	$4.00	$ -				$ -	$ -	$ 13,570.80	
Task 2	3	6 cyd mucker (w/ejector bucket)	1	30	$264.83	$ 7,944.90	30	10	$4.00	$ 1,200.00				$ -	$ -	$ 9,144.90	
All Tasks	59	3/4 ton pickup truck	1	590	$ 19.84	$ 11,705.60	590	2	$4.00	$ 4,720.00				$ -	$ -	$ 16,425.60	
	60	Barge Camp	1	600	$ 52.17	$ 31,302.00	600	2	$4.00	$ 4,800.00				$ -	$ -	$ 36,102.00	
Subtotal - Support Equipment						**$ 99,353.30**				**$34,800.00**				**$ -**	**$ -**	**$134,153.30**	
TOTAL - All Tasks						**$226,928.50**				**$55,780.00**				**$ 141,112.89**	**$110,041.30**	**$533,862.69**	

Table B-7. Materials, Transportation and Analytical Costs for Reclamation and Post-Closure Water Quality Monitoring (Task 6)

	2025 Cost Estimates				2024 Cost Estimates (for comparison only)			
	Materials				Materials			
	Quantity (units)	Units	Unit Rate ($/unit)	Cost ($)	Quantity (units)	Units	Unit Rate ($/unit)	Cost ($)
Reclamation/revegetation monitoring								
Transportation	2	flight	$ 700	$ 1,400	2	flight	$ 700	$ 1,400
TOTAL				**$ 1,400**				**$ 1,400**
Water quality monitoring - years 1 & 2 (6 sample sites, twice annually)								
Sampling materials/misc.	1	lump sum	$ 616	$ 616	1	lump sum	$ 616	$ 616
Analysis	24	sample	$ 609.84	$ 14,636.16	24	sample	$ 609.84	$ 14,636.16
Transportation	8	flight	$ 800	$ 6,400	8	flight	$ 800	$ 6,400
Data validation	24	sample	$ 86.24	$ 2,069.76	24	sample	$ 86.24	$ 2,069.76
Data reporting	1	lump sum	$ 2,464	$ 2,464	1	lump sum	$ 2,464	$ 2,464
TOTAL				**$ 26,185.92**				**$ 26,185.92**
Water quality monitoring - years 5, 10, 20 & 30 (3 sample sites, once annually)								
Sampling materials/misc.	1	lump sum	$ 308	$ 308	1	lump sum	$ 308	$ 308
Analysis	12	sample	$ 609.84	$ 7,318.08	1	sample	$ 609.84	$ 7,318.08
Transportation	8	flight	$ 800	$ 6,400	1	flight	$ 800	$ 6,400
Data validation and reporting	12	sample	$ 86.24	$ 1,034.88	1	sample	$ 86.24	$ 1,034.88
Data reporting	1	lump sum	$ 2,464	$ 2,464	1	lump sum	$ 2,464	$ 2,464
TOTAL				**$ 17,524.96**				**$ 17,524.96**

Notes:

Notes:

* Reclamation and vegetation monitoring to occur in years 1, 2, 4, 5, and 10 post-closure. This Monitoring will be concurrent with water quality monitoring years 1, 2, 5, and 10; therefore, transportation costs are shown for year 3 only. Costs for the other years are covered under water quality monitoring. No materials costs are anticipated for reclamation and vegetation monitoring.

*Water quality monitoring costs are based on the current costs for analysis of the full suite of project parameters (metals, major ions, conventional parameters).

*Transportation costs are based on 2 trips per sample event; 1 for transport to site and 1 for return to Ketchikan

*Water quality data validation and reporting costs are based on current services provided to NexGold.

Table B-8. Post Closure Labour Costs (Task 6)

	2025 Cost Estimates (Annual Costs for Each Monitoring Year)							2024 Cost Estimates (for comparison only)						
	Labor Cost				Transportation Cost ($)	Material[2] Cost ($)	Total Cost ($)	Labor Cost				Transportation Cost ($)	Materials Cost ($)	Total Cost ($)
	Number of staff	Time (hours)	Rate[1] ($/hour)	Total ($)				Number of staff	Time (hours)	Rate ($/hour)	Total ($)			
Reclamation/Revegetation Monitoring (Sampling Years 1, 2, 3, & 5)														
Annual Inspection (Helper)	1	8	$ 61.60	$ 492.80	$ -	$ -	$ 492.80	1	8	$ 61.60	$ 492.82	$ -	$ -	$ 492.80
Annual Inspection (Technician)	1	24	$ 141.68	$3,400.32	$ 1,600	$ -	$ 5,000.32	1	24	$ 1 41.68	$ 3,400.32	$ 1,600	$ -	$ 5,000.32
TOTAL							**$ 5,493.12**							**$ 5,493.12**
Water Quality Monitoring (Sampling Years 1 & 2)														
Annual Sampling (Helper)	1	8	$ 61.60	$ 492.80	$ -	$ -	$ 492.80	1	8	$ 61.60	$ 492.80	$ -	$ -	$ 492.80
Annual Sampling (Technician)	1	24	$ 141.68	$3,400.32	$ 1,600	$ 9,892.96	$ 14,893.28	1	24	$ 141.68	$ 3,400.32	$ 1,600	$ 9,892.96	$ 14,893.28
TOTAL							**$ 15,386.08**							**$ 15,386.08**
Water Quality Monitoring (Sampling Years 5, 10, 20 & 30)														
Annual Sampling (Helper)	1	8	$ 61.60	$ 492.80	$ -	$ -	$ 492.80	1	8	$ 61.60	$ 492.80	$ -	$ -	$ 492.80
Annual Sampling (Technician)	1	24	$ 141.68	$3,400.32	$ 1,600	$ 2,781.86	$ 7,782.18	1	24	$ 141.68	$ 3,400.32	$ 1,600	$ 2,781.86	$ 7,782.18
TOTAL							**$ 8,274.98**							**$ 8,274.98**

Notes:

* Reclamation and vegetation monitoring to occur in years 1, 2, 3, and 5 post-closure. This monitoring will be concurrent with water quality monitoring years 1, 2, and 5; therefore, transportation costs are shown for year 3 only. Costs for the other years are covered under water quality monitoring. No materials costs are anticipated for reclamation and vegetation monitoring.

* 2024 estimates based on design plans and presented in the 2012 Reclamation and Closure Plan (Integral 2012b).