

Reclamation and Closure Plan
For the
Niblack Underground Exploration Project

Prepared for:
Niblack Mining Corporation

*Contact: Darwin Green, V.P. Exploration
Suite 615-800 West Pender Street
Vancouver, B.C. Canada, V63 2V6
(604) 484-5045*

Prepared by:
RTR Resource Management, Inc.

*Contact: Robert (Rick) Richins
1109 W. Main Street
Suite 480
Boise, ID 83702
(208) 343-8727*

April, 2007

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	GUIDELINES FOR RECLAMATION AND CLOSURE.....	3
2.1	Niblack Corporate Environmental Policy and Reclamation Goals.....	3
2.2	Summary of Site Specific Reclamation Goals.....	4
2.3	Reclamation and Closure Principles	4
2.4	Overview of the Reclamation and Closure Process	5
	2.4.1 Construction Reclamation.....	6
	2.4.2 Interim Reclamation.....	6
	2.4.3 Temporary Closure	6
	2.4.4 Final Reclamation and Permanent Closure.....	7
	2.4.5 Post Closure Monitoring and Maintenance.....	8
2.5	Soil Salvaging, Vegetation Salvaging and Revegetation Methods.....	8
	2.5.1 Topsoil Salvage and Stockpiling	8
	2.5.2 Revegetation Methods and Materials.....	9
2.6	Reclamation Performance Criteria.....	10
	2.6.1 General Reclamation Completion Criteria.....	10
	2.6.2 Revegetation Success Criteria.....	11
2.7	Updating the Reclamation Plan	12
2.8	Invasive Weed Controls	12
3.0	FACILITY-SPECIFIC RECLAMATION AND CLOSURE PLANS	13
3.1	Site Disturbance Summary	13
3.2	Task 1 – PAG Facility (Waste Rock Relocation and Site Reclamation).....	13
	3.2.1 Reclamation Goals and Objectives	14
	3.2.2 Reclamation and Closure Tasks.....	14
	3.2.3 Post-Closure Monitoring and Maintenance	15
	3.2.4 Estimated Reclamation and Closure Costs	15
3.3	Task 2 – Adit Plug and Portal Entrance Reclamation.....	15
	3.3.1 Reclamation Goals and Objectives	15
	3.3.2 Reclamation and Closure Tasks.....	15
	3.3.3 Post-Closure Monitoring and Maintenance	15
	3.3.4 Estimated Reclamation and Closure Costs	16
3.4	Task 3 - NAG Waste Rock Storage Area	16
	3.4.1 Reclamation Goals and Objectives	16
	3.4.2 Reclamation and Closure Tasks.....	17
	3.4.3 Post-Closure Monitoring and Maintenance	17
	3.4.4 Estimated Reclamation and Closure Costs	17
3.5	Task 4 – Water Treatment Facility and Settlement Ponds (WTF).....	17
	3.5.1 Reclamation Goals and Objectives	18
	3.5.2 Reclamation and Closure Tasks.....	18
	3.5.3 Post-Closure Monitoring and Maintenance	18
	3.5.4 Estimated Reclamation and Closure Costs	18

3.6	Task 5 – Stormwater Management Areas.....	18
3.6.1	Reclamation Goals and Objectives.....	19
3.6.2	Reclamation and Closure Tasks.....	19
3.6.3	Post-Closure Monitoring and Maintenance.....	19
3.6.4	Estimated Reclamation and Closure Costs.....	19
4.0	RECLAMATION ASSURANCES.....	20
4.1	Summary of Estimated Reclamation Costs.....	20
4.2	Long-Term Monitoring and Maintenance Program.....	22
4.3	Indirect Costs, Contingency and Inflation.....	23
4.3.1	Mobilization/Demobilization.....	23
4.3.2	Contractor Overhead and Profit.....	23
4.3.3	Other Indirect Costs.....	23
4.3.4	Contingency.....	23
4.3.5	Agency Oversight.....	23
4.3.6	Contract Performance and Payment Bond.....	24
4.3.7	Inflation Cost.....	24
4.4	Post-Closure Financial Assurance.....	24
5.0	ADMINISTRATIVE INFORMATION AND LIST OF PROPERTIES.....	26
5.1	Project Ownership and Contact Information.....	26
5.2	List Of Properties And Claims Where Work Will Be Conducted.....	26
6.0	REFERENCES CITED.....	28

LIST OF FIGURES

Figure 1	Property Location Map
Figure 2	General Site Plan
Figure 3	Constructed Project Schematic
Figure 4	Site Plan Detail
Figure 5	Cross-Section of NAG and PAG Storage Sites
Figure 6	Claim Map

APPENDIX

Appendix A – Reclamation Schedule
Appendix B – Reclamation Cost Estimate

1.0 INTRODUCTION

The Niblack property is in the exploration phase of development. The proposed underground exploration project (Project) is located approximately 30 miles southwest of Ketchikan in Southeast Alaska (Figure 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 5. Niblack Mining Corporation (NMC) is the owner and sole operator of the exploration property.

This reclamation and closure plan has been prepared in response to recommendations from the Large Mine Permit Team, and as required by AS 27.05.010(b), AS 27.19.010, and 11 AAC 97.100. All the land disturbance is on patented (Fee) land. The plan addresses conceptual reclamation principles and facility-specific reclamation plans that have been developed as a key component of the existing Plan of Operations (POO) for closure of the property. This plan includes a cost estimate to be used for bonding purposes.

The major components associated with the Project are an underground drift or tunnel to be used for drilling access, two waste rock repositories, an access road, sediment ponds and water treatment facility, and a marine dock facility (Figure 2). Ancillary facilities include: topsoil stockpiles, diversion systems, fuel storage, and supplies laydown and staging areas.

The main focus of the project is the construction of an underground access tunnel that will be used to develop drilling stations, in order to delineate potential mineral resources. The underground tunnel would be accessed through a newly defined portal as shown on Figure 3. Development rock would be hauled to the two waste rock stockpile areas (potentially acid-generating or PAG temporary storage site, and non acid-generating or NAG disposal site), and stormwater and contact water would be collected and treated prior to release to the environment. Any PAG material will be back-hauled to the ultimately flooded underground workings at closure.

The exploration project, once initiated would occur in phases based on continued success. The initial work program would last up to 24 months. Based on the results, further programs may be applied for, which would require updating, and seeking approval for modifications to this and other plans. Site reclamation and closure tasks are expected to generally be completed within two years after cessation of all exploration activities. Details regarding the exploration project are provided in the Plan of Operations (NMC, 2007).

The principal purpose of this plan is to identify, describe, and cost the required reclamation tasks that would have 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.

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.

2.0 GUIDELINES FOR RECLAMATION AND CLOSURE

This section summarizes the various reclamation policies, goals, requirements, principles, processes, and criteria for closing the Niblack Exploration Project.

2.1 Niblack Corporate Environmental Policy and Reclamation Goals

NMC has adopted a Corporate Environmental Policy, which states, in summary, that the company is committed to protecting the environment, while at the same time operating the project in a responsible manner to maximize the benefits of a modern extractive industry. Moreover, the policy specifically states that the company will commit the necessary resources to protect potentially affected surface and ground water resources during exploration and mining activities and at closure. This is the primary policy upon which this reclamation and closure plan is derived.

NMC'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.

Niblack will adhere to the above philosophy in developing and implementing 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 and ground water quality, and compliance with all 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; and
7. Minimization of long-term closure requirements, especially for ongoing care and maintenance.

NMC has incorporated sound engineering principles in this reclamation plan to achieve these goals and post-closure uses.

2.2 Summary of Site Specific Reclamation Goals

The first step in the reclamation process will involve the removal and storage of topsoil and other growth media from all areas to be disturbed. Stockpiled topsoil and growth media would be seeded or covered with salvaged vegetation to reduce the potential for erosion during storage and maintain viability.

Relocation of PAG material back underground and reclamation of the PAG site will commence upon project closure, which is expected to be within 2 years of cessation of all exploration activities. 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 re-countering and topsoil placement at the NAG site, water treatment facility and sediment ponds. Later stages of final reclamation may include the removal of stormwater diversions and sedimentation ponds where they are no longer needed. All reclaimed areas will be seeded to aid erosion control and reestablish natural vegetation. 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 ADNR Office of Habitat Management and Permitting (OHM&P) Fish Habitat Permit and US Army Corps of Engineers Permit.

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, and US Army Corps of Engineers Permits.

2.3 Reclamation and Closure Principles

In addition to the general goals discussed above, the following 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 two years, as described in the 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 storm water pollution prevention plan.
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. This is a key water management feature.
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.

2.4 Overview of the Reclamation and Closure Process

NMC 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. Temporary Closure,
4. Final Reclamation and Closure, and
5. Post Closure Monitoring and Maintenance.

2.4.1 Construction Reclamation

Construction reclamation activities will occur during and directly after the exploration tunnel and associated facilities are constructed. This phase of reclamation will involve the removal and storage of topsoil from all areas to be disturbed. During construction, vegetation will be cleared from the surfaces that will be developed, especially the PAG and NAG piles and water treatment facility (WTF). Topsoil and soil-like growth media will be removed where possible and stockpiled for reclamation activities. Topsoil stripping and stockpiling will continue as the exploration facilities are developed.

2.4.2 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 ground water 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 USFS Soil and Water Conservation Handbook (USFS, 1996).

2.4.3 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 Niblack 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.

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

Niblack 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, Niblack 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 would require that final reclamation must commence.

Niblack's objective during temporary closure would be to maintain the site and facilities in a safe condition. This would include 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; and
- Outline of reclamation, water management, and monitoring activities to be implemented by NMC during this period.

During temporary closure, Niblack would also maintain compliance with all environmental permits and programs as applicable. Interim reclamation activities would continue as planned. All permit requirements would be met.

2.4.4 Final Reclamation and Permanent Closure

Closure is defined as the cessation of all exploration activities as a result of project completion, or that the further development of the Project is no longer feasible. NMC currently contemplates a 24-month schedule. Final reclamation and closure activities will occur according to the provisions of this reclamation and closure plan, as required by the state.

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. Under the current construction schedule, activities will be initiated in Spring 2007, and cease in the summer of 2009, at which time final reclamation/closure is expected to commence. A reclamation schedule detailing estimated timelines to complete reclamation tasks is provided in Appendix A.

Final reclamation involves final contouring and seeding of waste rock dumps, and other facilities that cannot practicably be reclaimed concurrently during exploration activities. Physical reclamation is estimated to take 9 weeks to complete (Appendix A), and would be completed within approximately two years after cessation of exploration activities.

2.4.5 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 and within the Water Quality Baseline and Site Monitoring Plan (appendix to the Niblack Project Underground Exploration Plan of Operations).

No water treatment is expected to be needed, as the adit closure is designed to prevent drainage through the installation of a concrete plug. The final location and design of the adit plug will depend on ground conditions and ground water quality and quantity. The installation is described in more detail later in this document.

2.5 Soil Salvaging, Vegetation Salvaging and Revegetation Methods

2.5.1 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 (see Figure 4).

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 maintain viability. Where adequate topsoil is not available, a replacement scheme involving other growth media would be developed for agency approval.

During reclamation, topsoil would 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 summary of topsoil requirements for reclaiming facilities that require topsoil is as follows:

Parcel Number	Description	Surface Area to be Reclaimed (ac.)	Required Topsoil (cubic yards)*
1	PAG Waste Rock Stockpile Area	0.85	686
2	Portal Entrance Area	0.25	202
3	NAG Waste Rock Stockpile Area	3.10	2,501
4	Water Treatment Facility (Sediment Pond)	0.75	605
5	Stormwater Management Features	0.5	404
<i>Total Topsoil Required</i>		5.45	4,398

* Based on 0.5 foot average cover.

