

**Niblack Industrial Solid Waste
Landfill Application
under the
Waste Management Permit**

April, 2007

**Submitted to
Alaska Department of Environmental Conservation
Environmental Health Division
and Alaska Department of Natural Resources
(Large Mine Permitting Team)**

**Submitted by:
Niblack Mining Corporation
Owner/Operator**

**Contact Person:
Darwin Green, Vice President, Niblack Mining Corporation
615-800 West Pender Street
Vancouver, BC, Canada V6C 2V6
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**Prepared by:
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Boise, Idaho 83702
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(208) 343-8727**

**STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

APPLICATION FOR AN INDUSTRIAL SOLID WASTE LANDFILL PERMIT

Introduction

This packet of information contains the forms and lists the requirements needed to complete a permit application for an industrial waste landfill. If you intend to construct a new landfill to accept and dispose of industrial solid waste you must complete these materials and gain approval from the state before burying any waste at your site. If you intend to operate a municipal landfill, or do not plan to accept industrial solid waste, you may still need to apply for a permit, but this is not the correct application package for you. The Department of Environmental Conservation (DEC) Solid Waste Program is available to help you determine whether you need a permit and if so, what kind of permit.

Our regulation (18 AA 60.205) requires most permit applicants to demonstrate the need for a solid waste disposal facility. The process of preparing a solid waste management plan under this regulation is intended to help permit applicants determine how much waste, if any should be treated or disposed. In some cases solid waste managers have found shipping waste elsewhere for recycling or disposal is less expensive than building a new landfill. If you have gotten approval for your solid waste management plan or you are exempt from this requirement under 18 AA C. 60.205(b) you may continue with the permit application process. Otherwise, you should stop working on the permit application and do the solid waste management plan. If you submit a permit application for new facility without first getting approval for your solid waste management plan we will rule your application incomplete.

The following is a list of items that must be completed in order for DEC to process your permit application.

- | | |
|--|---|
| 1. Cover letter | 7. Waiver requests and justification |
| 2. Contact information | 8. Calculations, data and legal documents |
| 3. Waste handling and processing information | 9. Operations plan |
| 4. Signatures and certifications | 10. Monitoring plan |
| 5. Area maps | 11. Closure plan with cost estimate |
| 6. Construction drawings and specifications | 12. Check or money order to cover permit application review fee |

Please check carefully to make sure that your permit application package is complete before submitting it to the department. We strongly suggest that you prepare a draft application, come up with a list of questions for us, and then schedule a pre-application meeting with the office that will be reviewing your application materials. You may contact program staff at the department's three main offices, in Anchorage, Juneau and Fairbanks. The office addresses are listed on the back page of this packet.

Part One: Cover Letter

April 13, 2007

Mr. Ed Emswiler
Environmental Health Division
Alaska Department of Environmental Conservation
410 Willoughby Avenue
Juneau, Alaska 99811-1800

CC: Mr. Bob Tsigonis,
Large Project Coordinator
ADNR/LMPT

SUBJECT: Letter Request and Permit Application to
Operate an Industrial Solid Waste Landfill

Dear Mr. Emswiler:

Niblack Mining Corporation (NMC), a Vancouver British Columbia based and publicly owned exploration and management company, plans to conduct underground construction and mineral exploration activities at their Niblack property located on southern Prince of Wales Island about 30 miles southwest of Ketchikan, Alaska. These construction and exploration activities will involve short-term, temporary operation of an above-ground industrial solid waste landfill. The total footprint of the industrial solid waste landfill site will be approximately 0.85 acres. Upon completion the construction waste material will be picked up from a lined storage facility and hauled back underground. The estimated project schedule is two years.

The purpose of the industrial solid waste landfill project is to store and monitor potentially acid-generating/potentially metals leaching (PAG/ML) construction waste in order to allow access for construction and mineral exploration at the Lookout Unit or Zone at the site. Underground construction will involve a nominal size 14.5 ft. wide by 13 ft. high access drift or tunnel extending about 3090 ft., plus a series of cross-cuts and drifts ranging from 1140 to 500 ft. in length. In total, about 6150 ft. of access drift will be constructed. The proposed underground construction detail is shown and discussed in more detail later in this application, particularly as it relates to possible generation of PAG/ML construction waste and the need to store and manage this waste over the short-term.

NMC is proposing to construct the access drift at design grades and utilizing mining techniques that will limit underground water flows. A water treatment scheme for the duration of the project is described in a separate application: *Niblack Waste Water Treatment and Disposal Application Under the Waste Management Permit, 2007*.

The estimated quantity of PAG/ML rock to be stored for the temporary exploration period is about 14,300 yd³. The non-acid generating (NAG) waste rock disposal need is estimated at about 46,600 yd³. A detailed spreadsheet of estimated volumes based on geochemical test

results is provided later in the application. These volume estimates include appropriate engineering factors for swelling and blasting. Based on all currently available data, negligible metal leaching is anticipated to occur in NAG waste rock, and degradation of surface and ground waters is not expected. Geochemical testing would occur on a drilling and blasting round-by-round procedure at the construction site. About 10% PAG/ML and NAG samples would be sent off-site for confirmation testing and possibly longer-term kinetic tests as part of the *Operational Characterization Plan, Knight Piesold Consulting, 2007*, a separate document and appendix to the *Niblack Project Underground Exploration Plan of Operations, Niblack Mining Corporation, 2007*.

Representative composite samples will be collected at every 10 ft of construction advance (each blast round) in the adit. Each composite will be analyzed onsite for total sulfur, which provides an estimate of the acid neutralization potential/acid generating potential ratio (ANP/AGP). The threshold proposed for distinguishing PAG/ML rock from non-PAG/ML rock is a 3:1 ratio, which corresponds to a total sulfur concentration of 0.22%.

Monitoring of the temporary PAG/ML storage site will involve surface water quality monitoring at a compliance point(s) located down-gradient of the PAG/ML facility, including a leak detection/water quality monitoring station directly below the lined facility. The PAG/ML facility will be required to meet Alaska Water Quality Standards.

The PAG/ML temporary “storage cell” involves a footprint of about 25,000 ft². A site plan is presented later in this application. The site will be built at a designed rock quarry excavation located about 1,200 ft. north of the portal. A run-on control system will convey stormwater around the storage site. The site will involve a geo-synthetic liner, and cover or cap. The impermeable cover will provide a temporary cover during construction and exploration activities.

Water treatment would involve a four-phased program: 1) minimization and flocculant addition and settling underground in the treatment sumps, 2) secondary settling at the surface in a “frac” tank, 3) chemical water treatment and settling at a water treatment facility (WTF), and 4) polishing by land infiltration and down-stream water quality monitoring at a compliance point(s). This phased treatment scheme will be monitored as described in a separate document: *Niblack Water Quality Baseline and Site Monitoring Plan, 2007*, an appendix to the *Niblack Project Underground Exploration Revised Plan of Operations, Niblack Mining Corporation, 2007*.

NMC has filed a separate application: *Niblack Wastewater Treatment and Disposal Application Under the Waste Management Permit, 2007* with ADEC and ADNR. A permit is required under AS 46.03, 18 AAC 15, 18 AAC 70, and 18 ACC 72. Likewise, a separate NOI and SWPPP was submitted by the company in October, 2006.

The exploration activity on the Niblack project is located entirely within patented mining claims controlled by NMC. The project does not receive federal monies; it is exempt from 18 AAC

60.205. The local terrain is mountainous, with moderate to steep slopes and total relief of 2,300 ft. A more detailed description of local land and water resources is included in the document: *Niblack Project Underground Exploration Plan of Operations, Niblack Mining Corporation, 2007.*

NMC is aware of all applicable local ordinances, zoning requirements, and ACMP requirements defined in 11 AAC 110. Discussions are currently underway with Messgrs. Bob Tsigonis, Joe Donahue (ACMP) and Steve McGroarty (ADNR) regarding these programs. Mr. Donahue also recently provided NMC with a more detailed timeline related to the process. A completed Coastal Project Questionnaire and Certification Statement for the project was submitted under separate cover.

Niblack has made preliminary contacts with some local communities and native corporations. Other NGO's will be contacted and briefed on the project in the next 30 days.

The following contact information is also provided by NMC:

- ◆ **Applicant's Name:**
Contact Name
Mailing Address

Telephone Number:
Fax Number
Email Address
Legal Counsel:

Niblack Mining Corporation
Darwin Green, V.P. Exploration
615-800 West Pender Street
Vancouver, BC, Canada V6C 2V6
604-484-5045
604-684-0279
<dgreen@niblackmining.com>
Tupper Jonsson Yeadon

- ◆ **Type of Entity**
Location of Corporation
Alaska Business License Number
IRS Tax Identification Number

Exploration company
Vancouver, BC Canada
56422D
92 0156796

- ◆ **Facility Owner's Name:**
Mailing Address:

Telephone Number
Fax Number

Niblack Mining Corporation
615-800 West Pender Street
Vancouver, BC, Canada V6C 2V6
604-484-5045
604-684-0279

- ◆ **Landowners Name:**
Mailing Address:

Telephone Number
Fax Number

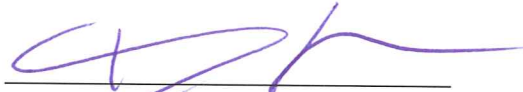
Niblack Mining Corporation
(patented claims 100% control)
615-800 West Pender Street
Vancouver, BC, Canada V6C 2V6
604-484-5045
604-684-0279

- ◆ **Operator's Name:** Niblack Mining Corporation
Mailing Address: 615-800 West Pender Street
Vancouver, BC, Canada V6C 2V6
Telephone Number: 604-484-5045
Fax Number: 604-684-0279

- ◆ **Agent:** **Guess & Rudd PC**
Mailing Address: 510 L Street Ste. 700
Anchorage, AK 99501
Telephone Number: 907-793-2200
Fax Number: 907-793-2299

I, Darwin Green, Vice President Exploration, the official representative of Niblack Mining Corporation, do hereby represent and certify under penalty of perjury, that all of the above information and exhibits in this cover letter and attend application are true, accurate, and complete.

Applicant's Signature



Date:

April 13, 2007

Part Two: Contact Information

- ◆ Applicant's name: **Niblack Mining Corporation**
Contact name: **Darwin Green, V.P. Exploration**
Mailing address: **615-800 West Pender Street**
City/State/Zip: **Vancouver, BC, Canada V6C 2V6**
Telephone Number: **604-484-5054** FAX Number: **604-684-0279**
Email Address: **<dgreen@niblackmining.com>**

- ◆ Type of entity (e.g. individual, partnership, corporation): **Exploration Company**
State of incorporation or registration: **Vancouver, BC Canada**
Alaska business license number: **56422D**
IRS tax identification number: **92 0156796**

- ◆ Facility owner's name: **Niblack Mining Corporation**
Mailing address: **615-800 West Pender Street**
City/State/Zip: **Vancouver, BC, Canada V6C 2V6**
Telephone Number: **604-484-5054**
FAX Number: **604-684-0279**

- ◆ Landowner's name: **Niblack Mining Corporation (patented claims 100%) control**
Mailing address: **615-800 West Pender Street**
City/State/Zip: **Vancouver, BC, Canada V6C 2V6**
Telephone Number: **604-484-5054** FAX Number: **604-684-0279**

- ◆ Operator's name: **Niblack Mining Corporation**
Mailing address: **615-800 West Pender Street**
City/State/Zip: **Vancouver, BC, Canada V6C 2V6**
Telephone Number: **604-484-5054** FAX Number: **604-684-0279**

- ◆ Agent (if any): **Guess & Rudd PC**
Mailing address: **510 L Street, Suite 700**
City/State/Zip: **Anchorage, AK 99501**
Telephone Number: **907-793-2200** FAX Number: **907-793-2299**

Part Three: Waste Handling and Processing Information

The following table represents quantities of industrial landfill requirements for Years 2007 and 2008. These are estimates for temporary industrial solid waste storage of PAG/ML waste rock.

Table 3.1. Industrial Waste Temporary Storage Needs

WASTE TYPE	QUANTITY IN TONS/YEAR
1. Industrial Potentially Acid-Generating Solid Waste (Temporary Storage)	14,300 yd³ *
2. Inert Solid Waste	-0-
3. Asbestos	-0-
4. Sewage Solids	-0-
5. Polluted Soil	-0-
6. Other	Described below
	TOTAL = 14,300 yd³

* Quantity to be generated late 2007/2008

Table 3.2 following provides the basis for the total estimated volume of PAG/ML material to be temporarily stored. This takes into account tunnel size, distance, and previous acid base accounting data (NP:MPA ratio).

TABLE 3.2

NIBLACK MINING CORPORATION
NIBLACK PROJECT

WASTE MANAGEMENT PLAN
ESTIMATED VOLUMES OF POTENTIALLY ACID-GENERATING/METALS LEACHING WASTE ROCK PRODUCED
BY THE NIBLACK EXPLORATION DRIFT

Unit	Length in Tunnel (ft)	PAG/ML ¹ NP:MPA <3 (# samples)	Chemical Analyses		Tunnel Length (ft)	PAG/ML Rock ¹		Volume as waste ⁵ (yd ³)
			NAG ² NP/MPA >3 (# samples)	PAG/ML ¹ (%)		Volume in-situ ³ (ft ³)	Volume in-situ ⁴ (yd ³)	
Hanging Wall	4,440	6	52	10%	459	86,810	3,247	4,708
Lookout Foot Wall	275	11	15	42%	116	21,989	822	1,192
Wall	1,225	14	7	67%	817	154,350	5,773	8,370
Totals:	5,940	31	74	--	1,392	263,149	9,842	14,270

- Notes:**
1. PAG/ML = Potentially Acid-Generating 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.

What pre-disposal processing will be used, if any:

Incineration	()	Separation/Segregation	(X)
Baling/Compacting	()	Composting	()
Shredding	()	Dewatering	()
Salvage/Reuse	()	Other	()

If "Other," please describe:

___ Other solid waste management needs will include domestic solid waste and refuse to be disposed of onsite by recycling, off-site shipment to approved landfill and incineration per requirements of a separate General Permit for Camp Waste Disposal

Types of waste accepted for treatment or storage only (e.g., scrap metal, used oil, household hazardous waste):

___ Only PAG/ML waste rock material will be accepted at the lined temporary storage site. This material will be subjected to rigorous testing and treatment (including off-site confirmatory testwork) in order to determine the appropriate handling and storage requirements. The test program onsite is described in the *Operational Characterization Plan, Knight Piesold Consulting, 2007.*

Describe your proposed method of handling any wastes that will be accepted on site but not disposed of in the landfill. Attach a separate sheet if needed:

___ Other construction wastes, in small quantities, will be collected onsite, packaged or bundled, and shipped off-site to the Ketchikan landfill. This will include special efforts to separate recyclable items such as plastics, metal and glass, for similar shipment to an approved collection/recycling center. Used oil will be collected and stored at the petroleum storage site, which is designed for this purpose including secondary total containment. This material will be shipped off-site along with batteries and used tires, to an approved waste disposal facility (probably Ketchikan). Domestic waste will be collected, separated, and disposed of according to ADEC requirements under a separate general permit for these wastes.

No hazardous waste will be disposed of onsite, per the requirements of 18 AAC 60.240, and 360. Any acceptable waste that is disposed of on-site will be deposited in an approved facility on patented land.

Part Five: Area Maps.