Topsoil stockpile locations are located adjacent to and northeast of the PAG storage site, and northeast of the NAG site. Small stockpiles will also be located immediately adjacent to stormwater management facilities. Topsoil stockpile areas that become full would have topsoil relocated to surrounding laydown areas for alternative storage space.

Vegetation cleared during development, and not consumed for other purposes during construction, will be stockpiled for reclamation use. Salvaged vegetation and roots will be stockpiled on top of and adjacent to soil stockpile areas, which will aid erosion control of soil stockpiles (Figure 4). Salvaged material will be placed back on top of replaced topsoil on reclaimed areas to reduce soil erosion and promote revegetation with native species.

A minimum of 6 inches of topsoil is the goal for application to disturbed areas. 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 of one-half of one foot has been used for the inventory calculations. As indicated under the reclamation principles discussed above, an updated inventory of suitable soil or soil-like growth media (organic material and/or suitable subsoil) will be carried out during the first 6 months of construction. This inventory will distinguish between the actual “topsoil” and other growth material. A photographic inventory of the storage sites will also be maintained by Niblack.

2.5.2 Revegetation Methods and Materials

The overall goal of disturbed site revegetation is to mimic the adjacent undisturbed vegetation communities, to the extent possible. However, 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 2.5.1 above). A minimum of 6 inches of stockpiled topsoil will be placed and graded over areas identified in Section 3 as requiring topsoil. Niblack

acknowledges that 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, 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. All of the construction and development activities are scheduled to take place solely in upland areas. Therefore, the seed mix proposed for reclamation is as follows:

Upland Sites	
Species	Percent Seed Mixture
Boreal red fescue (<i>Festuca rubra</i>)	30
Nortan tufted hairgrass (<i>Deschampsia caespitosa</i>)	60
Blue joint (<i>Calamagrostis Canadensis</i>)	10

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).

2.6 Reclamation Performance Criteria

2.6.1 General Reclamation Completion Criteria

The Project will be considered successfully reclaimed when all activities identified in the 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 3. NMC 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 NMC for the project.

1. All applicable activities have been completed consistent with the reclamation 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 acres 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 2.6.2 below). If vegetative cover does not meet the success criteria three years after seeding, Niblack will assess the conditions and initiate mitigation, such as fertilizer, seed mixture change, re-seeding, or remediation of soil contamination. If two 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.
4. Establishment of plant diversity. If after three years a diverse plant community cannot be re-established at the site using the above-mentioned seed mix and reclamation activities, Niblack will assess the condition and determine appropriate action(s). If two 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.
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 three years natural succession has not been established, Niblack will assess the condition and determine appropriate action(s). If two 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.

2.6.2 Revegetation Success Criteria

Niblack and appropriate regulatory agency personnel would monitor vegetation success qualitatively by visual inspection on an ongoing basis and quantitatively once per year.

Quantitative analysis would be conducted at the end of the growing season (end of August) by a qualified state representative or an independent professional.

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 Niblack.

2.7 Updating the Reclamation Plan

The reclamation plan will be updated or modified if the project is materially changed. As-built maps will be compiled to delineate actual areas of disturbance and areas and 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 6 months 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.

2.8 Invasive Weed Controls

Niblack is committed to the control of invasive weeds at the site. Any equipment mobilized to the site will be adequately power washed prior to transport to the site. The treated sites would be monitored by qualified Niblack personnel in order to identify and eradicate invasive species as they are discovered to the extent practicable. ADNR reclamation specialists will be consulted to insure this objective is accomplished.

3.0 FACILITY-SPECIFIC RECLAMATION AND CLOSURE PLANS

3.1 Site Disturbance Summary

For the purposes of this reclamation and closure plan, the Niblack Construction/Exploration Project has been delineated into five primary reclamation zones or task areas (Appendix A and B). These represent the main areas of disturbance for construction and exploration activities that are to be reclaimed.

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 2.5.1. These plans form the basis for the reclamation cost estimate provided as Appendix B, Reclamation Cost Estimate - Niblack Exploration Project.

Temporary closure plans (a requirement for the ADEC Industrial Solid Waste Landfill permit application) are described above in Section 2.4.3. During temporary closure NMC will maintain the site and facilities in a safe condition. This would include proactive temporary sediment and erosion control BMPs. All related water management activities and monitoring would also be carried out by the company.

3.2 Task 1 – PAG Facility (Waste Rock Relocation and Site Reclamation)

Reclamation activities in the PAG waste rock facility (temporary storage facility) will commence once the exploration activities have been terminated (Figure 4; Appendix A and B). 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.

The reclamation and closure plan for the PAG temporary storage facility is a requirement of the Industrial Solid Waste Permit Application, and is prepared in accordance with 18 AAC 60.200, 18 AAC 60.485(b), and 18AAC 60.485(d). The table which follows provides a breakdown of development rock generated during the project. In total about 60,900 yd³ will be generated, including 14,300 yd³ of PAG material.

**Estimated Volumes of Potentially Acid-Generating Waste Rock Produced
By The NMC Exploration Drift**

Unit	Length Tunnel (ft)	Chemical Analyses		PAG ¹ (%)	Tunnel Length (ft)	PAG Rock ¹		Volume as waste ⁵ (yd ³)
		PAG ¹ NP/MPA <3 (number samples)	NAG ² NP/MPA >3 (number samples)			Volume in-situ ³ (ft ³)	Volume in-situ ⁴ (yd ³)	
Hanging Wall	4,440	6	52	10%	459	86,810	3,247	4,383
Lookout Foot Wall	275	11	15	42%	116	21,989	822	1,110
	1,225	14	7	67%	817	154,350	5,773	7,793
Totals:	5,940	31	74	--	1,392	263,149	9,842	14,300⁶

- Notes:**
1. PAG = Potentially Acid-Generating/Potentially Metals Leaching rock, defined as: (neutralizing potential) / (maximum potential acidity) <= 3.
 2. NAG= Non Acid Generating Rock, defined as: (neutralizing potential) / (maximum potential acidity) >3
 3. Nominal 13.5 X 14 ft tunnel dimension - multiply linear footage totals by 189 to get cubic footage (unbroken).
 4. Volume in cubic yards = cubic ft * 0.0374.
 5. Waste volume assumes 45% expansion of waste relative to in-situ volume.
 6. Adjusted for additional expansion factor.

3.2.1 Reclamation Goals and Objectives

Reclamation activities for the potentially acid-generating/potentially metals leaching (PAG) waste rock storage site are focused on protecting local surface and ground water 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 will be removed and placed back underground, followed by grading, stabilization, and establishment of a long-term, self-sustaining vegetation community.

3.2.2 Reclamation and Closure Tasks

About 14,300 yd³ of potentially acid-generating (PAG) material at the engineered temporary storage facility will be placed back underground at the southern-most segment of the adit (-4.7% decline). Material would be hauled, end-dumped, and pushed in a typical backfill mode. Other activities include removal of the HDPE liner and disposal underground, and reclamation of other water management structures (collection sumps, etc.). 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 re-contoured, and stormwater conveyance cleaned and stabilized. Figure 4 shows the anticipated ultimate disturbance footprint for the temporary PAG waste site and Figure 5 provides a conceptual cross section of the PAG pile.

3.2.3 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 and relevant ADEC waste management permits. These programs will all be integrated into a single monitoring scheme.

3.2.4 Estimated Reclamation and Closure Costs

Closure costs for the PAG temporary storage site are outlined in Appendix B (Task 1), and are estimated at approximately \$163,968 . This subtotal includes cost of hauling waste underground, earthworks to regrade the rock storage facility, place growth media, and seeding the area.

3.3 Task 2 – Adit Plug and Portal Entrance Reclamation

Reclamation activities for the Adit and Portal Entrance area will commence once all PAG waste has been relocated back underground (Figure 4; Appendix A & B).

3.3.1 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.

3.3.2 Reclamation and Closure Tasks

The 14.5 ft. x 13 ft adit involving some 6,000 ft. of drift will be closed after the backfill is complete using a cement plug and pushed NAG material (about 250 cy) 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 ground water quality and quantity. The oversized plug “zone” would be grouted to limit hydrostatic pressures and adit drainage. The portal entrance/laydown area, which involves about 0.25 acres, would be cleared of all buildings and/or appurtenances and utilities. The area would then be topsoiled and seeded. The stormwater conveyance network would be stabilized for long-term stormwater management.

3.3.3 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. Section 4 describes the scope of anticipated monitoring and maintenance programs. Post-closure monitoring is also a requirement of the SWPPP and relevant ADEC waste management permits. These programs will all be integrated into a single monitoring scheme.

3.3.4 Estimated Reclamation and Closure Costs

Closure of the adit, including installation of an engineered cement plug and regrading the portal entrance is estimated at \$170,234 , Appendix B (Task 2). Cost for contingency (10%) and indirect costs are not included in the subtotal. Appendix B includes detailed analysis of unit cost, production and other assumptions used to estimate cost for each item.

3.4 Task 3 - NAG Waste Rock Storage Area

Reclamation activities in the NAG waste rock storage area (Figure 4; Appendix A and B) 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. The table which follows provides a breakdown of development rock generated during the project. In total about 60,900 yd³ will be generated, including 46,600 yd³ of NAG material.

Estimated Volumes of Non Acid-Generating Waste Rock Produced By The NMC Exploration Drift									
Unit	Tunnel Length (ft)	PAG ¹ NP:MPA <3 (number samples)	Chemical Analyses NAG ² NP/MPA >3 (number samples)	NAG ¹ (%)	Tunnel Length (ft)	NAG Rock ²		Volume as waste ⁵ (yd ³)	
						Volume in-situ ³ (ft ³)	Volume in-situ ⁴ (yd ³)		
Hanging Wall	4,440	6	52	90%	3,981	752,350	28,138	37,986	
Lookout	275	11	15	58%	159	29,986	1,121	1,514	
Foot Wall	1,225	14	7	33%	408	77,175	2,886	3,897	
Totals:	5,940	31	74	- -	4,548	859,511	32,146	46,600 ⁶	

- Notes:**
1. PAG=Potentially Acid-Generating/Potentially Metals Leaching rock, defined as: (neutralizing potential) / (maximum potential acidity) <=3.
 2. NAG=Non-Acid-Generating Rock, defined as: (neutralizing potential) / (maximum potential acidity) > 3
 3. Nominal 13.5 X 14 ft tunnel dimension - multiply linear footage totals by 189 to get cubic footage (unbroken).
 4. Volume in cubic yards = cubic ft * 0.0374.
 5. Waste volume assumes 45% expansion of waste relative to in-situ volume.
 6. Adjusted for additional expansion factor.

3.4.1 Reclamation Goals and Objectives

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

3.4.2 Reclamation and Closure Tasks

During construction and operation of the underground access tunnel, it is estimated that approximately 46,600 cubic yards of development rock will be produced and placed within the NAG waste rock disposal area. Figure 4 shows the anticipated ultimate disturbance footprint for the development rock deposit and Figure 5 provides a conceptual cross section of the NAG pile. 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 cubic yards of grading at closure was estimated for the conceptual closure surface.

The graded development rock surface will be covered with a minimum thickness of 6 inches of topsoil or other growth media that will be obtained from the stockpile. The treated surfaces will be scarified with an excavator along contour where practical and seeded using the upland seed mixture presented in Section 2.5.2.

3.4.3 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 4 describes the scope of anticipated monitoring and maintenance programs. Post-closure monitoring is also a requirement of the SWPPP and relevant ADEC waste management permits. These programs will all be integrated into a single monitoring scheme.