Please submit maps, drawings and/or aerial photos of appropriate scale (a scale of 1" = 200' works for some facilities) showing:

1. Property boundaries.	See Figure 1, Niblack Property, Alaska Location Map. All proposed temporary industrial solid waste management activities are located on patented mining claims controlled 100% by NMC. See Figure 2 for patented mining claim locations. The proposed project site is located within Section 34, T. 78 and 79 S., R. 88 E., Copper River Meridian; Latitude 55° 03' 53", Longitude -132° 08' 48" in Niblack Anchorage, off Moira Sound on Prince of Wales Island, southeast Alaska.
2. Location of all planned disposal areas.	<p>The proposed underground access drift will generate about 60,900 yd³ of waste rock. Approximately 14,300 yd³ is potentially acid-generating/metals leaching (PAG/ML) material which will be temporarily placed in an engineered lined storage facility. Figure 5 shows the general site plan and the location of the PAG/ML facility. Figure 6 shows the access drift arrangement. Figures 7 and 10 provide site plan details.</p> <p>The proposed temporary PAG/ML facility will be located about 1,200 ft. north of the portal platform/underground access site. The facility will be accessed by an existing road. The road distance is estimated at about 3,000 ft. At closure, the PAG/ML material will be hauled back underground.</p>
3. Fences and gates around the facility.	No fencing is required or planned. This type of facility does not attract animals.
4. Access roads.	Good year-around access is available to the proposed temporary industrial solid waste PAG/ML disposal facility. About 3,000 feet of 16 ft. wide running surface road from the portal platform to the temporary PAG/ML site already exists (see Figure 7). Snow removal equipment is also available at the site.

5. Equipment storage locations	See Figure 7, Site Plan. Laydown and fuel storage locations are up-road from the barge landing area and at the portal platform. Exploration and construction equipment are stored underground and at the adit/portal site and at the water treatment settling pond. The equipment list is included in the <i>Revised Niblack Underground Plan of Operations by NMC, 2007.</i>
6. Depth to groundwater, direction and velocity of flow	Existing investigations show two ground water domains: 1) low residence time near surface colluvial ground waters at 10-30 ft., 2) deeper, longer residence time ground waters at approximately 30+ ft. Groundwater is interpreted to flow downgradient with topography. No ponding or seepage of groundwaters is present in the existing excavated quarry. Figure 3 shows the location of pre-existing baseline ground water monitoring wells and surface water monitoring stations. A more detailed discussion on ground water resources is provided in the <i>Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007.</i> The facility will be lined with 80 mil HDPE synthetic liner during the estimated two year operating period, after which the PAG/ML material will be placed back underground.
7. Known earthquake faults	No known active faults exist in the area. The PAG/ML material will be stored back underground at final closure. The final closure plan will consider local seismic risk, as will the design of the NAG pile given its permanency at the site. Appendix A presents the geotechnical evaluation for the PAG/ML facility. Adequate safety measures including construction on a foundation base platform developed in cut rock as part of the first lift of waste rock is included in the facilities design. A map of active earthquakes in Alaska is available at http://www.aeic.alaska.edu/html_docs/pdf_files/earthquakes_in_Alaska.pg.pdf - Earthquakes in Alaska: Haeussler, P.J and Plafker, 2004,

	US Geological Survey publication
8. Areas previously used for waste disposal	NMC has identified the pre-existing mine waste storage site, created presumably during the period 1905 to 1908 when the Niblack Copper Company shipped over 30,000 tons of copper/ gold/silver offsite for processing. It is located at the old camp area (Figure 7)
9. Storage area for cover material	Cover material for the PAG/ML facility closure/ reclamation will consist of material excavated from the settling treatment ponds and the foundation at the NAG pile. During operation, an impermeable polymer “spray-on coating” (or similar) will also be employed to limit precipitation infiltration. The excavated cover material and locally available topsoil will be suitable for use in final reclamation and revegetation. It will be stored at one of several planned soil stockpile areas.
10. Locations of monitoring devices	Surface water stations and ground water monitoring well locations are shown in <i>Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007</i> . This is a sitewide monitoring plan. Monitoring of the PAG/ML facility will be one downgradient surface water location that is part of a leak detection system that consists of a perforated pipe beneath the PAG/ML facility liner that ‘daylights’ to a collection bucket. Pre-existing baseline monitoring points are shown in Figure 3, the leak detection system/monitoring point is shown on Figure 10. The sitewide monitoring plan includes description of sample methodology, QA/QC, and reporting.
11. Salvage storage area	See Figure 7 Site Plan. This shows reclamation/closure topsoil-like storage areas and other laydowns that will be used for temporary storage of salvageable material like old or used metals and trucks and/or equipment parts. Primary sites are located near the barge landing, the portal laydown, and near the old mancamp site. Sites will not interfere with the fill sequence of the industrial PAG/ML landfill.

12. Surface water bodies and streams	All surface water bodies and streams are shown in Figure 3, and the <i>Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007</i> . No construction activities related to the proposed project will impact local surface or ground water resources.
13. Surface water control devices such as trenches, or berms	Figures 7, 10 and 12 show the location of surface water control devices, including stormwater diversion facilities, sumps, and infiltration trenches. These diversions will be sized based on drainage basin analysis (Figure 4; Appendix B). BMPs are described in detail in the <i>Niblack Storm Water Pollution Prevention Plan, RTR Resource Management, Inc., October 2006</i> . Additional BMP's planned for the facility are described in the document: <i>Niblack Wastewater Treatment and Disposal Application under the Waste Management Permit, RTR Resource Management, Inc., 2007</i> . These are additional water quality protection measures implemented by NMC.
14. All water wells	No domestic water wells are located within one mile of the project site.

Please make sure to show:

1. Waste disposal limits will be no closer than 500 feet from a drinking water well
[18 AAC 60.040]

Figure 5 shows the proposed location of the PAG/ML temporary storage facility. It is greater than 500 ft. from any drinking water well.

2. The highest measured groundwater table level at locations around the site
[18 AAC 60.217]

The highest measured ground water near the HDPE-lined PAG/ML temporary storage facility is 10-30 ft. No groundwater seepage or ponding has been observed in the pre-existing rock quarry where the PAG/ML facility will be located. (see *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007*).

3. Any potential for sediment carried by runoff leaving the facility to impact nearby surface

water [18 AAC 60.225(b)(2)]

NMC has designed the PAG/ML facility (Figures 7 and 10) so as to route all run-on around the facility. Any suspended solids or sediment sludge from the facility will be collected in the down-gradient settling pond, and this sludge will be returned to the PAG/ML facility after pond cleaning. It is also capped using a geo-synthetic polymer spray cover (or similar). In addition, NMC has incorporated sediment control BMPs in their design, as well as dispersion terraces and cut-off trenches. Figure 12 provides a sequencing diagram detailing waste placement, covering, and water diversion at various stages of development.

The runoff leaving the facility will be conveyed to the WTF (Figure 13), where it will be treated using chemical precipitation, and then routed to a land dispersion/application site for final polishing. Underground water will be treated in underground sumps with flocculants, then settled in a frac tank, then routed to the WTF in the same manner as runoff. Ultimately, it will be land applied after a series of treatment schemes (“treatment redundancy”). The treatment scheme is shown in Figure 8. Local surface waters will be monitored to demonstrate that WQS will not be exceeded. The *Niblack Storm Water Pollution Prevention Plan, RTR Resource Management, Inc., September 2006* also includes BMPs for sediment control.

4. Any potential for surface water to enter the site from upgradient areas during a rainstorm [18 AAC 60.225(c)]

The PAG/ML facility is on an elevated ridge and located in a contained site that once served as a rock quarry. The potential does not exist for up-gradient surface water to enter the site due to the stormwater diversion channel (Figures 7 and 10). Diversions are adequate to convey the ADEC-prescribed design storm event, which is the peak discharge from a 24-hour, 25-year storm event. A hydrologic analysis for stormwater management is presented in Appendix B.

5. The limits of any permafrost in the area [18 AAC 60.227]

Permafrost does not exist in Southeast Alaska anywhere in proximity to the Niblack construction site.

6. Waste disposal will be at least 50' from the property line [18 AAC 60.233]

See Figures 7 and 10. No waste will be disposed of within 50 ft. of the USFS property boundary. All facilities are located totally on private (fee) land. The PAG/ML facility is temporary, and all PAG/ML material will be re-located underground once construction/exploration and other test programs are completed.

7. The site is not in a floodplain [18 AAC 60.410]

The site is not in a delineated floodplain. Nevertheless, NMC has incorporated stormwater

runoff controls to limit and/or mitigate these impacts.

8. The location of documented earthquake faults nearby [18 AAC 60.410(c)]

No active earthquake faults are located at the project site. See also response to item #10, which follows.

9. unstable ground at the facility [18 AAC 60.410(c)]

Appendix A presents a geotechnical analysis of the site to be used as the temporary PAG/ML facility. Interim construction-related drainage facilities also route stormwater around the PAG/ML facility. The geotechnical evaluation/seismic study further shows that the PAG/ML facility, which will be constructed on a rock platform, is stable.

10. The location of documented earthquake faults nearby [18 AAC 60.320(a)]

A seismic hazard literature review by NMC shows no documented earthquake faults nearby. The most likely sources for an earthquake significant to the project site are the Fairweather-Queen Charlotte Fault and the Chatam Strait Fault. These two faults are both located approximately 90 miles to the west of the project site. See Appendix A for additional stability considerations included in the design.

11. Any unstable ground at the facility [18 AAC 60.320(b)]

The reclamation/closure plan for the PAG/ML facility involves re-locating the material back underground at the conclusion of the construction and exploration activities. Closure for the NAG pile includes the installation of a permanent stormwater routing scheme, dispersion terraces/dissipation terraces, and other BMPs to insure the facility is stable over the long-term. Revegetation practices planned for the site will further facilitate this goal.

12. Bird Nuisance [18 AAC 60.320]

The facility will not attract birds. The waste associated with this permit are construction materials and waste rock.

Primary References

- 1. Niblack Project Underground Exploration Plan of Operations, Niblack Mining Corporation, 2007.**
- 2. Niblack Wastewater Treatment and Disposal Application under the Waste Management Permit, RTR Resource Management, Inc., 2007.**
- 3. Niblack Project Operational Characterization Plan, Knight Piesold Consulting, 2007.**

- 4. Niblack Project Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007.**
- 5. Reclamation and Closure Plan for the Niblack Underground Exploration Project, RTR Resource Management, Inc., 2007.**

Part Six: Construction Drawings and Specifications.

At a minimum, the drawings and specifications must include:

1. The following plan view drawings with contour lines.

- a & b. Figures 4, 5, 7, 9 and 10 show existing topographic and hydrologic features, site conditions and all planned facilities. The temporary PAG/ML facility is located approximately 1200 feet (3000 ft by road) from the portal platform, above the water treatment facility (WTF).**

The temporary site conditions have been blasted to remove quarry rock for road surfacing (Figure 9, Pre-Development Conditions). The construction site sub-base over the blasted rock foundation will consist of screened (to remove large rock) local base material, as shown in Figure 11 (Liner Detail).

- c. The temporary PAG/ML facility final site grades after the industrial storage site reaches a design capacity of about 16,500 yd³ are also shown in Figures 7 and 12. The “final grade” for the temporary surface storage area is 1.5(H):1(V). All this material will be placed back underground at the cessation of construction and exploration activities, which is estimated to occur within 24 months. The PAG/ML storage facility design includes contingency for additional 2200 yd³, although this volume is not expected to be encountered.**
- d. Design details for the liner systems are shown in Figures 10 and 11. Material specifications and QAQC details for the liner and its installation are provided in Appendix C. The design of the PAG/ML facility will (1) construct a stable foundation for this pile using crushed rock overlain by a 1 foot layer of compacted sand and gravel; (2) cover the base with an impermeable liner (80 mil HDPE) sandwiched between geotextile filter fabric to isolate the potential acid-generating (PAG/ML) rock from the underlying soil and groundwater; (3) cover liner with a 1 foot cushioning layer of sand and gravel to prevent puncture from dumped waste rock (4) cover the surface of the PAG/ML rock pile with an impermeable material or liner to isolate it from precipitation. In addition, Figure 12 shows the sequence of PAG/ML facility construction. This sequencing limits the area of precipitation exposed PAG/ML material to less than 10,000 ft². This approach would be used to reduce the potential for generation of acidic runoff or metals leaching. It also limits the total volume of water that will be routed to the WTF. Potential run-on from up-gradient sources will be intercepted and diverted around the pile using dispersion terraces to route the runoff into heavily vegetated forest areas.**

Waste rock material will be placed from the bottom up, with an outer face of no

more than 1.5 : 1 (H:V). The maximum thickness of the PAG/ML material will be 35 feet. This siting location for the PAG/ML facility assumes that the surface area of the temporary pile is reasonably small, and that progressive covering of the pile during operations is feasible. For purposes of this design, it is assumed that the PAG/ML storage facility will have a total footprint area of approximately 25,000 ft².

Figures 10 and 11 also show the PAG/ML leachate collection system. This system collects and pipes potential leachate to the WTF. A daily monitoring program and protocol are discussed in the *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007*.

Completion of the PAG/ML waste rock storage facility construction is designed to coincide with initiation of portal development. However, should there be a delay in completion of the PAG/ML facility a temporary staging area will be prepared to accommodate the nominal amount of PAG waste rock anticipated during initial development of the drift (Figure 7). The temporary staging area will be located on an elevated pad of quarried rock and have surface water run-on diverted around it. It will be lined and covered with an impermeable liner to prevent interaction with precipitation, and be subject to visual monitoring and corrective action as described for the main PAG/ML facility in the *Water Quality Baseline and Site Monitoring Plan, Knight Piesold, 2007*. Alternatively, PAG/ML waste may be temporarily stored underground in unused muck bays. The majority of PAG/ML waste rock will not be encountered until reaching the back end of the tunnel, approximately 2,500 ft from the portal entrance (after ~125 days of tunnel advance, assuming 20-ft/day). PAG/ML material will be relocated to the PAG/ML waste storage facility once construction is complete (a maximum of 3 months after starting tunnel excavation).

- e. No gas venting or collection piping is required.
- f. Roads and stormwater conveyance system alignments are shown in Figure 7, Site Plan. Stormwater calculations are presented in Appendix B.

Stormwater runoff calculations for Basin B (PAG/ML offsite) are provided in Appendix B. A 5.00 inch storm event is used. All stormwater conveyance system routing for associated ditches is based on this design storm.

- 2. Construction detail drawings and cross sections showing:
 - a & b. The liner details including membrane anchors for the 80 mil HDPE liner are shown in Figure 11. Toe and perimeter drain liner installation as well as the back facing are also shown. The storage facility is built on a cut platform, and

the full base liner is sloped to collect and convey any limited run-on or precipitation/infiltration to the WTF. Details of the WTF configuration are shown on Figure 13. The actual PAG/ML material will also be covered during construction and exploration with a spray on polymer sealant (Mineguard or similar).

Native soil prepared as a structural foundation and compacted sand and gravel will be used in PAG/ML facility construction. These layers will protect the geotextile on both sides of the geomembrane.

As-built drawings of the facility will be submitted to ADEC within 90 days after completion of construction.

- c. Stormwater and drainage design features are based on a 25-year, 24-hour design storm of 6 inches. Figure 4 shows drainage basin used in calculations for culverts and storm water diversion structures (Appendix B). Storm water drainage structures are shown in Figures 10 and 12. The total area of Sub-basin B (PAG/ML area) is 1.18 acres. Total peak flow is 0.89 cfs. Storm water collected above the site would be conveyed around the PAG/ML facility in a shallow trapezoidal ditch and discharge to the forest floor or back into the nearest down-gradient channel.**

With regard to the PAG/ML storage facility run-off drainage, it was assumed that approximately one-quarter of the PAG/ML facility footprint of 38,700 square feet (ft²) would be active at any time, resulting in an active area of approximately 9,700 ft² (Figure 12). The peak discharge from the facility was estimated to be approximately 0.84 cubic feet per second (cfs) and the total runoff volume for the design storm was estimated to be approximately 4,100 cubic feet (ft³). Note: the final design of the PAG/ML facility has a footprint of approximately 25,000 ft² (less than the 38,700 ft² used for the run-off calculations).