3.4.4 Estimated Reclamation and Closure Costs

Closure costs for the NAG waste rock storage site are outlined in Appendix B (Task 3), and are estimated at approximately \$24,202. This subtotal includes cost of earthworks to regrade the development rock storage facility, place growth media, and seeding the area. Cost for contingency (10%) and indirect costs are not included in the subtotal. Appendix B includes detailed analysis of unit cost, production and other assumptions used to estimate cost for each item.

3.5 Task 4 – Water Treatment Facility and Settlement Ponds (WTF)

At closure, the Water Treatment Facilities (WTF) and ponds would be filled after the geosynthetic liners are cut, folded, and sealed in place (Figure 4; Appendix A and B). Fill

material from the NAG pile would be used. 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 WTF and sediment pond areas would then be regraded and topsoil applied, followed by seeding.

3.5.1 Reclamation Goals and Objectives

The primary reclamation goal for the water treatment facility is to return the land to a safe and stable condition, suitable for use as wildlife habitat and for recreational use. Closure may include converting part of the facility to a wetland, otherwise, upland species as listed in section 2.5.2 will be used.

3.5.2 Reclamation and Closure Tasks

Once water quality is deemed to be stable, based on successful adit closure, and capping and revegetation of the associated waste facilities, ponds will be drained, the liners will be cut and folded back and the area can then be regraded leaving a portion of the facility shallow to provide ponding and the establishment of a shallow wetland feature.

3.5.3 Post-Closure Monitoring and Maintenance

Post-closure activities for the water treatment facility will consist of monitoring the wetland area to evaluate the success in establishment of a long-term, self-sustaining wetland community. Section 4 describes the scope of anticipated monitoring and maintenance programs. Post-closure monitoring is also a requirement of the SWPPP and relevant ADEC waste management permits. These programs will all be integrated into a single monitoring scheme.

3.5.4 Estimated Reclamation and Closure Costs

Closure costs are outlined in Appendix B (Task 4) and are estimated at approximately \$18,950 . This subtotal includes cost for hauling fill, removing piping (including land application drip emitters) regrading, seeding and planting. Cost for contingency (10%) and indirect costs are not included in the subtotal. Appendix B includes detailed analysis of unit cost, applications and other assumptions used to estimate cost for each item included.

3.6 Task 5 – Stormwater Management Areas

Stormwater capture, conveyance, settling, and dispersion structures down gradient of the NAG site will be closed and reclaimed following stabilization of the reclaimed NAG waste pile and water quality has been shown to return to approximate pre-exploration quality (Figure 4; Appendix A and B). The 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 OHM&P and COE permit stipulations, in order to keep the access road available for designated post-closure land use.

3.6.1 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.

3.6.2 Reclamation and Closure Tasks

Reclamation activities to final contour the stormwater management facilities will be completed once facilities are no longer required. This will be accomplished prior to Niblack leaving the site. 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.

Filling and grading of the areas will be completed to contour and smooth the area. A minimum of 6 inches of topsoil or other growth media will be placed on the sites. The sites will be scarified along contour and seeded using the upland seed mixture presented in Section 2.5.2.

3.6.3 Post-Closure Monitoring and Maintenance

Post-closure activities for the storm water management areas will consist of monitoring and maintenance of BMPs for erosion control and monitoring of seeded areas to evaluate revegetation success. Section 4 describes the scope of anticipated monitoring and maintenance programs. Post-closure monitoring is also a requirement of the SWPPP and relevant ADEC waste management permits. These programs will all be integrated into a single monitoring scheme.

3.6.4 Estimated Reclamation and Closure Costs

Closure costs for the stormwater management facilities are estimated at \$5,857, and are outlined in Appendix B (Task 5). This subtotal includes cost for regrading the area growth media placement and seeding. It does not allow for a contingency (10%) and indirect costs; these are included separately. Appendix B includes unit cost, production and other assumptions used to estimate cost.

4.0 RECLAMATION ASSURANCES

4.1 Summary of Estimated Reclamation Costs

Cost estimates for reclaiming and closing each facility are discussed above in Section 3. The total estimated cost to reclaim the Niblack Exploration Project, including post-closure monitoring, is \$1,237,317. This total includes \$643,436 of direct costs to complete the physical reclamation, and \$519,069 of indirect costs, inflation and contingency. The cost breakdown tables and supporting assumptions are presented in Appendix B. The cost estimates were compiled from contractor bids for work currently being done at Niblack and from current equipment rental estimates. They reflect actual site conditions, topography, and equipment and utilization factors that are representative of Southeast Alaska. The following table provides a summary of closure cost for each area discussed in Section 3.

SUMMARY OF ESTIMATED RECLAMATION COST		
Task Number	Reclamation Task	Cost
Task 1	Relocation of PAG and site reclamation	\$163,968
Task 2	Portal closure, plugging, and site reclamation	\$170,234
Task 3	Fill placement and grading, final contouring at NAG site	\$24,202
Task 4	Reclaim water treatment facilities site and sediment pond areas	\$18,950
Task 5	Reclaim stormwater management system	\$5,857
	Equipment mobilization and demobilization	\$46,400
	Personnel transport	\$12,240
	Equipment standby	\$34,114
	Support equipment including barge camp	\$167,469
Subtotal		\$643,436
Contractor Overhead (10%)		\$63,344
Contractor Profit (15%)		\$96,515
Engineering Design at 5%		\$32,172
Scope Contingency 10%		\$64,344
Bid Contingency 10%		\$64,344
Agency Oversight		\$8,650
Contract Performance & Payment Bond (3%)		\$19,303
Direct and Indirect Costs Subtotal		\$993,107
Inflation at 3.2% per year for 5 years		\$169,397
Total Tasks 1 through 5		\$1,162,505
Task 6	Reclamation and Water Quality Monitoring (including 3.2% inflation per year)	\$68,011
Bid Contingency (10%)		\$6,801
Total Task 6 (including 3.2% inflation per year)		\$74,813
Grand Total =		\$1,237,317

4.2 Long-Term Monitoring and Maintenance Program

A long-term monitoring and maintenance (LTMM) program is included with the reclamation and closure plan cost estimates discussed above. Specific LTMM plans regarding each facility and parcel are discussed above in Section 3. Modifications to the LTMM program will be consistent with the periodic reclamation and closure plan review. It is expected that historical data would play a key role in developing specific future LTMM program amendments.

Post-closure visual and water quality monitoring will be performed according to the Water Quality Baseline and Site Monitoring Plan (appendix to the Niblack Project Underground Exploration Plan of Operations), and as stipulated in ADEC waste management permits. The currently proposed schedule includes post-closure visual and water quality monitoring performed once annually in years 1, 2, 5, 10, 20 and 30. During periods of Temporary Closure, monitoring will be quarterly.

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 (any corrective action required that falls under ADEC waste management permit authority would be as detailed in the Water Quality Baseline and Site Monitoring Plan).
- 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) and 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.

Goals for the Niblack Exploration Project reclamation were described above in Section 2. 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.

4.3 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. The approach used in estimating each indirect cost is discussed below.

4.3.1 Mobilization/Demobilization

A separate mob/demob allowance of \$46,400 is provided in the estimate. An allowance of \$12,240 is also shown for the cost for personnel transportation (boat or floatplane) and periodic deliveries (landing craft). Demobilization cost includes cost for removing salvaged equipment and materials, and demobilization of construction equipment.

4.3.2 Contractor Overhead and Profit

Overhead and profit were estimated at 10% and 15% respectively, as a percentage of the total estimated direct costs. Contractor overhead totals \$64,344, and contractor profit totals \$96,515.

4.3.3 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 \$32,172.

4.3.4 Contingency

A 10% scope contingency and a 10% bid contingency was applied to all direct cost estimates, each totaling \$64,344.

4.3.5 Agency Oversight

A cost estimate for agency oversight of the reclamation totals \$8,650. This total is based on two trips by ADNR and ADEC during active reclamation and 3 follow-up site inspections in post-closure years 1, 2 and 3. It was assumed the oversight would be completed by one ADNR staff person from the Fairbanks office, and one ADEC staff person from the Juneau office.

4.3.6 Contract Performance and Payment Bond

A contract performance and payment bond of 3% of the total direct costs totals \$19,303.

4.3.7 Inflation Cost

Inflation was added to the total direct and indirect cost to account for the potential period for time that could elapse between updating the reclamation plan and completing reclamation activities. A five year term is used for calculating inflation assuming that the project forfeits the bond at the end of the 30 month cycle for updating the reclamation plan, that one year passes before reclamation begins, and that reclamation occurs over a two year period. A construction cost inflation rate of 3.2 percent was used to calculate the inflation cost. Additional information on the inflation cost calculation is presented in Appendix B.

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.

4.4 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.

Niblack will provide an acceptable financial assurance as a condition of the approval for the Plan of Operations. Niblack 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.

5.0 ADMINISTRATIVE INFORMATION AND LIST OF PROPERTIES

5.1 Project Ownership and Contact Information

Owner/Operator: Niblack Mining Corp.
Suite 615 – 800 West Pender
Vancouver, British Columbia
Canada V6C 2V6

U.S. Incorporation: Abacus Alaska Inc.
c/o Guess & Rudd (The Law Offices of)
Suite 700, 510 L Street
Anchorage, AK 99501-1986
U.S.A.

Contact: Darwin Green, M.Sc. P. Geo
Vice President Exploration
Niblack Mining Corporation
Suite 615 – 800 West Pender Street
Vancouver, B.C. V6C 2V6 Canada
Telephone: (604) 484-5045

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

5.2 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 on Craig A 1 USGS Map Quadrangle geographic map sheet (Figure 1). The property is composed of 17 patented claims, 101 staked federal lode claims and 2 Alaska State tideland claims (Figure 6). The claims are within Township 78 South, Range 88 East, Copper River Meridian, Sections 27, 28, 29, 32, 33, 34 and 35; and Township 79 South, Range 88 East, Copper River Meridian, Sections 1, 2, 3 and 4, Ketchikan Recording District, Alaska. All claims are owned 100% by Niblack Mining Corp. subject to a variable 1%-3% NSR to Barrick Gold Corp. and a 15% NPI to Cook Inlet Region Inc. (“Cook Inlet”), an Alaska Native Corporation.

Work will be conducted on patented claims within mineral survey numbers 533, 644, and 1437 as described below (Figure 6).

<u>Patented claims controlled by Niblack Mining Corporation</u>		
<u>Mineral Survey #</u>	<u>Recording District</u>	<u>Claim(s)</u>
533	Ketchikan ¹	Parcel No. 1: Lookout Lode (Mining Claim), Conundrum Lode (Mining Claim), Conundrum Extension Lode (Mining Claim), Blue Bell ² Lode (Mining Claim), West Mammoth Lode (Mining Claim), East Mammoth Lode (Mining Claim).
644	Ketchikan	Parcel No. 2: Judge Lode (Mining Claim), Bradford Lode (Mining Claim), Jefferson Lode (Mining Claim), Forest Lode (Mining Claim), Iron and Copper Lode (Mining Claim), Luella Lode (Mining Claim).
1437	Ketchikan	Parcel No 3: Mary Lode (Mining Claim).
1438	Ketchikan	Parcel No. 4: Pride Lode (Mining Claim).
1436	Ketchikan	Parcel No. 5: Snow Flake (Mining Claim).
1585	Ketchikan	Parcel No 6: Beach Lode (Mining Claim).
1009	Ketchikan	Trio Lode (Mining Claim), Broadgauge Lode (Mining Claim)

¹ Ketchikan Recording District, First Judicial District, State of Alaska.

² In some documentation, listed as **Blue Belle** claim.

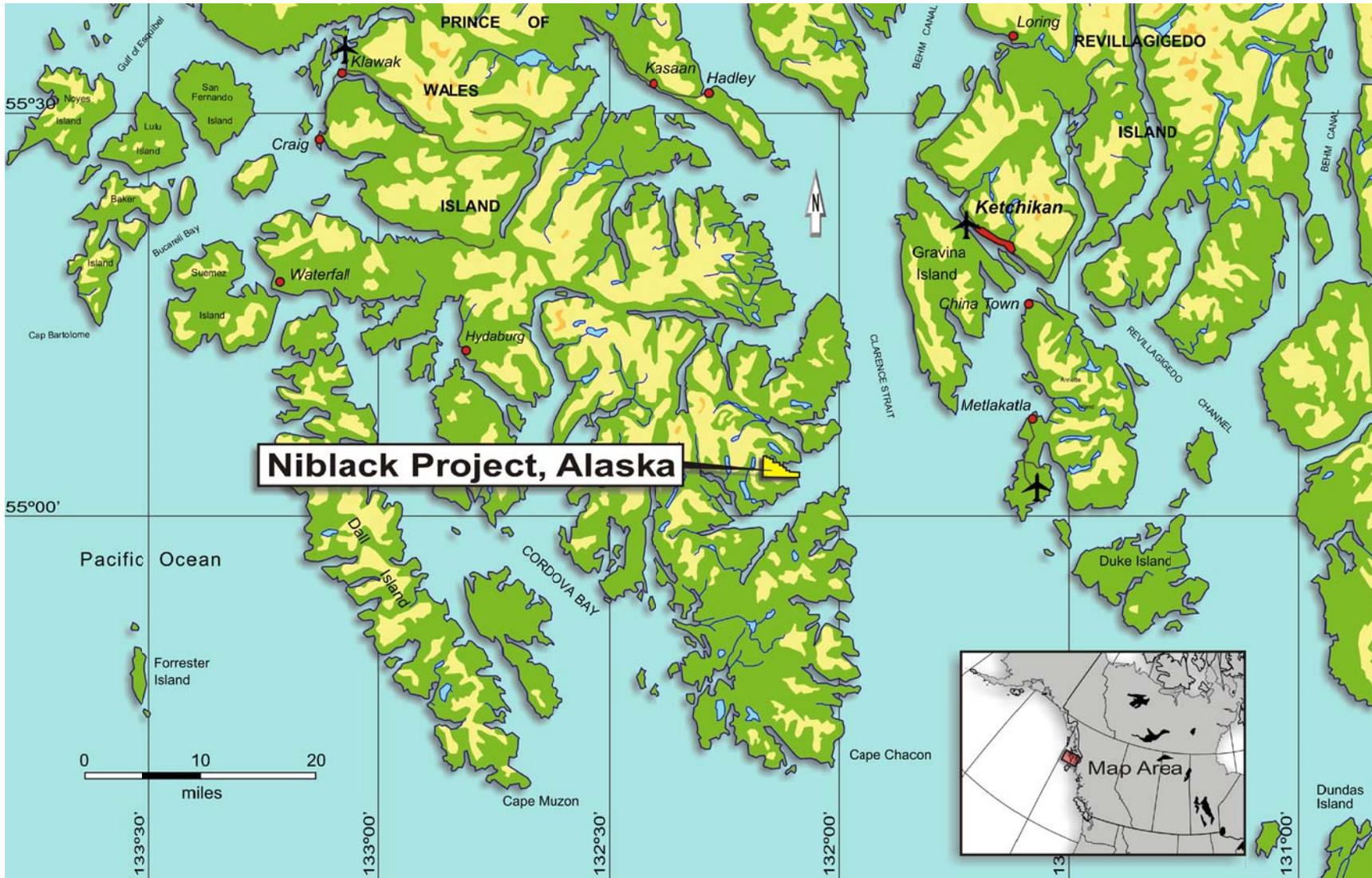
6.0 REFERENCES CITED

Knight Piésold, 2006. Draft Plan of Operations for the Niblack Exploration Project.

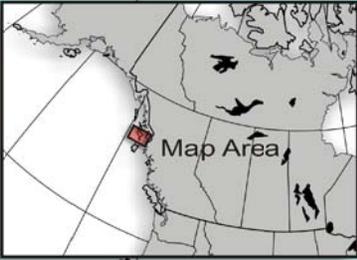
Spencer E. R. 2005. Heavy Construction Cost Data, 19th Annual Edition, RS Mean Construction Publishers and Consultants.

United States Forest Service (USFS). 2004. Training Guide for Reclamation Bond Estimation and Administration, April 2004.

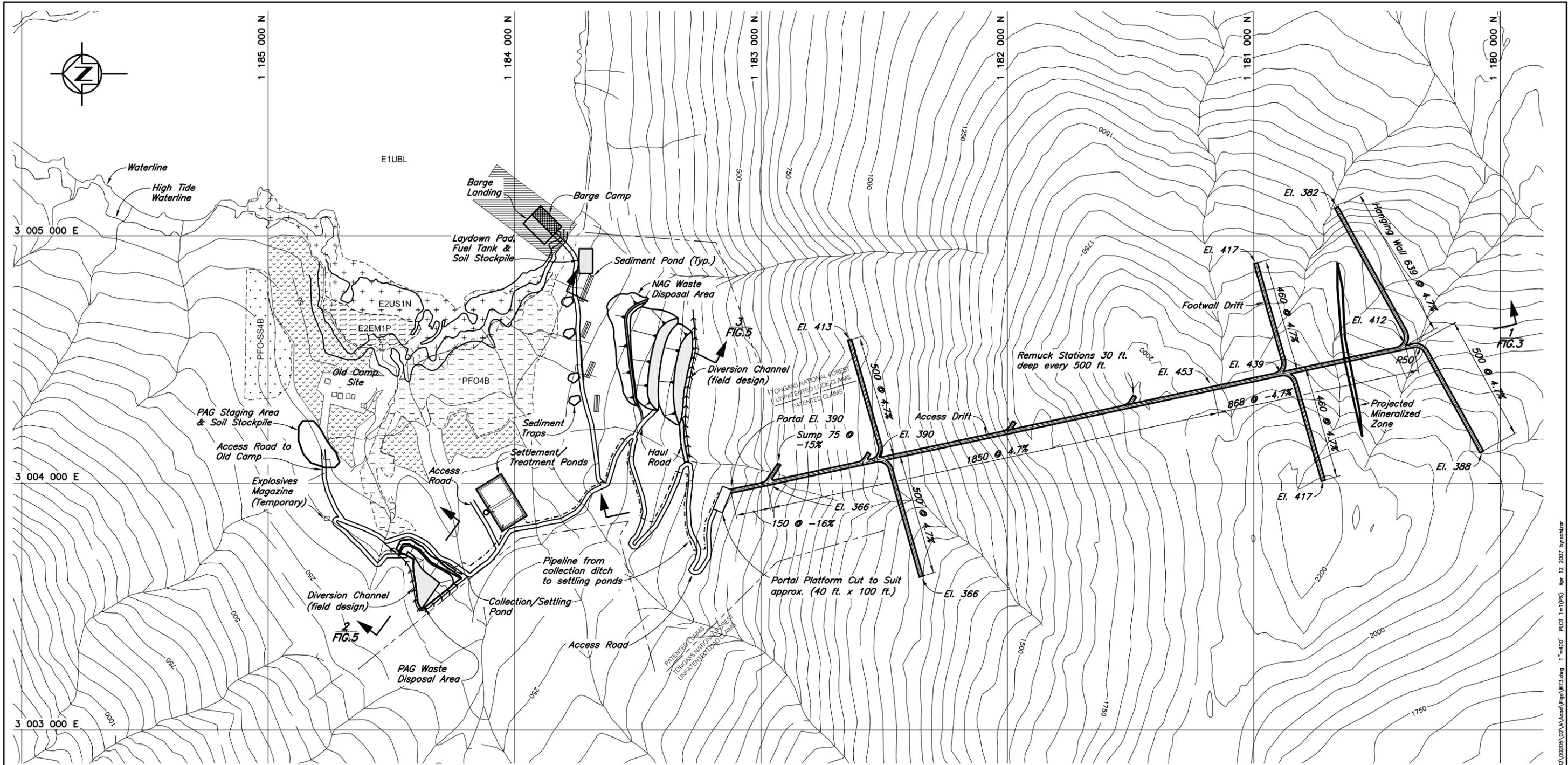
USFS Soil and Water Conservation Handbook (USFS, 1996).



Niblack Project, Alaska



NIBLACK MINING CORP.	
PROPOSED EXPLORATION PROGRAM	
NIBLACK LOCATION MAP	
<i>Knight Piésold</i> CONSULTING	PROJECT/ASSIGNMENT NO. VA102-205/2
	REF. NO. VA07-00493
FIGURE 1	
REV. 0	

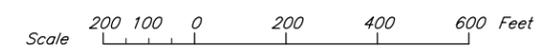


LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | E1UBL Estuarine - Subtidal | | PFO4B - Needleleaf Forest Wetland |
| | E2US1N Estuarine - Unvegetated Intertidal | | Land Application Areas |
| | E2EM1P Estuarine - Emergent Intertidal | | Property Boundary |
| | PFO-SS4B - Needleleaf Forest/Scrub-Shrub Wetland | | Tideland Lease Area |

NOTE

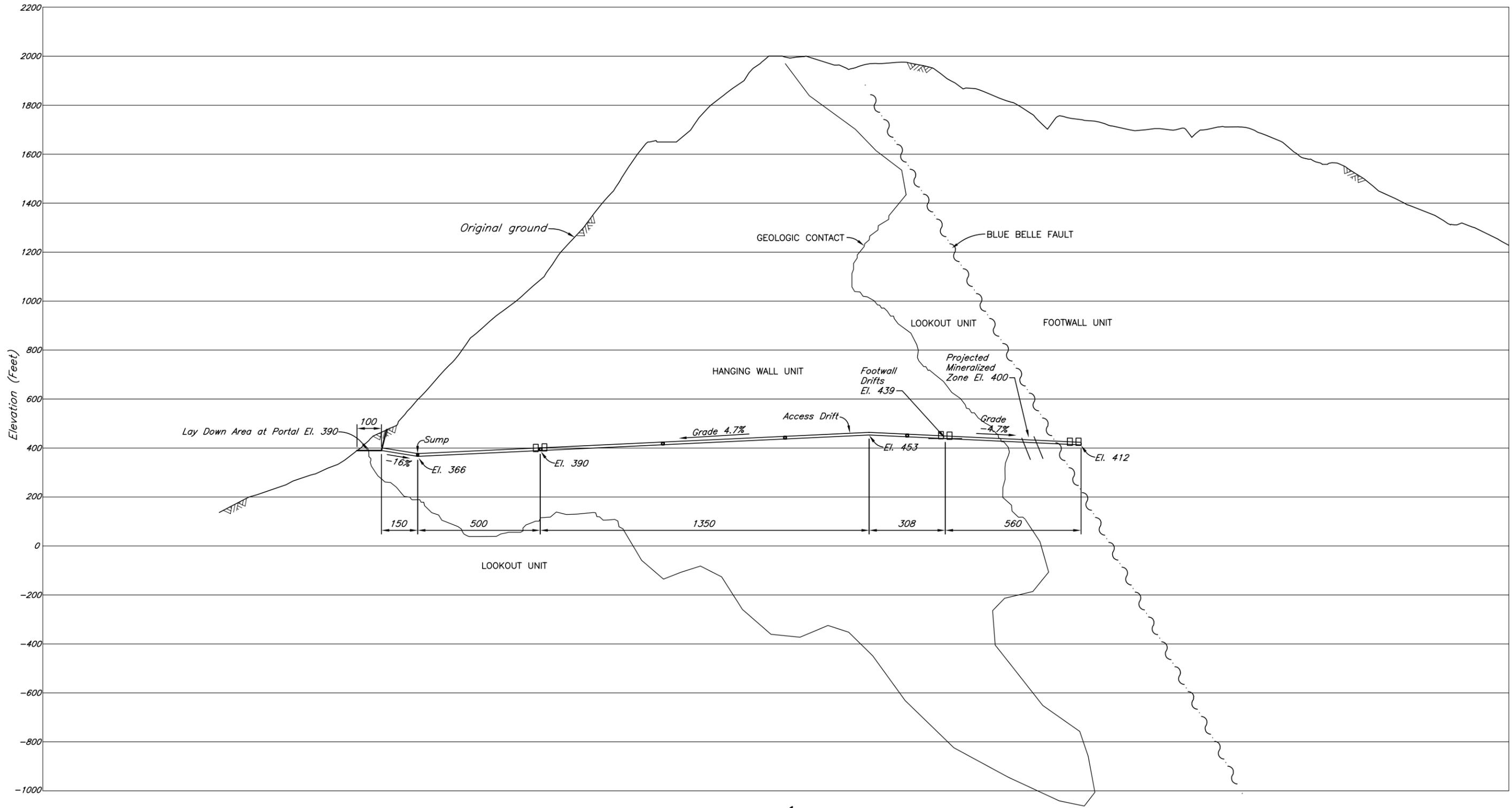
All dimensions and elevations are in feet unless otherwise noted.