- d. No manholes or pump stations are required for the design.**

- 3. Schematics for any gas or leachate handling installations

Leachate collection is shown in Figures 8, 10 and 12. All leachate collects in a sump/ settlement pond at the base of PAG/ML facility from which it is piped to the water treatment facility (WTF) shown in Figure 13.

- 4. A liner installation quality assurance plan [18 AAC 60.330(b)].

Details of the liner installation requirements are shown in Figure 11,

including geotextile bedding, membrane anchors, and liner penetrations. A QA/QC plan [per 18AAC 60.330(b)] is shown in Appendix C. The 80 mil geomembrane liner installation program will involve the following QA/QC components: a) manufacturer's quality control, b) material property specifications (ASTM testing), c) installation quality control including field seam inspection and testing, visual observations, continuity (air testing) and vacuum testing, and d) strength testing for trial welds and field seems. Knight Piesold Consulting will be the designated field engineer for the installation and testing programs. The details of the QA/QC program are consistent with other industrial waste management sites in Alaska.

Part Seven: Waiver Requests.

No waivers are requested by NMC for the Niblack Lookout Construction/Exploration project. All PAG/ML material will be placed back underground at final closure.

Part Eight: Calculations Data and Legal Documents.

1. If you used computer programs to model complex information describe below::

Modeling and Engineering Analyses

A number of computer simulations and modeling were performed for the project. Key computer analyses for the temporary PAG/ML storage facility included:

- **Geotechnical Summary and Stability Analyses for the Waste Rock Storage Sites (see PAG/ML analyses in Appendix A)**
- **Calculations and Modeling for Stormwater Drainage Structures and Culverts (Appendix B)**
- **Niblack Permeability Tests (See separate application: *Niblack Wastewater Treatment and Disposal Application Under the Waste Management Permit, RTR Resource Management, Inc., 2007*)**

The geotechnical/stability analyses (Appendix A) concludes that the temporary PAG/ML storage facility will be constructed in a stable configuration. Slope/w modeling using the Spencer analysis method demonstrates that the PAG/ML facility, constructed on a cut platform developed in rock and equipped with a full base composite “sandwich” of geotextile and 80 mil HDPE incorporates adequate factors of safety of 1.7 for slope stability and displacement (Knight Piesold Consulting, December 14, 2006).

Stormwater flows were modeled using the TR-55 Tabular Hydrograph Method. Total area, peak flow, and peak time for the PAG/ML area were calculated. The results are shown in Appendix B. The modeling was conducted as input to both this permit application and the water treatment component described in a separate application: *Niblack Wastewater Treatment and Disposal Application Under the Waste Management Permit, RTR Resource Management, Inc., 2007.*

2. An explanation of how each well location for the groundwater monitoring system was selected under 18 AAC.825(c), and (e). The geophysical reports along with any survey data and maps must be included in this part.

NMC will employ surface water quality monitoring to assess compliance at the PAG/ML facility.

The sitewide ground water monitoring program includes shallow monitoring wells established in wetlands downgradient of site facilities. These sites will be monitored to assess compliance under the Wastewater Treatment and Disposal component of the Waste Management Permit. Additional water sampling at these wells is planned by NMC during

the period of April – June, 2007 weather allowing, to supplement the existing water quality database. Samples will be collected in accordance with the plan and annual reporting requirements and monitoring results will be provided to ADEC. Statistically significant trends, or exceedences, will be reported to ADEC at the time they are detected by NMC.

3. If applicable, an explanation of how each compliance point for the surface water monitoring system, which is sometimes required under 18 AAC 60.810(b), was selected. Survey data and associated maps must be included in this part.

A surface water quality monitoring/compliance site will be located no more than 50 ft. below the PAG/ML facility. This monitoring station is part of a leak detection system that consists of a perforated pipe running beneath the liner of the PAG facility to a down gradient collection bucket. The perforated pipe will run the length of the central low point of the PAG site and is designed to catch water or leachate should there be a breach in the liner. The approximate location is shown in Figure 10 of this application. A monitoring schedule is outlined in the document: *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007.*

Proposed site wide compliance point(s) involve downstream surface water monitoring sites as shown and described in the *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007.* For reference, baseline monitoring stations are shown in Figure 3. Sitewide sampling will also occur downgradient of the land application /dispersion area at applicable surface water locations (compliance points). Monitoring schedule, parameters, protocol and reporting requirements are described in the document: *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007.* These sites represent the point(s) or location(s), where the highest concentrations of hazardous constituents migrating off the permit boundary could potentially be detected. These sites will be monitored to assess compliance under the Wastewater Treatment and Disposal component of the Waste Management Permit.

At cessation of the construction dewatering and exploration project, the temporary PAG/ML facility material will be relocated back underground. The designated compliance point for the adit drainage downstream from where the temporary PAG/ML facility was located will continue to be maintained, but the monitoring schedule will be according to the approved post-closure monitoring program.

4. Well logs, soil boring logs, or any other data used to evaluate subsurface conditions at the site for the purposes of monitoring well placement or to evaluate the load bearing capacity of the soils.

Five new ground water wells are planned for the site. These will be installed in the spring of 2007, and precede any placement of PAG/ML material at the storage site by several

months. *The Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007*, presents ground water quality baseline data for the project site. This will provide additional baseline water quality data collection and characterization prior to PAG/ML material being placed in the facility.

Baseline conditions for ground water quality in the project area may exceed State of Alaska Water Quality Criteria for Fresh Water Aquatic Life. These natural background conditions are described in the document: *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007*. Additional sampling from new wells planned for Spring 2007 will confirm and/or validate these numbers.

Data from road cuts, ground water wells down gradient of the PAG/ML facility, and soil borings from Wetland Delineation work appear to indicate or suggest channelized or conduit-like, highly variable ground water flow, which is directly related to precipitation. Based on these data, the focus on facilities design involved lining and covering the pile, and routing all storm water flows around the temporary storage site, thus minimizing contact waters. Static stability testing and foundation design is similarly based on near surface excavations, and this design incorporates removal/stripping of loose organic material and surface rubble underneath the foundation of the PAG.

5. Information and calculations used to estimate the permeability of the proposed liner, and the information and calculations used to estimate the maximum anticipated leachate head pressure on the bottom liner.

The PAG/ML facility would be cleared of all trees, bushes and roots and other debris. The area for temporary storage would be grubbed and stripped, including removal and storage of salvageable “topsoil-like” material. The location is the old quarry site used for rockfill to cap the road. The site appears to be well-drained. Liner bedding will be placed in two horizontal layers 12 inch maximum uncompacted depth. Each layer will be compacted to 95% of the maximum density (ASTM D698). A 80-mil high density polyethylene (HDPE) liner would be placed over the compacted subsurface. The QA/QC Plan, which includes geomembrane properties, is included as Appendix C. Engineering plans and specifications would be required by an Alaska registered professional engineer.

6. Data and calculations showing how much contamination is expected to leave the landfill and cross the compliance point.

The temporary PAG/ML facility is designed to avoid or limit contamination at the compliance point. Water treatment is also provided. In addition, any flow from the PAG/ML storage site to the water treatment facility is also polished at the land application site after treatment, and then dispersed into undisturbed forested areas at the site. Water quality monitoring (surface and groundwater) will be conducted to reinforce this goal.

7. Information and calculations used to estimate the operational life of the facility.

The PAG/ML storage site has an estimated life of not to exceed 5 years. The actual operating schedule shown in the Underground Plan of Operations is about 2 years. Typical HDPE life exceeds 50 years.

8. Proof of financial responsibility, if required by 18 AAC 60.265.

NMC to provide.

A detailed breakdown of reclamation costs is provided in the document: *Niblack Reclamation and Closure Plan for the Niblack Underground Exploration Project, RTR Resource Management, Inc., 2007.*

9. A copy of the deed or another legal document that identifies the landowner, and a copy of any lease agreement that is relevant to the proposed activity, or a written statement signed by the landowner and notarized, showing that the landowner consents to the proposed landfill.

Note: If the applicant is not the owner of the proposed industrial waste disposal site, attach proof that the owner has received a formal notice fully describing the proposed activity. Include a copy of a lease agreement, which is specific to the proposed activity, or a written statement of consent signed by the landowner and notarized.

See Appendix D. All claims are owned 100% by Niblack Mining Corp.

10. A legal description of property, with meridian, range, township and section, and informal location indicators such as mileposts, landmarks, distance and direction from nearest community.

A claim map with location of patented claims on which the PAG/ML facility will be located is shown in Figure 1. The claims are located off Moira Sound on southern Prince of Wales Island about 30 miles south-west of Ketchikan, southeast Alaska. The property is composed of 17 patented claims, 101 staked federal lode claims and 2 Alaska State tideland claims (Figure 2). 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 work will be confined to the patented mining claims. Plats and legal description of the property are listed in Appendix D.

11. If the proposed operation is in, or might affect, the Coastal Zone of Alaska, you must also complete and submit a coastal project questionnaire [6 AAC 50.070].

The ACMP Questionnaire is submitted under separate cover.

12. Wetlands determination from the U.S. Army Corps of Engineers.

A wetlands delineation study was performed on the project site, using approved U.S. ACOE specifications and procedures. The title of the study is: *Niblack Property Prince of Wales Island, Alaska Preliminary Jurisdictional Determination, HDR Alaska, March 2006, and is included as an appendix to the Niblack Project Underground Exploration Plan of Operations, Niblack Mining Corporation, 2007.*

13. FAA bird attraction waiver if applicable.

Not applicable

Part Nine: Operations Plan.

The operating plan must include a detailed explanation of how the site operator will use waste to build the landfill, while controlling waste stability, public access, litter, pests, enforcing the waste acceptance policies, and minimizing the introduction of moisture.

The temporary “industrial landfill” that NMC is proposing to construct is an engineered waste disposal site necessary to store PAG/ML material from development of the final segment of an underground access drift. Overall, the drift will be nominal 14.5 ft. wide and 13 ft. high and 3090 ft. long from which a footwall drift of 920 ft., a hanging wall drift of 1140 ft., and a Mammoth area drift of 1000 ft. will be driven (see Figure 6). Only about 14,300 yd³ would be PAG material and require special handling at the landfill site. The site has a design capacity of 16,500 yd³.

The plan components are:

1. **Phased development plan:** The overall plan for the construction of landfill development phases must be clearly shown on the site maps along with a quality assurance plan to make sure the workers onsite follow the plan. The plan must be prepared with drainage control in mind. Water must never be trapped on the landfill.

A phased “development plan” is planned for loading the temporary PAG/ML facility. Figures 7 and 10 of this application show a plan view of the approximate 25,000 ft² facility. A water routing scheme for stormwater run-on collected around the periphery of the facility, as well as the piping is also shown.

Figure 12 shows a schematic of the construction sequencing developed in four phases. Following installation of the liner/geotextile system, a cushioning layer will be applied to allow for end-dumping in a north to south direction with all precipitation falling on the facility draining at a 2% grade to the low point of the pad. A diversion berm prevents all the run-on from entering the collection system. At any given time a maximum of 10,000 ft² of the facility would be ‘open’ to precipitation that reports to the settling pond and Water Treatment Facility.

As construction of the pad continues in a north/south direction, the PAG/ML material at the most northern fringe is sealed behind the operator using Mineguard polymer sealant or other like product. This section clearly shows construction sequencing of the end-dump advancement and the “no dump” area with leak detection reporting to a collection bucket. Only freshly end-dumped material is open to receive precipitation and water contribution to the collection and treatment system. Sections 3 and 4 on Figure 12 show the nearly completed and final temporary waste storage facility configurations. At this point the north to south construction sequence is complete and all PAG/ML material has been sealed. The facility is now awaiting closure and haulage back underground to enable final

reclamation.

- 2. Daily waste placement plan:** A thorough description (with diagrams) of the daily waste placement methods to be used including a description of how the operational cover will be placed, and a disclosure of where the operational cover material will be obtained, and stored along with a quality assurance plan to make sure the workers onsite follow the plan.

The *Operational Characterization Plan, Knight Piesold Consulting, 2007* will guide the daily waste placement and management activities at the Niblack site. This document details a daily handling process for waste from the construction of the access drift, including both PAG/ML and NAG material. Most of the rock will be NAG (about 75%), and most of the PAG/ML will have enough neutralization potential to prevent acid generation in the pile for over a year. About 1,200 yd³ of the total estimated 14,300 yd³ of PAG/ML material could produce acid almost immediately, virtually all of which is from the Footwall and Lookout units that will be encountered toward the end of the development schedule.

In the unlikely event small volumes of drift waste rock that meet the PAG/ML definition are encountered prior to completing construction of the storage site, this material would be stored at the short term PAG/ML staging area (Figure 7) or underground in the re-much bays. The interim storage site would be graded with stormwater run-on diversions. Interim storage as described here would not be allowed for more than 45 days.

Waste placement at the PAG/ML facility will be as shown in Figure 12 and described above (Part Nine – 1).

- 3. Waste compaction density goals** along with the quality assurance plan for achieving and measuring density.

Waste compaction is not considered an important operating criteria, given the short-duration of time the PAG/ML material will be stored on surface, and the type of material being stored. No mechanical compacting is planned. Uncompacted zones would be periodically flattened with a dozer as necessary to improve haul truck access and maneuverability. Trafficability is critical to the materials placement sequencing, as compared with the need to seal material as soon as possible after final placement in the working zone. Any damage that occurs to the slopes or surface area of a sealed portion of the facility will be reported immediately to the operations manager, such that landfill repair can occur in a timely manner. The visual monitoring program to be implemented by NMC is summarized later in this section. It is also described in detail in the *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007*.

- 4. Waste acceptance** -- certain hazardous wastes, liquids, and other undesirable waste materials must not be placed in a landfill (see 18 AAC 60.240, and 420). The operating plan must include a waste acceptance policy along with a plan to publicize and enforce the policy.

No hazardous wastes, liquids, or otherwise undesirable material will be stored at the PAG/ML facility. The facility will be used for temporary storage of PAG/ML construction material only. The NMC operator/attendant will monitor the site to insure compliance.

5. **Access control plan** including the proposed hours of operation, and a drawing of any gates or fences to be used. This plan must also contain policies about activities at the landfill such as salvaging and target practice.

The storage site will be available for use daily from 6:00 am to 10:00 pm, except when operational hours may be extended to take advantage of extra daylight hours in the spring/summer. NMC personnel will be assigned to supervise and manage the site. NMC will prohibit sport hunting at the minesite by their personnel, and post “no hunting” signage. A construction waste segregation and salvage plan is described earlier in this application, to be implemented by NMC.

6. **Control of animals plan** such as bears, birds, or rodents, and other disease vectors, such as flies, along with a **quality assurance plan** to make sure the onsite workers follow the plan.

Bears, rodents, birds and diseased vectors are not anticipated to be an issue, as the waste material to be managed is rock. No other litter or domestic wastes will be allowed.

7. **Litter control**, a plan to minimize litter through careful waste handling, litter control measures such as fencing, and the frequency of litter collection operations.

The site is dedicated for waste rock only and no litter is expected.

8. **Operator training and safety plan** including a list of safety and other professional training courses that each landfill staff member will attend, a list of safety equipment to be kept on site, and a discussion of emergency procedures for events such as fire or an injury at the site.

These are required by NMC and the Mine Safety Health Act (MSHA). A designated Safety Manager will insure that an MSHA-approved plan is in place, documented and implemented. An emergency response plan including evacuation procedures is already in place at the site.

9. **Operating record** description, as required in 18 AAC 60.235, including who is responsible for the record keeping and the location where the records are to be kept.

Darwin Green, V.P. of Exploration, will be responsible for assigning an onsite Niblack Project Environmental Manager. This individual(s) will complete necessary/required

report forms including the rock-handling procedures verification/documentation. These records will be kept onsite at the barge mancamp in the Environmental Department files.

Environmental records having to do with visual surface and ground water monitoring will be kept at a secured location at the barge mancamp. Emphasis in inspection and reporting will be directed to evidence of erosion, cracks and other visible damage to the uppermost and liner areas and the leak collection system bucket. Typically, the operations or environmental manager will make the inspections and record findings for inclusion in the onsite fie. Additional information is provided in Section 10 Monitoring Plan of this application.

Part Ten: Monitoring Plan.

The applicant must submit a monitoring plan that meets the requirements of 18 AAC 60.800 – 860 and that includes;

1. The procedures for visual monitoring along with a checklist, as required by 18 AAC 60.810.

Rock handling procedures will be verified in the field using visual means on a daily basis by the Environmental Manager and documented on the appropriate company report forms. The Environmental Manager will also inspect the stormwater conveyance system around the PAG/ML facility for integrity and blockage, and observe potential leachate from the lined temporary storage site. Regular reporting to ADEC and NMC management will occur as required. Details on the visual monitoring plan are found in the *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007.*

This information will be summarized and kept onsite for possible inclusion in the annual report. Recommendations for corrective actions will be included in the report, as appropriate. Potential violations of permit conditions will be directly reported to NMC management.

2. A surface water monitoring plan if required by 18 AAC 60.810 including a quality control and quality assurance plans, with design details for all sampling stations and the background water quality data.

Details on surface water monitoring are in the *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007.* It includes details for all monitoring sites, required analytes to be analyzed, frequency, QA/QC and protocol, reporting requirements, and corrective action measures.

3. A groundwater monitoring plan required under 18 AAC 60.820 and 825 including the design details for all wells, along with quality assurance and quality control plans for the sampling and analysis and the background water quality data.

See #2 above. Five new wells will be installed in Spring, 2007, as previously discussed. Monitoring plan and design details are in the *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007.* The wells are compliance points for the Waste Water Treatment and Disposal permit application under the Waste Management Permit. Waste water discharged to the WTF from the PAG/ML facility is covered by this separate permit.

4. Information about the statistical methods to be used in determining when assessment monitoring or corrective measures are to be used.

Details on determining compliance with state water quality standards are in the *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007*. Also included in the Plan are details on reporting and corrective measures should NMC suspect an exceedence.

5. A description or sample printout of the groundwater monitoring data submittal format.

Reporting details for water quality data are in the *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007*.

6. An outline of responsibilities or procedures for taking appropriate and immediate remedial action to repair a damaged landfill and clean up any improper waste disposal.

Corrective action details are in the *Niblack Water Quality Baseline and Site Monitoring Plan, Knight Piesold Consulting, 2007*.

Part Eleven: Closure Plan and Cost Estimate.

Each permit applicant must submit a closure plan that meets the requirements of 18 AAC 60.245, 18 AAC 60.485(d), and all other requirements of 18 AAC 60 related to closure and post closure of industrial waste landfills, including:

A conceptual closure plan for this Industrial Waste Management Facility is part of the *Reclamation and Closure Plan for the Niblack Underground Exploration Project, RTR Resource Management Inc., 2007*, an appendix to the *Niblack Project Underground Exploration Plan of Operations, NMC, 2007*.

1. A description of the final cover and appearance of the facility, and the methods and procedures for final cover installation;

No cover will be required for the PAG/ML Industrial Landfill, as NMC's final closure strategy involves placement of all PAG/ML material temporarily stored at the PAG/ML facility relocated back underground. The storage pile will be covered during operations by a spray on polymer liner (or similar), as previously described.

2. The anticipated post closure (future) use of the property;

Interim and final reclamation proposed by NMC is designed to stabilize and revegetate all of the disturbed site including natural revegetation to approximate pre-project wildlife habitat use. The PAG/ML facility will disturb a total of 0.85 acres of private land (patented mining claims). No related activity will be conducted on National Forest lands. The mining claims will remain in the control of NMC in the immediate future. Overall site reclamation, including closure activities for the PAG/ML facility are described in detail in the *Reclamation and Closure Plan for the Niblack Underground Exploration Project, RTR Resource Management Inc., 2007*

3. Conceptual drawings of the facility;

Closure plans include returning all waste stored at the PAG/ML facility back underground. The site will be retuned to conditions similar to pre-development (Figure 9).

4. The location of any proposed survey monuments or permanent markers;

These are shown on Figure 2 of this application and survey plats in Appendix D. All PAG/ML material will be placed underground at closure.

5. The steps necessary to close the industrial waste landfill at any point during the facility's active life and a demonstration that the proposed cover system design will meet the standards of 18 AAC 60.485(d) when constructed;

Temporary closure activities are described in the *Reclamation and Closure Plan for the Niblack Underground Exploration Project, RTR Resource Management Inc., 2007.*

6. A schedule to complete all activities needed to satisfy the closure standards of 18 AAC 60.485(d);

A reclamation schedule is shown in the *Reclamation and Closure Plan for the Niblack Underground Exploration Project, RTR Resource Management Inc., 2007.* This schedule is designed to provide for timely completion of reclamation. The program includes interim or concurrent reclamation, final reclamation and post-reclamation monitoring and maintenance. Closure involves decommissioning at the cessation of exploration activities which is estimated at Month 24 of the schedule.

7. Estimates of the largest area of the industrial waste landfill likely to require a final cover and of the maximum inventory of wastes to be onsite over the life of the facility; and

As described earlier in this document, PAG/ML waste will be placed back underground at closure, and no cover will be required. This is the total volume of industrial waste to be managed at the landfill facility.

8. The total present-day equivalent cost estimates for the closure and post closure care of the facility.

Cost estimates for the closure and post closure care of the facility are show in the *Reclamation and Closure Plan for the Niblack Underground Exploration Project, RTR Resource Management Inc., 2007.* Source for the cost estimates are provided.

Part Twelve: Check (or Money Order) to Cover Permit Application Review Fee.

Permit application review fee required by 18 AAC 60.700 Table D.

The Alaska Department of Environmental Conservation
Division of Environmental Health
Solid Waste Management Program Offices
<http://www.state.ak.us/dec/home.htm>

**410 Willoughby Avenue
Juneau, AK 99801-1795
(907) 465-5350
FAX (907) 465-5362**

**555 Cordova Street
Anchorage, AK 99501
(907) 269-7500
FAX (907) 269-7655**

**610 University Avenue
Fairbanks, AK 99709
(907) 451-2360
FAX (907) 451-2187**

[Mr. Darwin Green, V. P. Exploration is assigned contact person for NMC.]

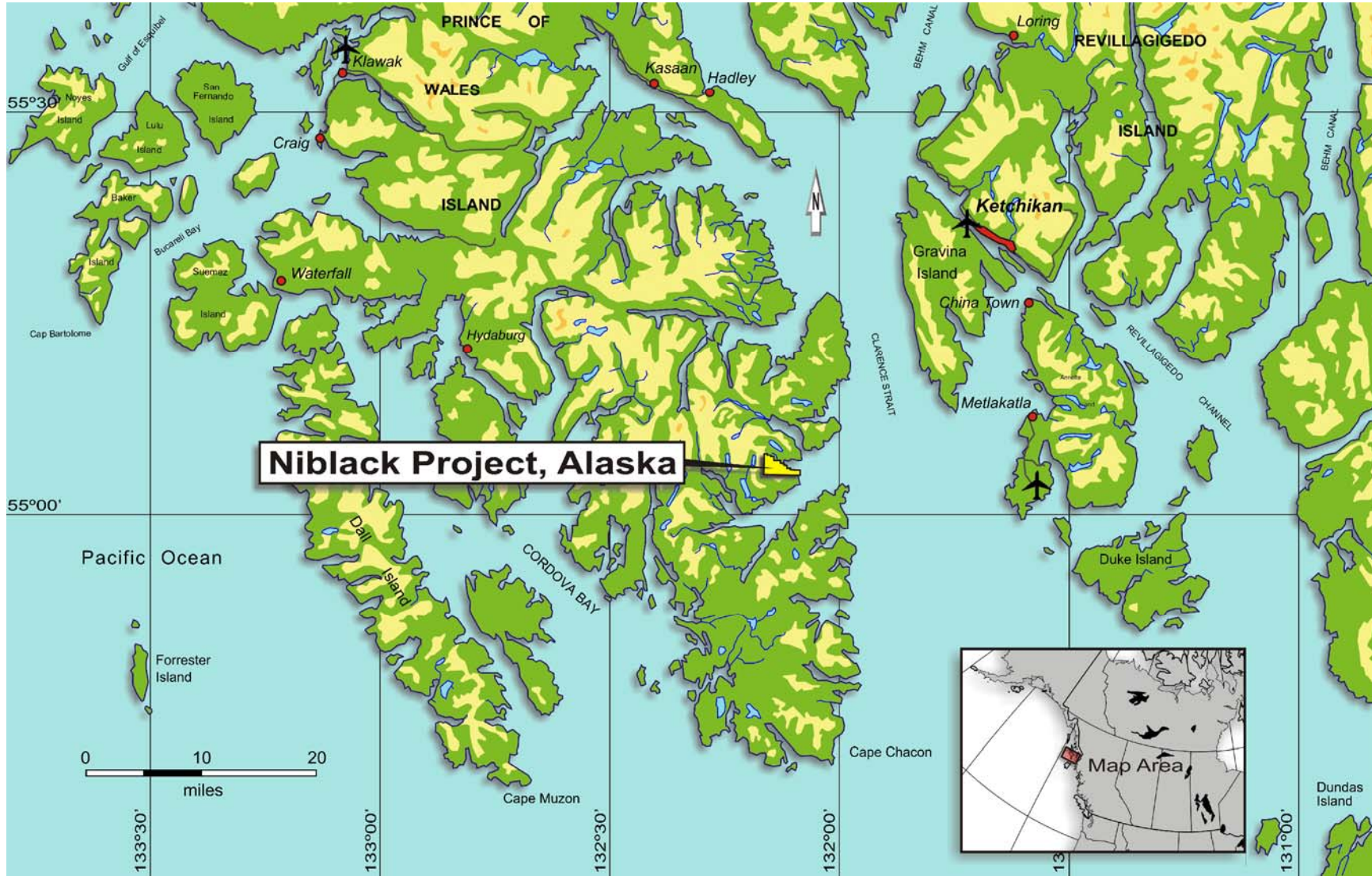
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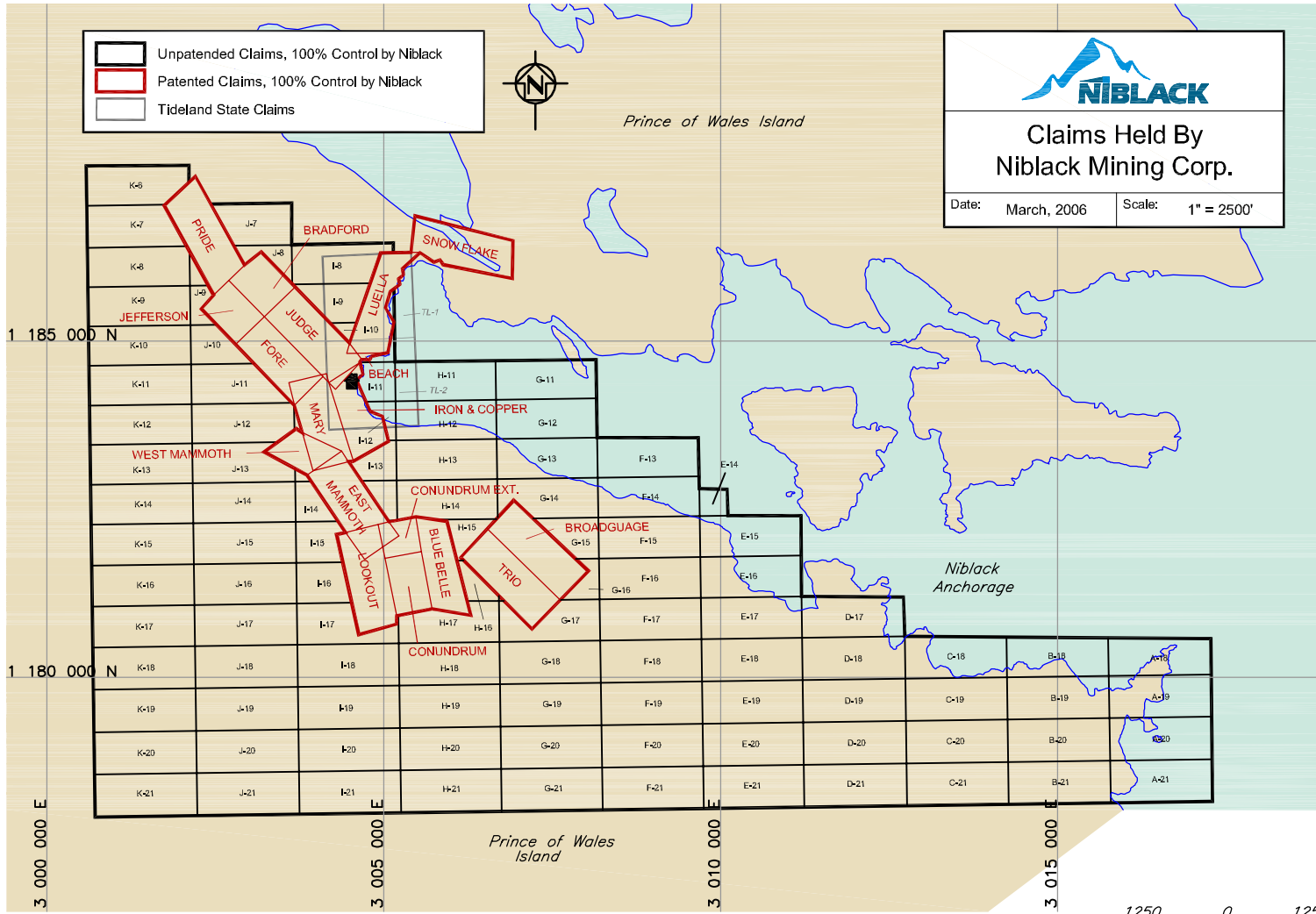
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Niblack Project, Alaska



NIBLACK MINING CORP.	
PROPOSED EXPLORATION PROGRAM	
LOCATION MAP	
<i>Knight Piésold</i> CONSULTING	PROJECT/ASSIGNMENT NO. VA102-205/2
	REF. NO. VA07-00494
FIGURE 1	REV. 0



Unpatented Claims, 100% Control by Niblack
 Patented Claims, 100% Control by Niblack
 Tideland State Claims



Prince of Wales Island

**Claims Held By
Niblack Mining Corp.**

Date: March, 2006 Scale: 1" = 2500'