NIBLACK MINING CORP.	
PROPOSED EXPLORATION PROGRAM	
GENERAL SITE PLAN	
<i>Knight Piésold</i> CONSULTING	
PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00493
FIGURE 2	
REV. 0	

XREF FILE : Hydro_Feature_Topo

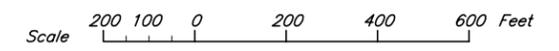
CAD FILE: H:\1\02\00005\02\A\Acad\Fig\923.dwg 1"=400' PLOT 1=(PS) Apr 12 2007 by:shizor WASHINGTON, B.C.



SECTION $\frac{1}{\text{FIG.2}}$
LOOKING EAST

NOTES

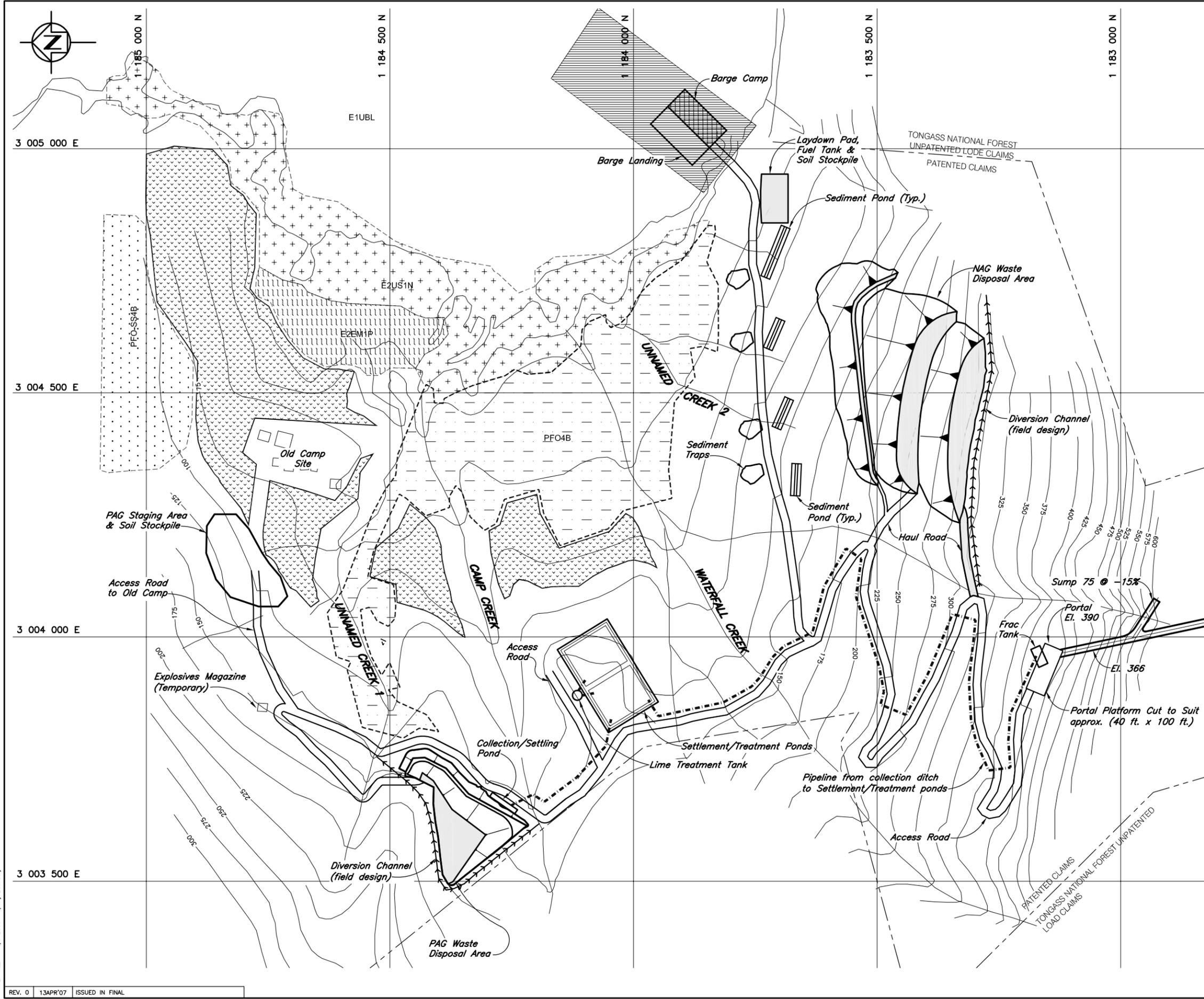
1. This figure produced from information provided by Beacon Hill Consultants (1988) Ltd.
2. All dimensions and elevations are in feet unless otherwise noted.



NIBLACK MINING CORP.							
PROPOSED EXPLORATION PROGRAM							
PROPERTY SECTION							
Knight Piesold CONSULTING	<table border="1"> <tr> <td>PROJECT/ASSIGNMENT NO. VA102-205/2</td> <td>REF. NO. VA07-00493</td> </tr> <tr> <td colspan="2" style="text-align: center;">FIGURE 3</td> </tr> <tr> <td colspan="2" style="text-align: right;">REV. 0</td> </tr> </table>	PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00493	FIGURE 3		REV. 0	
PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00493						
FIGURE 3							
REV. 0							

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

CAD FILE: H:\1\02\00205\02\A\Acad\Fig\B74.dwg 1"=400' PLOT 1=(PS) Apr 12, 2007 by:shar

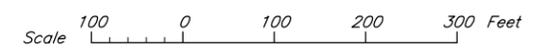


LEGEND

- 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
- Property Boundary
- Tideland Lease Area

NOTE

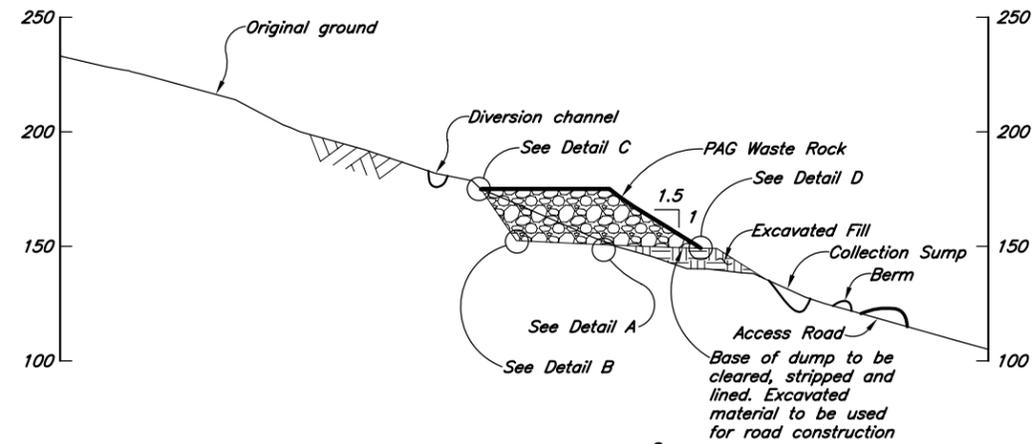
All dimensions and elevations are in feet unless otherwise noted.



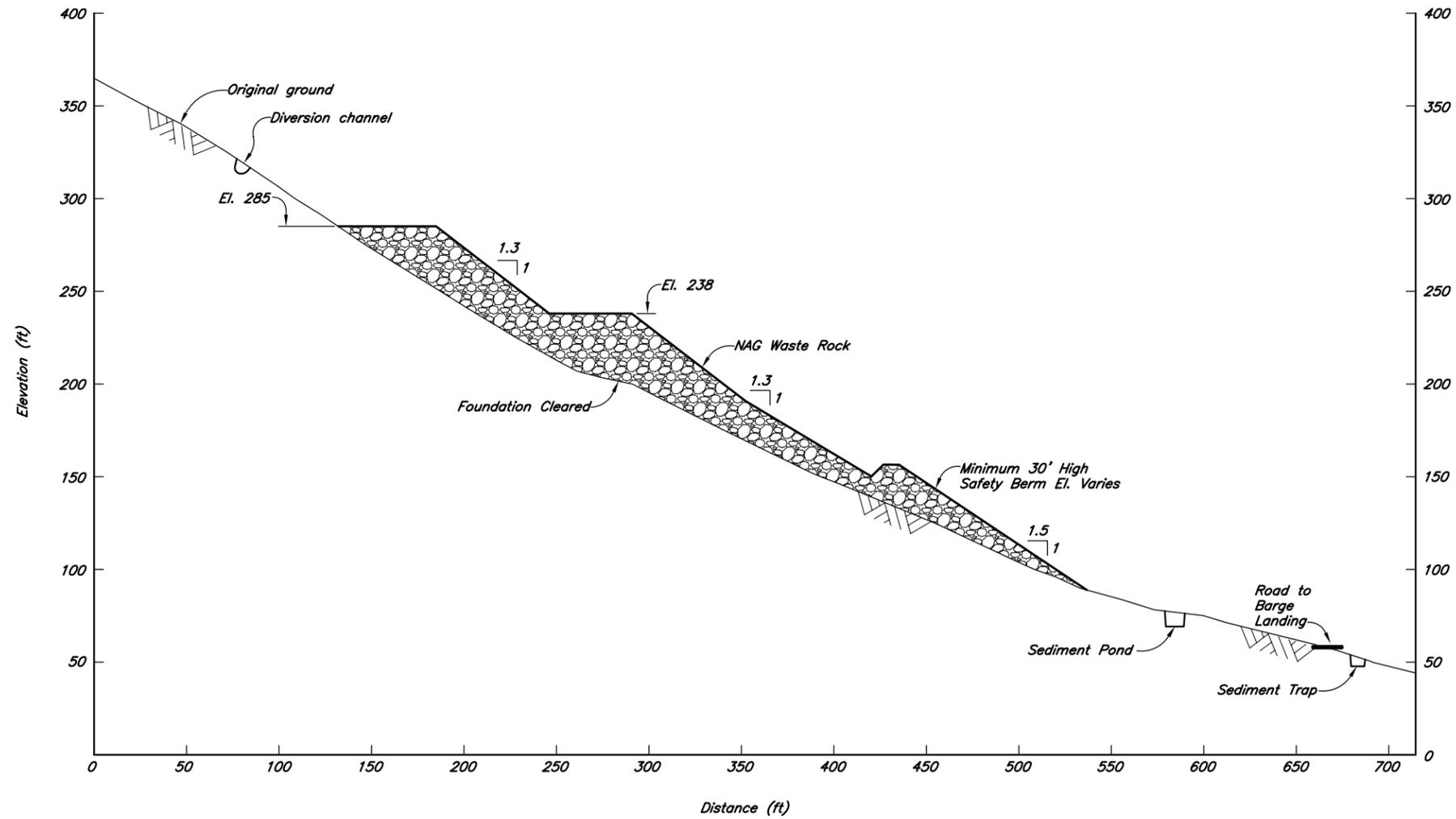
NIBLACK MINING CORP.		
PROPOSED EXPLORATION PROGRAM		
SITE PLAN DETAIL		
Knight Piésold CONSULTING	PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00493
	FIGURE 4	