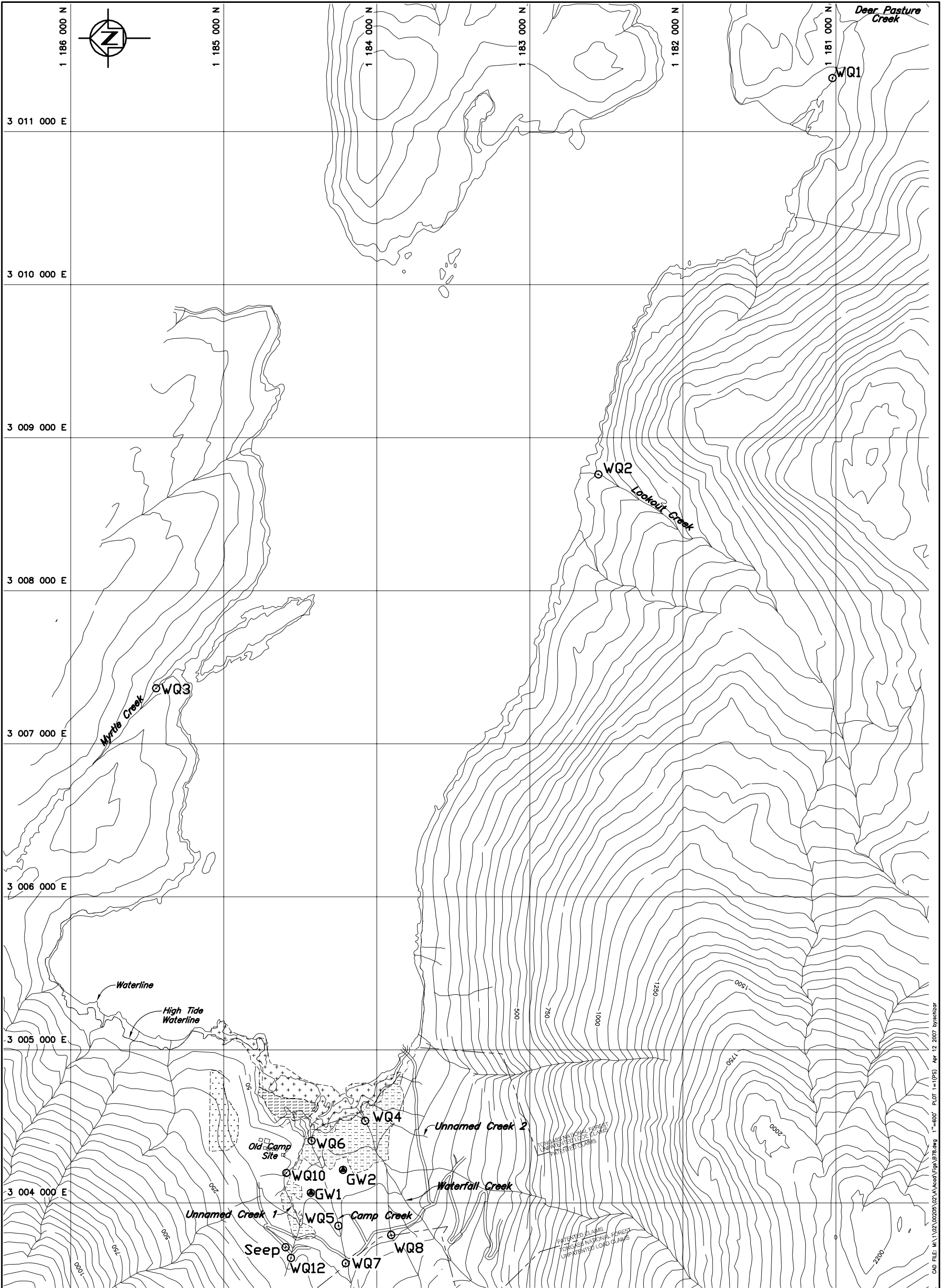
1 185 000 N
1 180 000 N
3 000 000 E
3 005 000 E
3 010 000 E
3 015 000 E

Scale 1250 0 1250 2500 3750 Feet

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

REV. 0 13APR'07 ISSUED IN FINAL

NIBLACK MINING CORP.	
PROPOSED EXPLORATION PROGRAM	
CLAIMS MAP	
	PROJECT/ASSIGNMENT NO. VA102-205/2
	REF. NO. VA07-00494
FIGURE 2	REV. 0



LEGEND

- Baseline GW Site
- Baseline Water Quality Station
- E1UBL Estuarine - Subtidal
- ⊕ E2US1N Estuarine - Unvegetated Intertidal

- ▨ PFO-SS4B - Needleleaf Forest/Scrub-Shrub Wetland
- ▨ PFO4B - Needleleaf Forest Wetland
- ▨ E2EM1P Estuarine - Emergent Intertidal

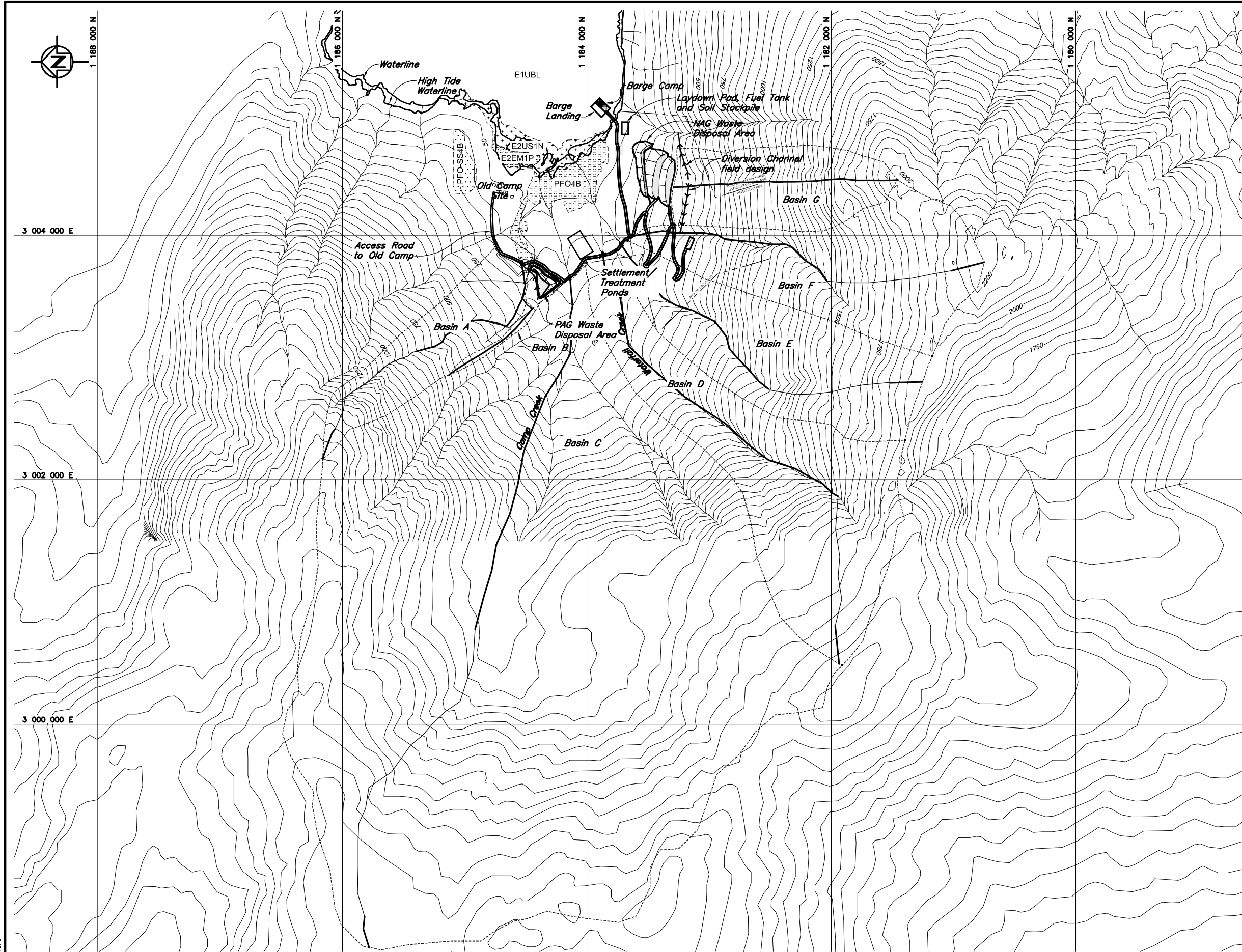
NOTES

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

Scale 300 0 300 600 900 Feet

NIBLACK MINING CORP.		
PROPOSED EXPLORATION PROGRAM		
BASELINE WATER QUALITY STATIONS		
Knight Piésold CONSULTING	PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00494
	FIGURE 3	
REV. 0	13APR'07	ISSUED IN FINAL

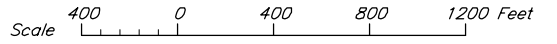
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LEGEND

- E1UBL Estuarine - Subtidal
- E2US1N Estuarine - Unvegetated Intertidal
- E2EM1P Estuarine - Emergent Intertidal
- PFO-SS4B - Needleleaf Forest/Scrub-Shrub Wetland
- PFO4B - Needleleaf Forest Wetland
- Drainage Basin Boundary

- NOTES**
1. Offsite topography from USGS Craig A-1 15 minute quadrangle.
 2. All dimensions and elevations are in feet unless otherwise noted.



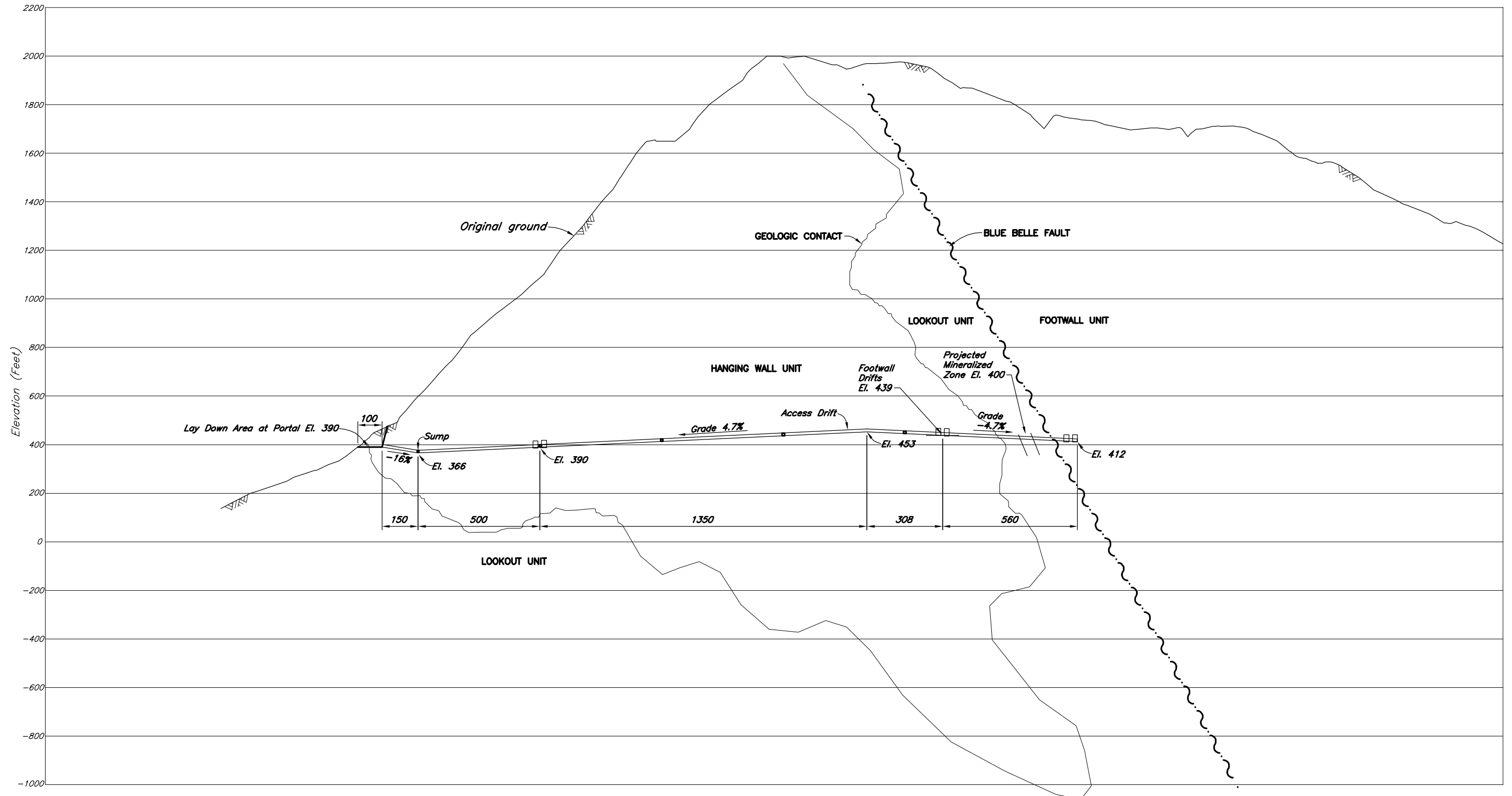
SITE PLAN

NIBLACK MINING CORP.	
PROPOSED EXPLORATION PROGRAM	
MAJOR DRAINAGE BASINS	
Knight Piésold CONSULTING	
PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00494
FIGURE 4	
REV. 0	REV. 0

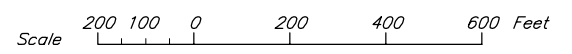
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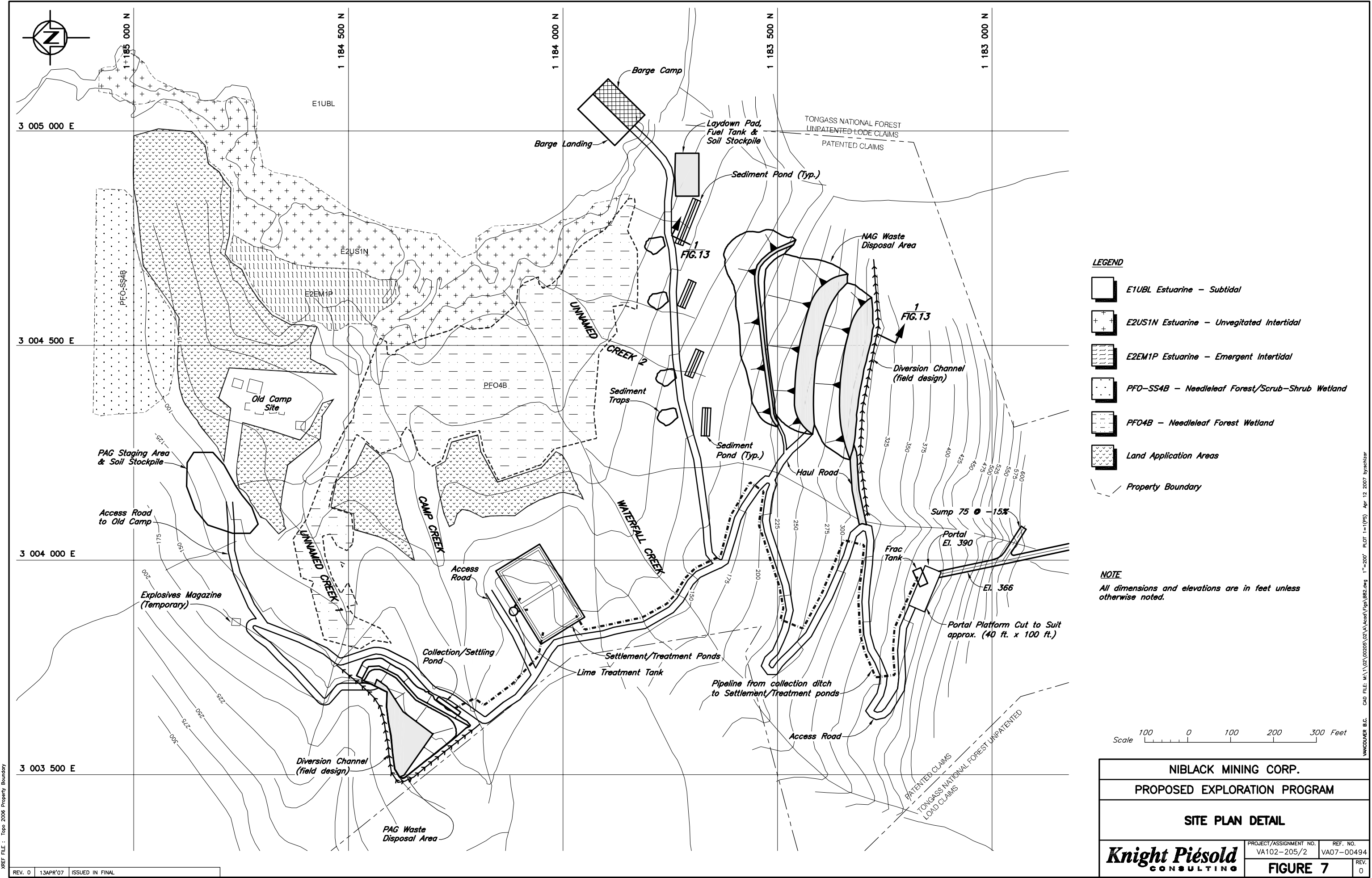


SECTION ¹/_{FIG. 5}
LOOKING EAST



- 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.

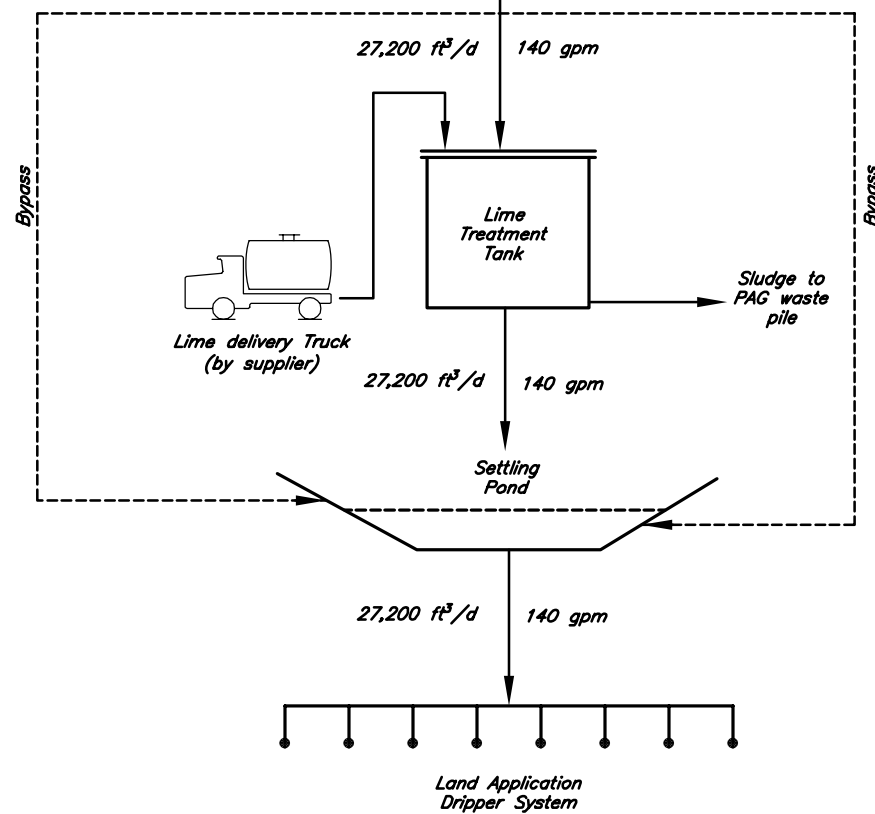
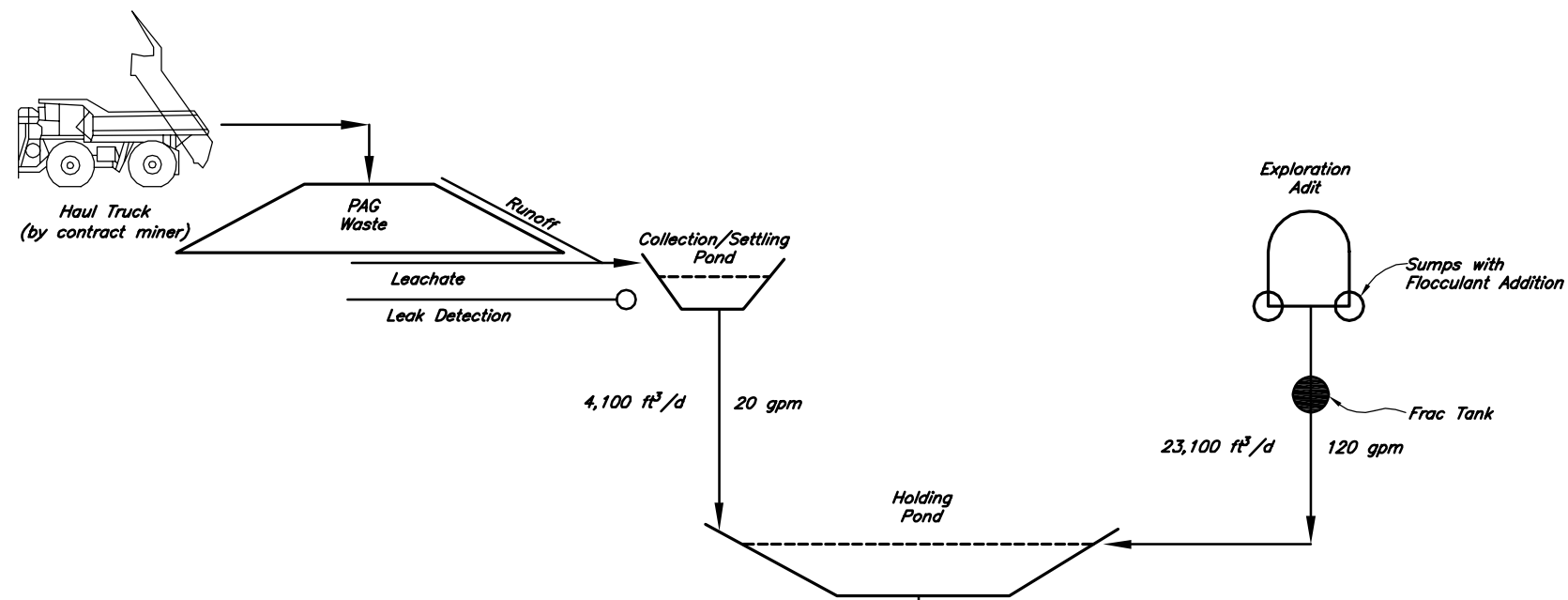
NIBLACK MINING CORP.	
PROPOSED EXPLORATION PROGRAM	
PROPERTY SECTION	
<i>Knight Piésold</i> CONSULTING	
PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00494
FIGURE 6	
REV. 0	REV. 0



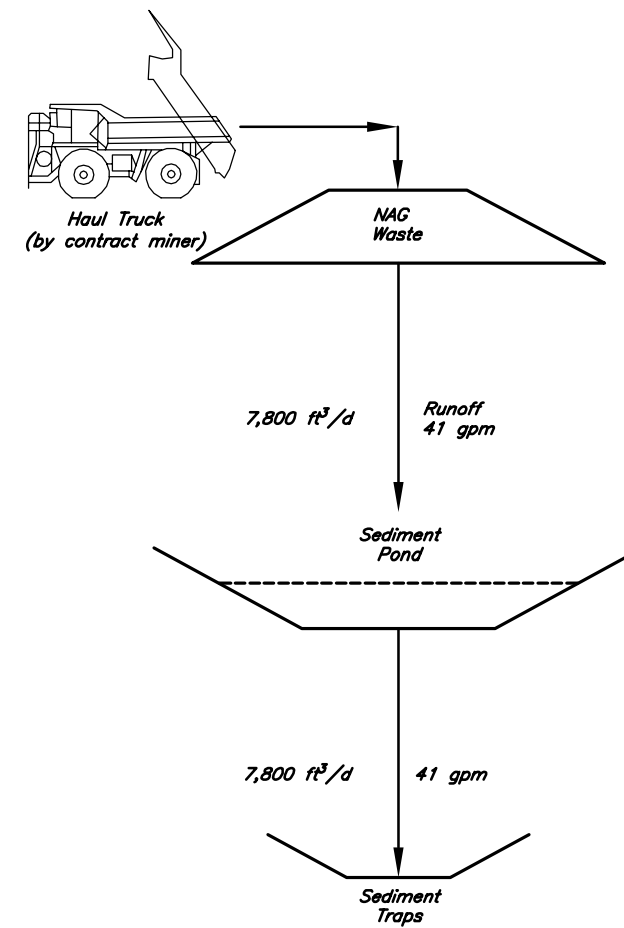
XREF FILE : Topo 2006 Property Boundary

REV. 0 13APR'07 ISSUED IN FINAL

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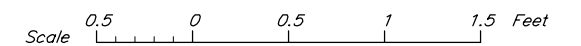


PAG/ADIT WATER TREATMENT

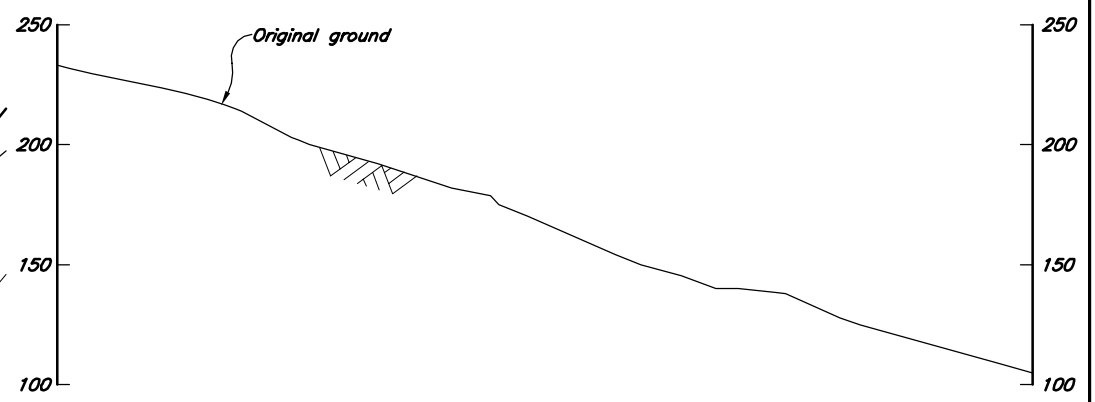
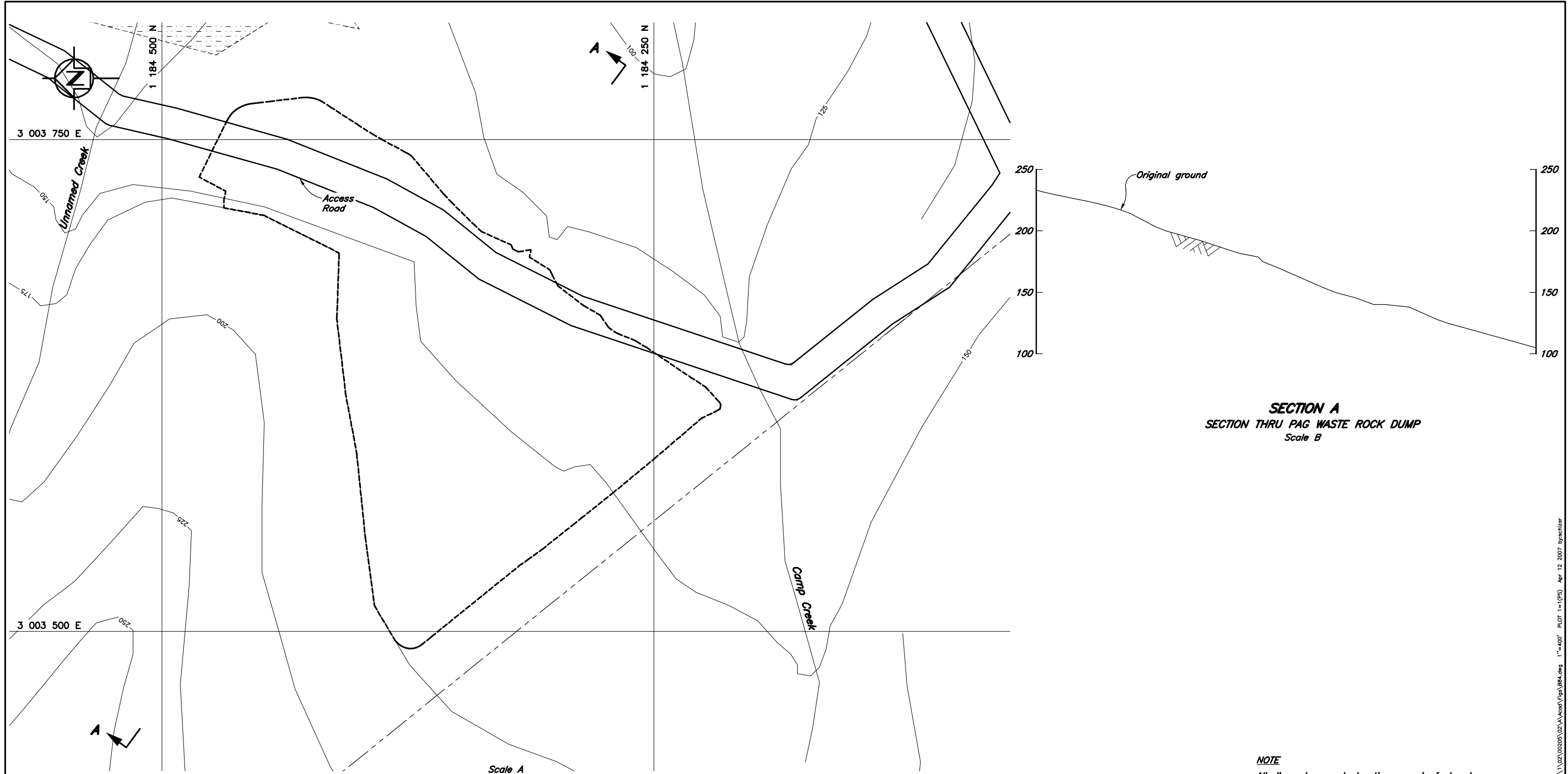


NAG WASTE WATER MANAGEMENT

NOTE
1. All values are average values for one day.