XREF FILE : Topo 2006 Property Boundary

CAD FILE: M:\1\02\000005\02\A\Wood\Fig\9775.dwg 1"=200' PLOT 1=1"(PS) Apr 12 2007 by:achizer

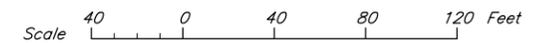


SECTION 2
FIG. 2
SECTION THRU PAG WASTE ROCK DUMP

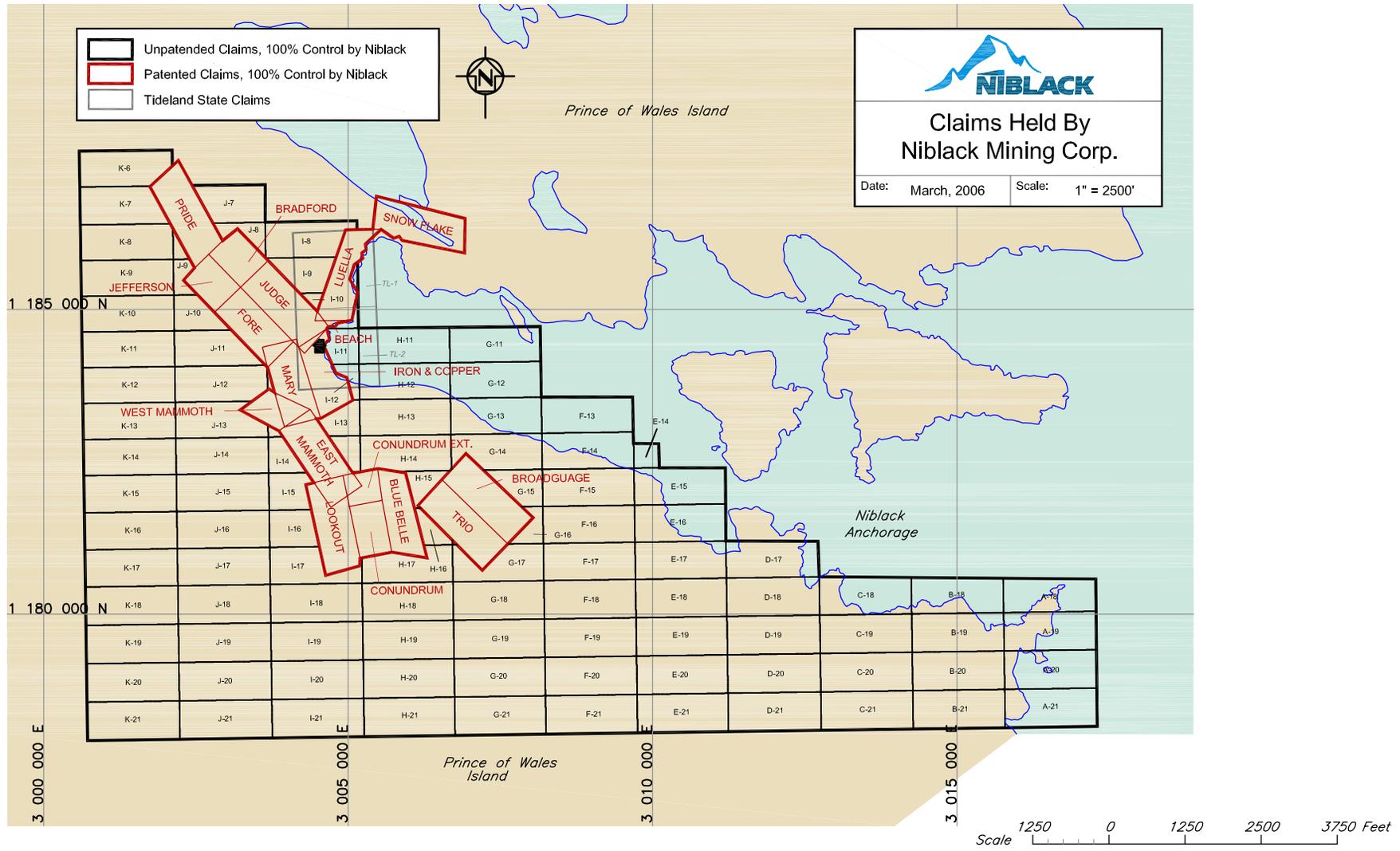


SECTION 3
FIG. 2
SECTION THRU NAG WASTE ROCK DUMP

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



NIBLACK MINING CORP.	
PROPOSED EXPLORATION PROGRAM	
CROSS-SECTIONS OF NAG & PAG WASTE ROCK STORAGE FACILITIES	
Knight Piésold CONSULTING	PROJECT/ASSIGNMENT NO. VA102-205/2
	REF. NO. VA07-00493
FIGURE 5	REV. 0



PROJECTION: NAD 27 US, ALASKA STATE PLANE ZONE 1 (FEET)

NIBLACK MINING CORP.	
PROPOSED EXPLORATION PROGRAM	
CLAIMS MAP	
<i>Knight Piésold</i> CONSULTING	
PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00493
FIGURE 6	
REV. 0	0

APPENDIX A

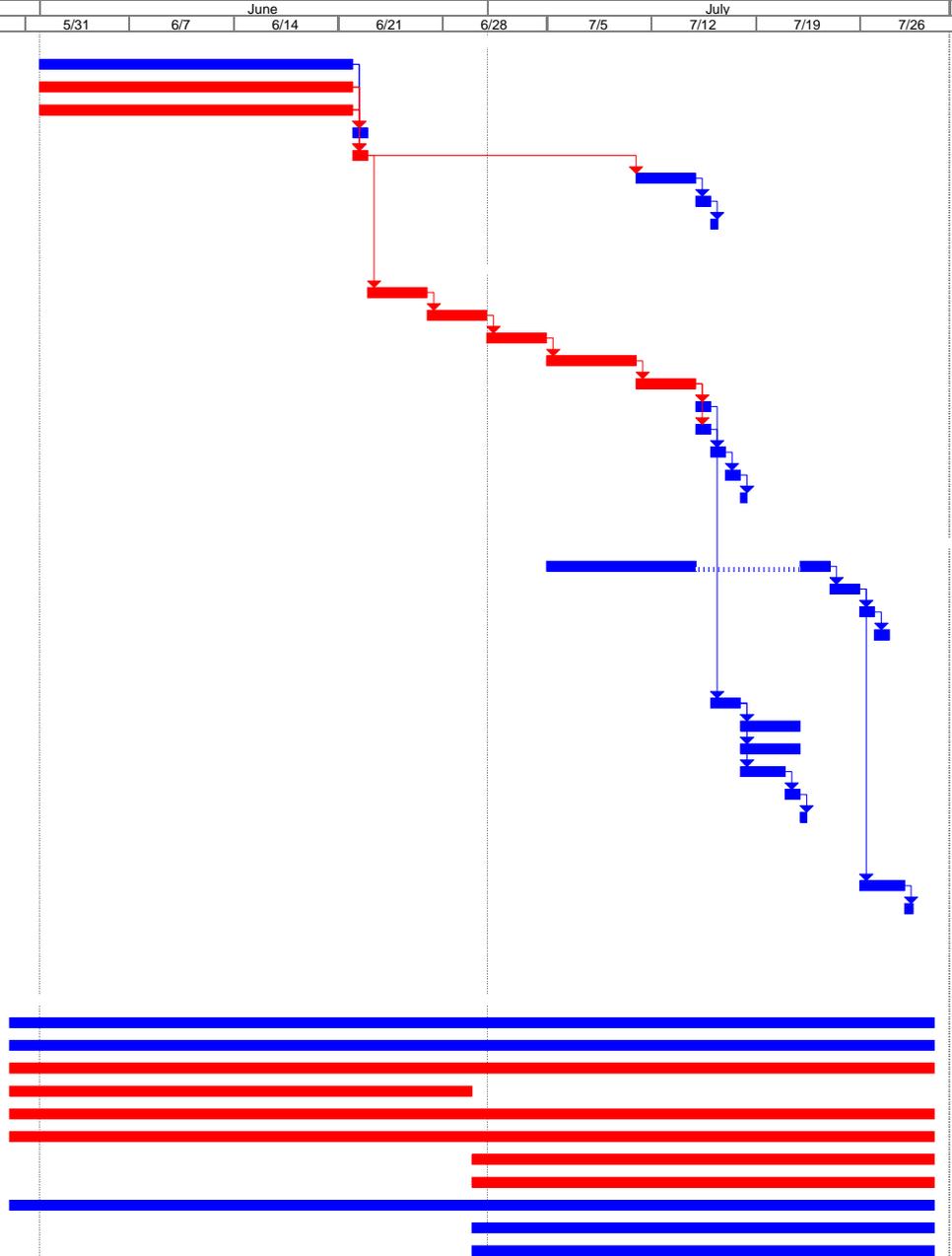
Project Reclamation Schedule

Tasks 1 to 5

NIBLACK EXPLORATION PROJECT RECLAMATION SCHEDULE

11 April 2007

ID	Task Name	Duration	Start	Finish	June						July				
					5/24	5/31	6/7	6/14	6/21	6/28	7/5	7/12	7/19	7/26	
1	Task 1: Relocation of PAG Material and Reclaim Site (14,300 CYD)	45 days	Mon 6/1/09	Thu 7/16/09											
2	Load haul trucks (Kobelco WLK25 loader)	21 days	Mon 6/1/09	Mon 6/22/09											
3	Haul PAG rock from PAG site to ~2500 ft. underground (2 - EJC 522 trucks)	21 days	Mon 6/1/09	Mon 6/22/09											
4	Place PAG rock underground (6 cyd mucker w/ejector bucket)	21 days	Mon 6/1/09	Mon 6/22/09											
5	Remove HDPE liner (Kobelco WLK25 loader)	1 day	Mon 6/22/09	Tue 6/23/09											
6	Haul HDPE liner underground (2 - EJC 522 trucks)	1 day	Mon 6/22/09	Tue 6/23/09											
7	Recontour site/restore stormwater conveyance (Volvo 290 B excavator)	4 days	Sat 7/11/09	Wed 7/15/09											
8	Place topsoil (Volvo 290 B excavator)	1 day	Wed 7/15/09	Thu 7/16/09											
9	Seeding	4 hrs	Thu 7/16/09	Thu 7/16/09											
10															
11	Task 2: Portal Closure Including Adit Plug	25 days	Tue 6/23/09	Sat 7/18/09											
12	Plug site excavation	4 days	Tue 6/23/09	Sat 6/27/09											
13	Construct forms	4 days	Sat 6/27/09	Wed 7/1/09											
14	Place concrete	4 days	Wed 7/1/09	Sun 7/5/09											
15	Grout perimeter of plug	6 days	Sun 7/5/09	Sat 7/11/09											
16	Remove mine utilities	4 days	Sat 7/11/09	Wed 7/15/09											
17	Load NAG fill and topsoil (Kobelco WLK25 loader)	1 day	Wed 7/15/09	Thu 7/16/09											
18	Haul NAG fill and topsoil (JCB 714 dump truck)	1 day	Wed 7/15/09	Thu 7/16/09											
19	Backfill portal (Volvo 290 B excavator)	1 day	Thu 7/16/09	Fri 7/17/09											
20	Place topsoil (Volvo 290 B excavator)	1 day	Fri 7/17/09	Sat 7/18/09											
21	Seeding	2 hrs	Sat 7/18/09	Sat 7/18/09											
22															
23	Task 3: Fill Placement and Grading, Final Contouring at NAG Site	16 days	Wed 7/22/09	Fri 8/7/09											
24	Final grading (Volvo 290 B excavator)	12 days	Sun 7/5/09	Fri 7/24/09											
25	Place topsoil (Volvo 290 B excavator)	2 days	Fri 7/24/09	Sun 7/26/09											
26	Seeding	1 day	Sun 7/26/09	Mon 7/27/09											
27	Silt fence	1 day	Mon 7/27/09	Tue 7/28/09											
28															
29	Task 4: Reclaim Water Treatment Facilities and Sediment Pond Areas	6 days	Thu 7/16/09	Wed 7/22/09											
30	Remove and dispose of surface facilities (Kobelco WLK25 loader)	2 days	Thu 7/16/09	Sat 7/18/09											
31	Load NAG fill material and topsoil (Kobelco WLK25 loader)	4 days	Sat 7/18/09	Wed 7/22/09											
32	Haul NAG fill material and topsoil (JCB 714 dump truck)	4 days	Sat 7/18/09	Wed 7/22/09											
33	Recontour site (Volvo 290 B excavator)	3 days	Sat 7/18/09	Tue 7/21/09											
34	Place topsoil (Volvo 290 B excavator)	1 day	Tue 7/21/09	Wed 7/22/09											
35	Seeding	3 hrs	Wed 7/22/09	Wed 7/22/09											
36															
37	Task 5: Stormwater Conveyance and Settling Ponds Below NAG Site	3 days	Wed 8/5/09	Sat 8/8/09											
38	Recontour sites replace topsoil (Volvo 290 B excavator)	3 days	Sun 7/26/09	Wed 7/29/09											
39	Seeding	6 hrs	Wed 7/29/09	Wed 7/29/09											
40															
41															
42															
43	EQUIPMENT ON SITE	2 mons	Sat 5/30/09	Fri 7/31/09											
44	Barge Camp	2 mons	Sat 5/30/09	Fri 7/31/09											
45	3/4 ton pick-up truck	2 mons	Sat 5/30/09	Fri 7/31/09											
46	Generator/Fans/Compressor	2 mons	Sat 5/30/09	Fri 7/31/09											
47	(2) EJC 522 underground haul trucks (22 tons)	1 mon	Sat 5/30/09	Tue 6/30/09											
48	Jacklegs/misc. underground tools and equipment	2 mons	Sat 5/30/09	Fri 7/31/09											
49	Tamrock 6 cyd mucker (w/ejector bucket)	2 mons	Sat 5/30/09	Fri 7/31/09											
50	Reed concrete pump (40 cyd/hour)	1 mon	Tue 6/30/09	Fri 7/31/09											
51	Grout pump	1 mon	Tue 6/30/09	Fri 7/31/09											
52	Kobelco WLK25 loader (3 1/2 cyd bucket)	2 mons	Sat 5/30/09	Fri 7/31/09											
53	Volvo 290 B excavator (1 1/2 cyd bucket)	1 mon	Tue 6/30/09	Fri 7/31/09											
54	JCB 714 dump truck (9 1/2 cyd box)	1 mon	Tue 6/30/09	Fri 7/31/09											



APPENDIX B

Project Reclamation Cost Estimate

NIBLACK PROJECT

RECLAMATION COST ESTIMATES

The following criteria and breakdown for reclamation/closure costs for the Niblack construction/exploration project are provided for in the following major tasks. Table 1 at the end of Appendix B summarizes total estimated reclamation costs. Tables 2 through 6 provide equipment, fuel, labor, material, and mob/demob costs with an itemized breakdown for each reclamation task. Wage rates were calculated, assuming \$45.52 per hour (\$32.92 base rate + \$12.60 benefits), a 15% premium for working foreman's wages, and a 26% premium for overtime. These costs were compiled from contractor bids for work currently being done at Niblack and for current equipment rental estimates. They reflect actual site conditions, topography, and equipment and utilization factors that are representative of Southeast Alaska.

Task 1. Relocation of PAG Material and Reclaim Site

Criteria: About 14,300 yd³ of potentially acid-generating material at the engineered temporary storage facility will be placed back underground at the southern-most segment of the adit (-4.7% decline). 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 pickup 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 is about 6000 feet. 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 recycle; re-contour, topsoil, and seed the PAG site; and clean and stabilize the storm water conveyance system.

Task 2. Portal Closure Including Adit Plug

Criteria: The 14.5 ft. x 13. ft adit involving some 6,000 ft. of drift will be closed after the backfill is complete, using a concrete plug in the adit and pushed NAG material (about 250 cy) at the portal. The plug zone would be approximately 16 feet long and excavated two feet oversize (nominally 18.5 ft x 17 ft). Both ends of the plug would be formed, and concrete would be batched on-site, hauled underground with the LHD, 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 acres, would be cleared of all buildings and/or appurtenances and utilities. The area would then be topsoiled and hydroseeded and the stormwater conveyance material network would be stabilized for long-term stormwater management.

Task 3. Fill Placement and Grading, Final Contouring at NAG Site

Criteria: The non-acid generating storage site (NAG) must remain stable at closure and in a final form that blends into the local topography. The site will contain about 46,600 cy of development rock. Prior to closure, NMC 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 mid-slope 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 inches of topsoil.

Task 4. Water Treatment Facility and Sediment Pond Reclamation

Criteria: At closure, the Water Treatment Facilities (WTF) ponds would be filled after the geosynthetic liners are cut, folded, and sealed in place. Fill material from the NAG pile would be used. The NAG pile is located 0.125 miles from the WTF, 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 WTF and sediment pond areas would then be regraded and topsoil applied, followed by seeding.

Task 5. Stormwater Management Area Reclamation

Criteria: Stormwater capture, conveyance, settling, and dispersion structures down gradient 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 acres. The activity would include placement of the originally excavated topsoil (stored beside the trenches and ponds) back in the trenches/ponds and grading. The work would be completed by backhoe. Protection from erosion and sedimentation is also a fundamental objective. Therefore, native species of grasses will be re-established.

Task 6. Reclamation and Water Quality Monitoring

Criteria: Post closure monitoring will include annual reclamation/revegetation surveys for three years, and water quality monitoring extending out to 30 years. Post closure water quality monitoring will be performed once annually for years 1, 2, 5, 10, 20 and 30. For the first 2 years sampling will be performed at 6 sites (2 surface and 4 shallow ground water well). For years 5, 10, 20 and 30 the sampling will be performed at 3 sites (2 surface and 1 shallow ground water well) down-gradient of the NAG site and portal area (see Water Quality Baseline and Site Monitoring Plan).

Table 1. Summary of Total Estimated Reclamation Costs

Task Number	Reclamation task	Cost
Task 1	Relocation of PAG Material and Reclaim Site (14,300 CYD)	\$163,968
Task 2	Portal Closure Including Adit Plug	\$170,234
Task 3	Fill Placement and Grading, Final Contouring at NAG Site	\$24,202
Task 4	Reclaim WTF and Sediment Pond Areas	\$18,950
Task 5	Stormwater Management Area Reclamation	\$5,857
	Equipment Mob/Demob	\$46,400
	Personnel transport	\$12,240
	Equipment standby	\$34,114
	Support equipment including barge camp	\$167,469
	Direct Costs Subtotal	\$643,436
	Contractor Overhead (10%)	\$64,344
	Contractor Profit (15%)	\$96,515
	Engineering Design (5%)	\$32,172
	Scope contingency (10%)	\$64,344
	Bid contingency (10%)	\$64,344
	Agency Oversight	\$8,650
	Contract Performance & Payment Bond (3%)	\$19,303
	Direct and Indirect Costs Subtotal	\$993,107
	Inflation (3.2% per year for 5 years)	\$169,397
	TOTAL TASK 1 THROUGH TASK 5	\$1,162,505
Task 6	Reclamation and Water Quality Monitoring Surveys:	
	Year 1	
	Reclamation/revegetation monitoring	\$3,842
	Water quality sampling	\$7,954
	Year 2	
	Reclamation/revegetation monitoring	\$3,964
	Water quality sampling	\$8,208
	Year 3	
	Reclamation/revegetation monitoring	\$4,091
	Year 5	
	Water quality sampling	\$6,690
	Year 10	
	Water quality sampling	\$7,831
	Year 20	
	Water quality sampling	\$10,730
	Year 30	
	Water quality sampling	\$14,702
	TOTAL TASK 6 (including 3.2% inflation per year)	\$68,011
	Bid contingency (10%)	\$6,801
	TOTAL TASK 6 (incl. inflation and bid contingency)	\$74,813
	GRAND TOTAL	\$1,237,317

Table 2. Materials Costs (Task 2)

Task 2: Portal Closure Including Adit Plug

		Materials		
	Quantity (units)	Units	Unit Rate (\$/unit)	Cost (\$)
Plug site excavation				
bits and steel	1	lump sum	\$500	\$500
explosives	155	rock tons	\$4.00	\$620
ground support	1	lump sum	\$400	\$400
misc.	1	lump sum	\$1,000	\$1,000
TOTAL				\$2,520
Construct forms				
8 x 8 timbers	2.73	MBF	\$522	\$1,425
plywood (3/4" CDX)	24	sheets	\$25.85	\$620
2 x 6	500	lft	\$0.53	\$266
#5 rebar	320	lft	\$0.58	\$186
misc.	1	lump sum	\$2,000	\$2,000
TOTAL				\$4,497
Place concrete				
concrete delivered to site	240	cyd	\$261	\$62,609
TOTAL				\$62,609
Grout perimeter of plug				
portland cement (94 lb. sacks)	400	sacks	\$6.70	\$2,680
bits and steel	1	lump sum	\$500	\$500
misc.	1	lump sum	\$2,000	\$2,000
TOTAL				\$5,180
Seeding				
Seed	0.25	acre	\$869.57	\$217
TOTAL				\$217

Table 3. Materials, Transportation and Analytical Costs (Task 6)

Task 6: Reclamation and Water Quality Monitoring

		Materials/Transportation		
	Quantity (units)	Units	Unit Rate (\$/unit)	Cost (\$)
Reclamation/revegetation monitoring				
transportation	1	lump sum	\$1,020	\$1,020
TOTAL				\$1,020
Water quality monitoring - years 1 & 2 (6 sample sites)				
sampling materials/misc.	1	lump sum	\$500	\$500
analysis	1	lump sum	\$2,904	\$2,904
transportation	1	lump sum	\$1,020	\$1,020
TOTAL				\$4,424
Water quality monitoring - years 5, 10, 20 & 30 (3 sample sites)				
sampling materials/misc.	1	lump sum	\$250	\$250
analysis	1	lump sum	\$1,452	\$1,452
transportation	1	lump sum	\$1,020	\$1,020
TOTAL				\$2,722