NIBLACK MINING CORP.							
PROPOSED EXPLORATION PROGRAM							
WASTE WATER COLLECTION AND TREATMENT CONCEPTS							
Knight Piésold CONSULTING	<table border="1"> <tr> <td>PROJECT/ASSIGNMENT NO. VA102-205/2</td> <td>REF. NO. VA07-00494</td> </tr> <tr> <td colspan="2" style="text-align: center;">FIGURE 8</td> </tr> <tr> <td colspan="2" style="text-align: right;">REV. 0</td> </tr> </table>	PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00494	FIGURE 8		REV. 0	
PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00494						
FIGURE 8							
REV. 0							



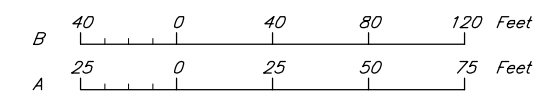
SECTION A
SECTION THRU PAG WASTE ROCK DUMP
Scale B

Scale A

LEGEND

-  E1UBL Estuarine - Subtidal
-  E2US1N Estuarine - Unvegetated Intertidal
-  E2EM1P Estuarine - Emergent Intertidal
-  PFO-SS4B - Needleleaf Forest/Scrub-Shrub Wetland
-  PFO4B - Needleleaf Forest Wetland
-  Property Boundary

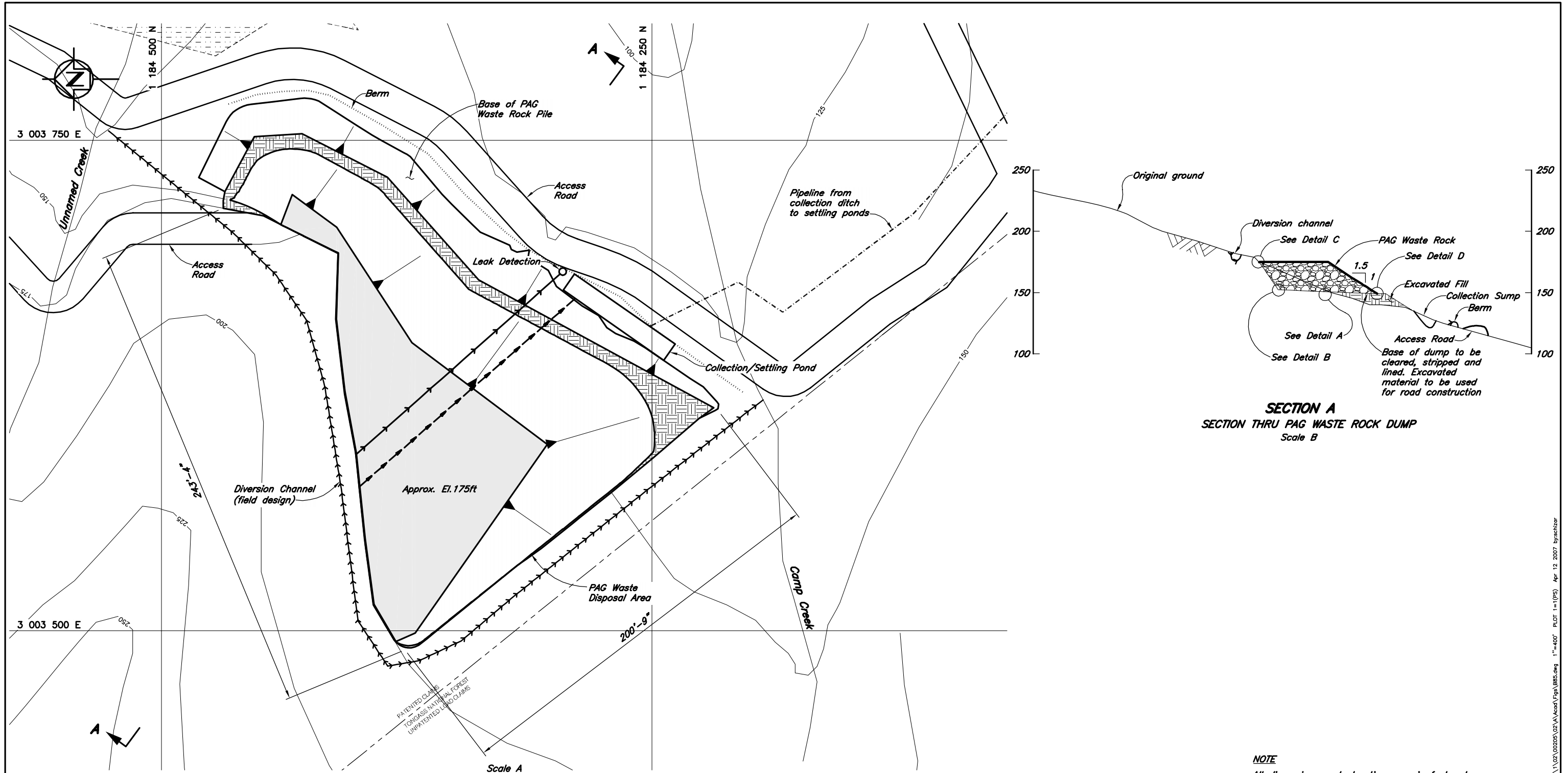
NOTE
All dimensions and elevations are in feet unless otherwise noted.



NIBLACK MINING CORP.	
PROPOSED EXPLORATION PROGRAM	
PRE-DEVELOPMENT CONDITIONS OF PAG WASTE ROCK PILE	
Knight Piésold CONSULTING	PROJECT/ASSIGNMENT NO. VA102-205/2
	REF. NO. VA07-00494
FIGURE 9	REV. 0

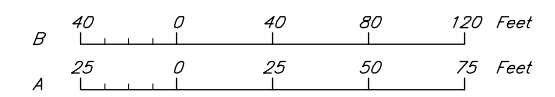
XREF FILE : Hydro_Features_Topo

CAD FILE: M:\1\02\00005\02\A\Veas\Fig\1884.dwg 1"=400' PLOT: 1-1 (PS) Apr 12 2007 by:ashizer



- LEGEND**
- E1UBL Estuarine - Subtidal
 - E2US1N Estuarine - Unvegetated Intertidal
 - E2EM1P Estuarine - Emergent Intertidal
 - PFO-SS4B - Needleleaf Forest/Scrub-Shrub Wetland
 - PFO4B - Needleleaf Forest Wetland
 - Property Boundary

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

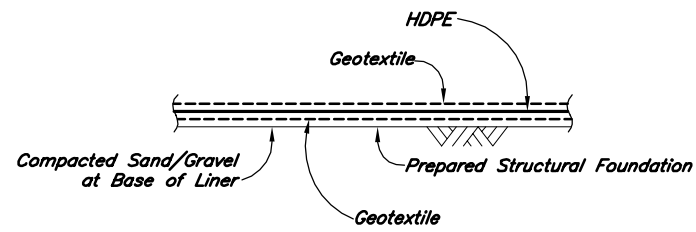


NIBLACK MINING CORP.							
PROPOSED EXPLORATION PROGRAM							
PAG WASTE ROCK PILE DESIGN DETAIL AND WATER ROUTING							
Knight Piésold CONSULTING	<table border="1"> <tr> <td>PROJECT/ASSIGNMENT NO. VA102-205/2</td> <td>REF. NO. VA07-00494</td> </tr> <tr> <td colspan="2" style="text-align: center;">FIGURE 10</td> </tr> <tr> <td>REV. 0</td> <td></td> </tr> </table>	PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00494	FIGURE 10		REV. 0	
PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00494						
FIGURE 10							
REV. 0							

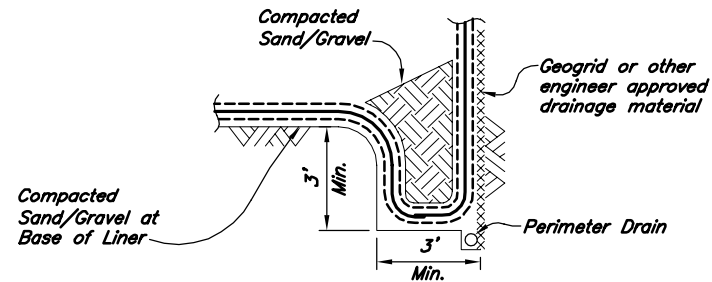
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REV. 0 13APR'07 ISSUED IN FINAL

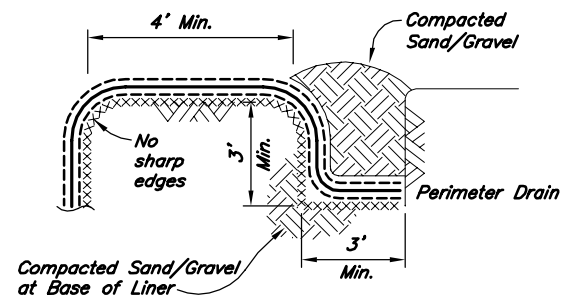
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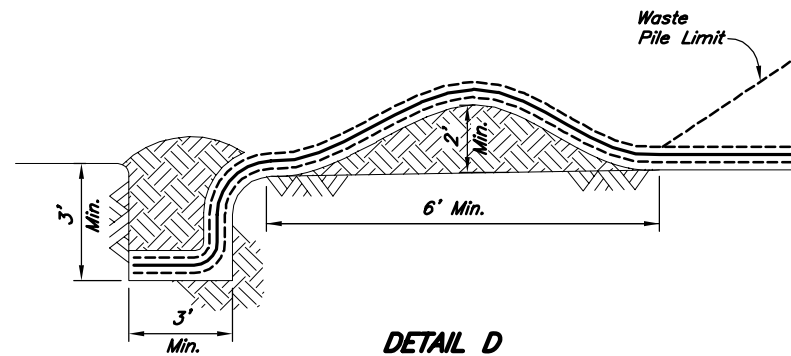
DETAIL A
TYPICAL LINER BASE
NTS



DETAIL B
LINER ANCHOR
(BACK FACE OF PAG
WASTE ROCK DUMP)
NTS



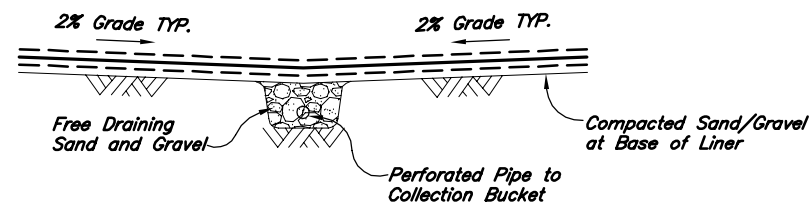
DETAIL C
LINER ANCHOR
(CREST OF BACK FACE OF
PAG WASTE ROCK DUMP)
NTS



DETAIL D
LINER ANCHOR
(TOE OF PAG WASTE
ROCK DUMP)
NTS

LEGEND

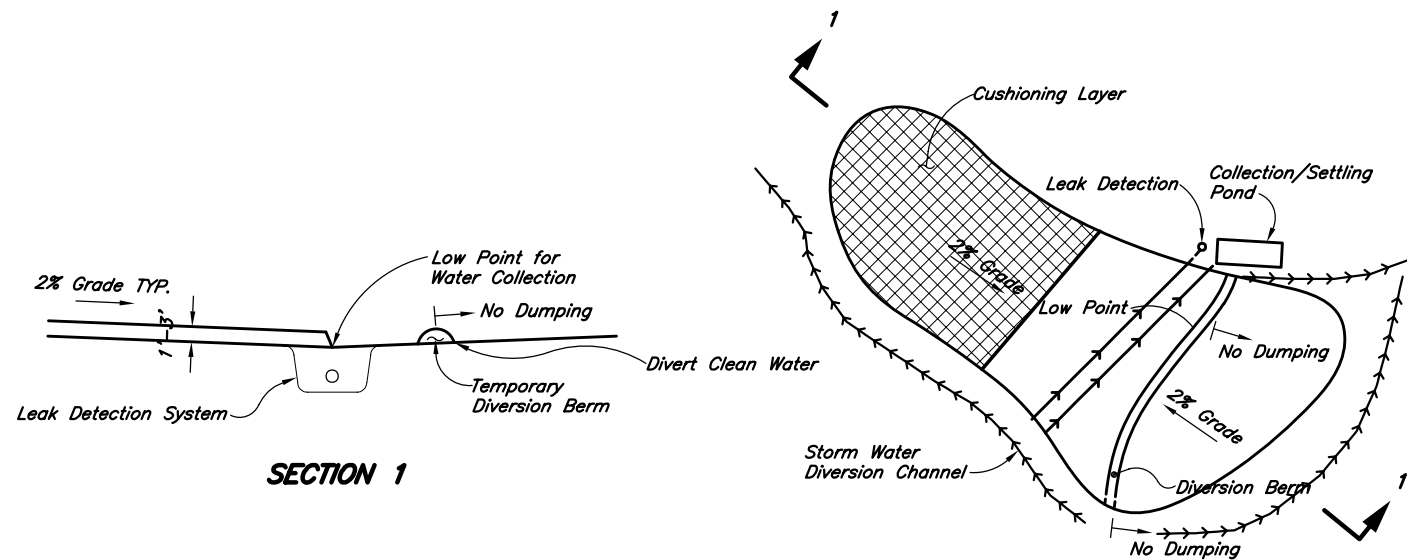
- Geotextile
- HDPE Liner
- xxxxxxx Geogrid Drainage Layer



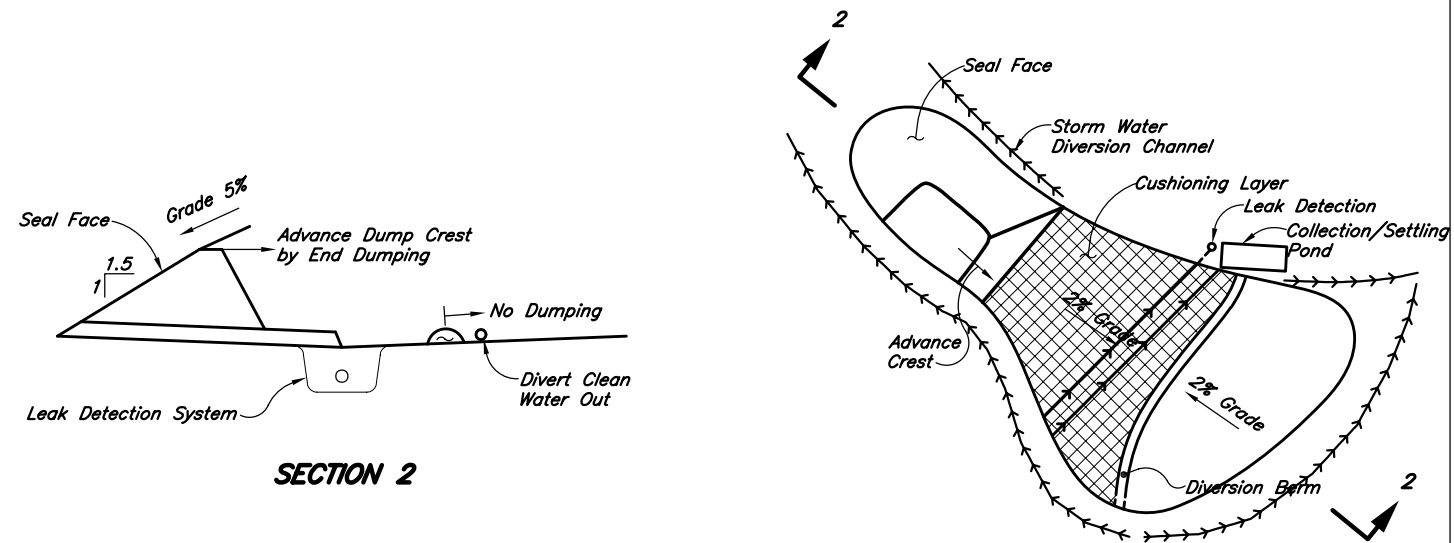
DETAIL E
LEAK DETECTION
(CENTER OF PAG
WASTE ROCK DUMP)
NTS