Table 4. Equipment Costs

Equipment	Monthly Rental	Hourly Operating Cost (less fuel)	Hourly Fuel Use (gal/hour)
Generator/Fans/Compressor (see below)	\$6,535.41	\$49.98	20.0
EJC 522 underground truck (22 tons)	\$15,000.00	\$20.00	8.0
Jacklegs, misc UG equipment	\$4,000.00	\$0.00	n/a
Toro 6 cyd mucker (w/ejector bucket)	\$20,000.00	\$35.00	10.0
Kobelco WLK25 loader (3 1/2 cyd bucket)	\$4,045.67	\$9.86	3.5
3/4 ton pickup truck	\$641.58	\$2.50	2.0
Volvo 290 B excavator (1 1/2 cyd bucket)	\$8,528.05	\$20.37	4.0
JCB 714 dump truck (9 1/2 cyd box)	\$5,153.93	\$10.81	2.5
Reed concrete pump (40 cyd/hr)	\$2,173.91	\$13.04	2.0
Grout pump	\$2,695.65	\$4.35	n/a
Barge Camp	\$13,043.48	\$52.17	2.0
Generator (500kW)	\$4,269.57	\$45.22	18.0
Compressor (185 cfm)	\$765.84	\$2.77	2.0
Fans	\$1,500.00	\$2.00	n/a
Generator/Fans/Compressor (total, reports to top line item)	\$6,535.41	\$49.98	20.0

Table 5. Mob/Demob and Transportation Costs

Mob/Demob	Rate / trip	Number of Trips	Cost
Transport underground equipment to Ketchikan	\$20,000	1	\$20,000
Equipment barge trips from Ketchikan to Niblack	\$4,400	6	\$26,400
Personnel transport	\$510	24	\$12,240

Table 6. Post Closure Labour Costs (Task 6)

	number of staff	time (hours)	Labor Cost		Trans Cost (\$)	Material Cost (\$)	Total Cost (\$)
			rate (\$/hour)	total (\$)			
Reclamation/revegetation monitoring							
Annual inspection (Helper)	1	8	\$50.00	\$400	\$0	\$0	\$400
Annual inspection (Technician)	1	24	\$90.00	\$2,160	\$1,020	\$0	\$3,180
TOTAL							\$3,180
Water quality monitoring (Sampling Years 1 & 2)							
Annual Sampling (Helper)	1	8	\$50.00	\$400	\$0	\$0	\$400
Annual Sampling (Technician)	1	24	\$90.00	\$2,160	\$1,020	\$3,404	\$6,584
TOTAL							\$6,584
Water quality monitoring (Sampling Years 5,10,20 & 30)							
Annual Sampling (Helper)	1	8	\$50.00	\$400	\$0	\$0	\$400
Annual Sampling (Technician)	1	24	\$90.00	\$2,160	\$1,020	\$1,702	\$4,882
TOTAL							\$4,882

Table 7. Reclamation Cost Estimate for Tasks 1 to 5.

	Equipment in Use	Equipment Rental Cost			Equipment Operating Cost			Fuel Cost				Labor Cost			Material Cost (\$)	Total Cost (\$)	
		time	rate	total	time	rate	total	time	rate	price	total	time	rate	total			
		(days)	(\$/month)	(\$)	(hours)	(\$/hour)	(\$)	(hours)	(gal/hour)	(\$)	(\$)	(hours)	(\$/hour)	(\$)			
Task 1: Relocation of PAG Material and Reclaim Site (14,300 CYD)																	14,300 cyd x 1.5 tons/cyd = 21,500 tons
Load haul trucks	Kobelco WLK25 loader	21	\$4,045.67	\$2,832	252	\$9.86	\$2,485	252	3.5	3.04	\$2,681	252	\$60.22	\$15,176	\$0	\$23,174	
Haul PAG rock from PAG site to ~2500 ft underground	(2) EJC 522 trucks	42	\$15,000.00	\$21,000	504	\$20.00	\$10,080	504	8.0	3.04	\$12,257	504	\$60.22	\$30,352	\$0	\$73,690	2 trucks, 6000 ft haul, 2 trips/hour each, 22 tons/trip
Place PAG rock underground	6 cyd mucker w/ejector bucket	21	\$20,000.00	\$14,000	252	\$35.00	\$8,820	252	10.0	3.04	\$7,661	252	\$60.22	\$15,176	\$0	\$45,657	
Remove HDPE liner	Kobelco WLK25 loader	1	\$4,045.67	\$135	12	\$9.86	\$118	12	3.5	3.04	\$128	24	\$60.22	\$1,445	\$0	\$1,826	1 operator, 1 laborer
Haul liner underground	(2) EJC 522 trucks	2	\$15,000.00	\$1,000	24	\$20.00	\$480	24	8.0	3.04	\$584	24	\$60.22	\$1,445	\$0	\$3,509	2 trucks, 1 day each
Recontour site/restore stormwater conveyance	Volvo 290 B excavator	4	\$8,528.05	\$1,137	48	\$20.37	\$978	48	4.0	3.04	\$584	48	\$60.22	\$2,891	\$0	\$5,589	
Place topsoil	Volvo 290 B excavator	1	\$8,528.05	\$8,528	12	\$20.37	\$244	12	4.0	3.04	\$48	12	\$60.22	\$723		\$9,543	
Seeding												4	\$60.22	\$241	\$739	\$980	seed cost = \$1000/acre, labor = 3 acres/day
TOTAL																\$163,968	
Task 2: Portal Closure Including Adit Plug																	
Plug site excavation												192	\$60.22	\$11,563	\$2,520	\$14,082	
Construct forms												192	\$60.22	\$11,563	\$4,497	\$16,060	
Place concrete	Reed concrete pump	4	\$2,173.91	\$290	24	\$13.04	\$313	24	2.0	3.04	\$146	192	\$60.22	\$11,563	\$62,609	\$74,920	
Grout perimeter of plug	Grout pump	6	\$2,695.65	\$539	36	\$4.35	\$157					288	\$60.22	\$17,344	\$5,180	\$23,220	
Remove utilities												192	\$60.22	\$11,563		\$11,563	
Load NAG fill and topsoil	Kobelco WLK25 loader	1	\$4,045.67	\$4,046	12	\$9.86	\$118	12	3.5	3.04	\$42	12	\$60.22	\$723		\$4,929	450 cyd of NAG rock
Haul NAG fill and topsoil	JCB 714 dump truck	1	\$5,153.93	\$5,154	12	\$10.81	\$130	12	2.5	3.04	\$30	12	\$60.22	\$723		\$6,036	1 truck, 122 ft haul, 6 trips/hour, 9cyd/trip

Backfill portal	Volvo 290 B excavator	1	\$8,528.05	\$8,528	12	\$20.37	\$244	12	4.0	3.04	\$48	12	\$60.22	\$723		\$9,543		
Place topsoil	Volvo 290 B excavator	1	\$8,528.05	\$8,528	12	\$20.37	\$244	12	4.0	3.04	\$48	12	\$60.22	\$723		\$9,543		
Seeding												2	\$60.22	\$120	\$217	\$338	seed cost = \$1000/acre, labor = 3 acres/day	
TOTAL																	\$170,234	

Task 3: Fill Placement and Grading, Final Contouring at NAG Site

Final grading	Volvo 290 B excavator	12	\$8,528.05	\$3,411	144	\$20.37	\$2,933	144	4.0	3.04	\$1,751	144	\$60.22	\$8,672		\$16,767		
Place topsoil	Volvo 290 B excavator	2	\$8,528.05	\$569	24	\$20.37	\$489	24	4.0	3.04	\$292	24	\$60.22	\$1,445		\$2,794		
Seeding												12	\$60.22	\$723	\$2,696	\$3,418	seed cost = \$1000/acre, labor = 3 acres/day	
Silt fence												12	\$60.22	\$723	\$500	\$1,223		
TOTAL																	\$24,202	

Task 4: Reclaim Water Treatment Facilities and Sediment Pond Areas

Remove and dispose of surface facilities	Kobelco WLK25 loader	2	\$4,045.67	\$270	24	\$9.86	\$237	24	3.5	3.04	\$255	48	\$60.22	\$2,891		\$3,652	1 operator, 1 laborer	
Load NAG fill material and topsoil	Kobelco WLK25 loader	4	\$4,045.67	\$539	48	\$9.86	\$473	48	3.5	3.04	\$511	48	\$60.22	\$2,891		\$4,414	3000 cyd NAG rock truck, 1000 ft haul, 8 trips/hour each, 9 cyd/trip	
Haul NAG fill material and topsoil	JCB 714 dump truck	4	\$5,153.93	\$687	48	\$10.81	\$519	48	2.5	3.04	\$365	48	\$60.22	\$2,891		\$4,462		
Recontour site	Volvo 290 B excavator	3	\$8,528.05	\$853	36	\$20.37	\$733	36	4.0	3.04	\$438	36	\$60.22	\$2,168		\$4,192		
Place topsoil	Volvo 290 B excavator	1	\$8,528.05	\$284	12	\$20.37	\$244	12	4.0	3.04	\$146	12	\$60.22	\$723		\$1,397		
Seeding												3	\$60.22	\$181	\$652	\$833	seed cost = \$1000/acre, labor = 3 acres/day	
TOTAL																	\$18,950	

Task 5: Stormwater Conveyance and Settling Ponds Below NAG Site

Recontour sites 7 replace topsoil	Volvo 290 B excavator	3	\$8,528.05	\$853	36	\$20.37	\$733	36	4.0	3.04	\$438	36	\$60.22	\$2,168		\$4,192		
Seeding												6	\$60.22	\$361	\$1,304	\$1,666	seed cost = \$1000/acre, labor = 3 acres/day	
TOTAL																	\$5,857	

Support Equipment

Generator/Fans/Compressor (during Task 1 and Task 2)	43	\$6,535.41	\$9,367	516	\$49.98	\$25,791	516	20.0	3.04	\$31,373	\$66,531
Jacklegs/misc. UG equipment (during Task 1 and Task 2)	43	\$4,000.00	\$5,733								\$5,733
Toro 6cyd mucker w/ejector plate (during Task 2)	22	\$20,000.00	\$14,667	264	\$35.00	\$9,240	264	2.5	3.04	\$2,006	\$25,913
3/4 ton pick-up truck (during all Tasks)	59	\$641.58	\$1,262								\$1,262
Barge camp	60	\$13,043.48	\$26,087	720	\$52.17	\$37,565	720	2.0	3.04	\$4,378	\$68,030
TOTAL											\$167,469

Equipment Standby

Generator/Fans/Compressor	17	\$6,535.41	\$3,703								\$3,703
(2) EJC 522 underground haul trucks (22 tons)	16	\$15,000.00	\$8,000								\$8,000
Jacklegs/misc. UG equipment	17	\$4,000.00	\$2,267								\$2,267
Toro 6cyd mucker w/ejector plate	17	\$20,000.00	\$11,333								\$11,333
Kobelco WLK25 loader (3 1/2 cyd bucket)	31	\$4,045.67	\$4,181								\$4,181
Volvo 290 B excavator (1 1/2 cyd bucket)	2	\$8,528.05	\$569								\$569
3/4 ton pick-up truck	1	\$641.58	\$21								\$21
Reed concrete pump	26	\$2,173.91	\$1,884								\$1,884
Grout pump	24	\$2,695.65	\$2,157								\$2,157
TOTAL			\$34,114								\$34,114