NIBLACK MINING CORP.		
PROPOSED EXPLORATION PROGRAM		
PAG LINER DETAILS		
Knight Piésold CONSULTING	PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00494
	FIGURE 11	
REV. 0		

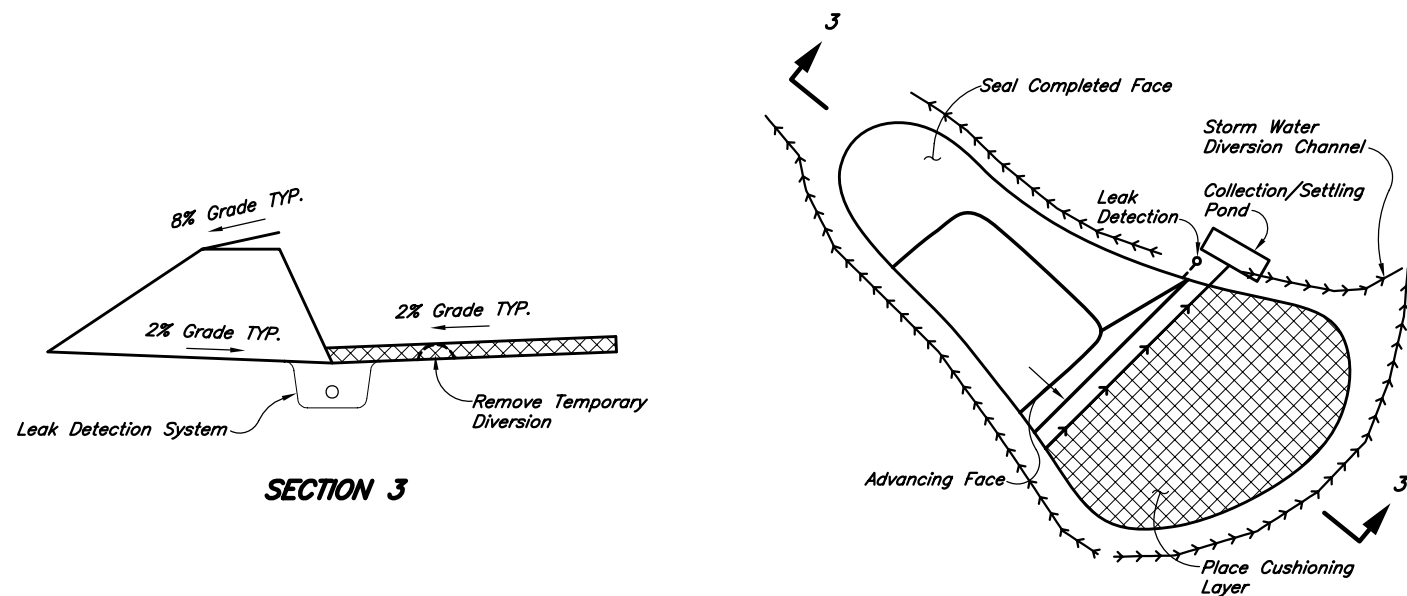
PHASE 1 (NTS)



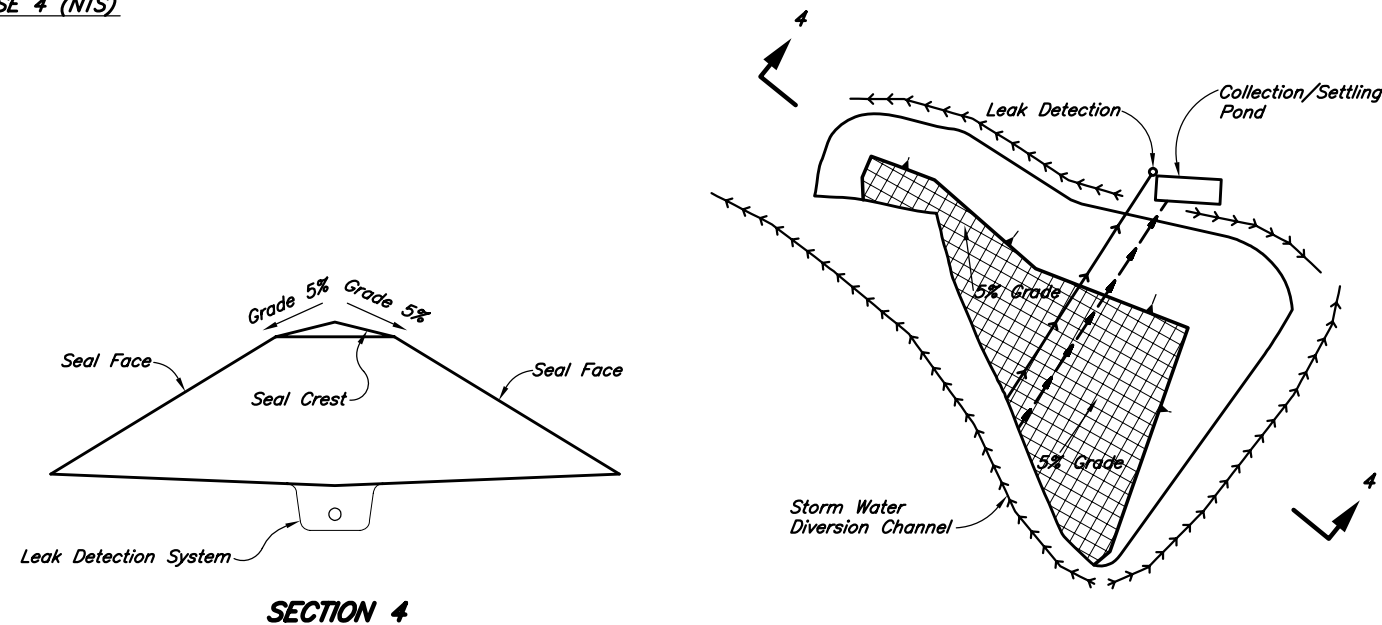
PHASE 2 (NTS)



PHASE 3 (NTS)



PHASE 4 (NTS)



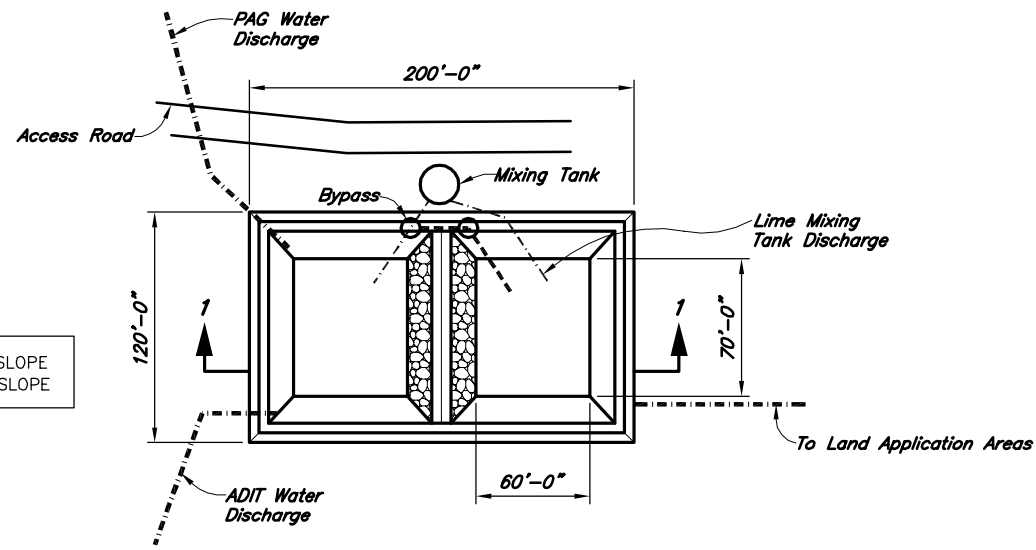
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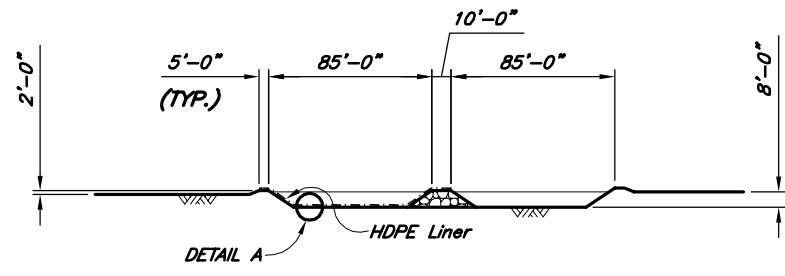
NIBLACK MINING CORP.							
PROPOSED EXPLORATION PROGRAM							
PAG WASTE ROCK PILE CONSTRUCTION SEQUENCE AND WATER ROUTING SCHEMATIC							
Knight Piésold CONSULTING	<table border="1"> <tr> <td>PROJECT/ASSIGNMENT NO. VA102-205/2</td> <td>REF. NO. VA07-00494</td> </tr> <tr> <td colspan="2" style="text-align: center;">FIGURE 12</td> </tr> <tr> <td>REV. 0</td> <td>REV. 0</td> </tr> </table>	PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00494	FIGURE 12		REV. 0	REV. 0
PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA07-00494						
FIGURE 12							
REV. 0	REV. 0						



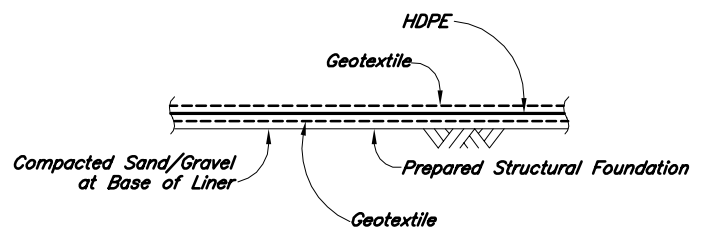
PONDS INNER FACE 1.5:1 SLOPE
 PONDS OUTER FACE 2.5:1 SLOPE



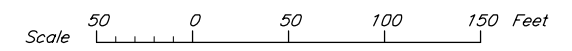
SETTLEMENT/TREATMENT PONDS PLAN



SECTION 1



**DETAIL A
 TYPICAL LINER BASE
 NTS**



NIBLACK MINING CORP.	
PROPOSED EXPLORATION PROGRAM	
SETTLEMENT/TREATMENT POND SECTION	
Knight Piésold CONSULTING	PROJECT/ASSIGNMENT NO. VA102-205/2
	REF. NO. VA07-00494
FIGURE 13	REV. 0

XREF FILE :

REV. 0 13APR'07 ISSUED IN FINAL

CAD FILE: M:\1\02\00005\02\A\00005\02\A\00005\02\A\00005\02\A\00005.dwg 1"=100' PLOT: 1=(PS) Apr 12 2007 by:ashtzr Time: 13:41

APPENDIX A

Geotechnical Summary of Niblack Project Waste Rock Dumps

(Pages A1 to A8)

December 14, 2006

Telephone: 604.685.0543

Facsimile: 604.685.0147

Email: vancouver@knightpiesold.com

Mr. Darwin Green
Senior Geologist
Niblack Mining Corp.
615 - 800 West Pender Street
Vancouver, BC
V6C 2V6

Dear Darwin,

Re: Geotechnical Summary of the Niblack Project Waste Rock Dumps.

Introduction

This letter summarizes the waste rock dump design and slope stability for the Niblack project Non-Acid Generating and Potentially Acid Generating waste rock dumps. The two waste rock dumps are calculated to have an adequate factor of safety for slope stability. The general layout of the site is shown on Figure 1.

The Niblack project is owned and operated by Niblack Mining Corporation and located in south west Alaska. Development of the Niblack project to advance mineral resources exploration will be accomplished by the construction of a tunnel and the development of underground drill stations. During the course of this development two types of waste rock will be produced. The two types of mine rock are Non-Acid Generating (NAG) and Potentially Acid Generating (PAG) rock which will be separated and managed dependant on the rock type.

Non-Acid Generating (NAG) Waste Rock Dump

This NAG waste rock will be permanently stored in a waste rock dump located at an elevation below the portal and to the north east of the portal. The waste rock dump is on moderately steep terrain and will require stripping of the loose surface and organic surface soils. A 'bottom-up' style of construction and a toe buttress & spill rock berm will be constructed from the first lift of waste rock at the toe of the dump to ensure an adequate factor of safety for slope stability and to prevent spill rock impacting operations on the site road located below the NAG waste rock dump.

NAG Waste Rock Dump Area Description

A preliminary site investigation of the NAG waste rock dump area conducted in 2006 consisted of a site walkover and the examination of road cuts developed during site road construction in the area. The NAG waste rock dump is located on a moderately steep forested area south of Waterfall Creek and north east of the proposed portal location. A portion of the waste rock dump is located on the site of a historic land slide; the remainder of the waste rock dump is located in a forested area. The forested area is heavily vegetated and has a surface material stratigraphy consisting of black organic soil approximately 1 to 2 feet thick overlying poorly sorted conglomerate of cobbles and boulders with a matrix of gravel, sand, silt and clay. This conglomerate/alluvial layer is observed to be over 5 feet thick in places. The slide area is

heavily vegetated by Alder and Devils Club. A road cut in the historic slide shows the slide area consists of a thin layer of moss overlying saturated black organic soil with large angular cobbles, this layer is approximately 1 to 2 feet thick. The organics rich surface layer overlies poorly graded coarse gravels with silt and clay.

NAG Waste Rock Dump Slope Stability

The slope stability for the NAG waste rock dump has been calculated using the cross section shown in Figure 2 located at the highest section of the waste rock dump and parallel to the slope fall line. The surface preparation over the foundation of the waste rock dump will consist of removal of all loose and organic material to ensure waste rock is placed on a clean prepared foundation of either colluvial material or bedrock. The materials making up the waste rock dump and used in the stability calculation are:

- Waste rock that is placed in lifts from the bottom up. The initial lift will have outer slopes of 1.5 : 1 (H:V) to form a safety berm that will assist in slope stability and contain spill rock. The remaining lifts will be placed at the angle of repose of 1.3 : 1 (H:V). The thickness of the waste rock varies with location; the strength of the waste rock varies with the normal stress.
- The near surface foundation layer has been estimated to be 20 to 25 feet thick and have a strength that varies with the normal stress.
- Bedrock is modeled to underlie this foundation layer.
- The slope stability of the NAG waste rock dump was calculated with the Slope/W using the method of Spencer.
- The water table is conservatively placed at the interface between the original ground and waste rock.

The NAG waste rock dump has an acceptable slope stability factor of safety for a shallow displacement of 1.5 and for a deep seated displacement the factor of safety is 1.7. The slope stability models and results for shallow and deep seated stability are shown on Figures 3 and 4 respectively.

NAG waste Dump Area Organic Surface Material

The NAG waste dump will cover an area of approximately 123,000 square feet based on an average stripping depth of 1.5 feet this will generate approximately 185,000 cubic feet of organic soil. This material should be stockpiled for the closure and reclamation of the NAG waste rock pile. The storage of the organic soil close may be accomplished by pushing the organic material to immediately outside the toe of the waste rock pile to form a windrow of material around the NAG waste dump. This organic material pile should have outer slopes of no steeper than 2 : 1 (H:V).

Closure of the NAG waste Rock Dump

The NAG waste rock dump may be closed by reducing the overall slopes to 2 : 1 (H:V) or less and covering the NAG waste rock dump surface with organic material and seeding. The organic material previously stockpiled from the dump foundation stripping will provide a growth medium for regeneration of the slope.

Potentially Acid Generating (PAG) Waste Rock Dump

The PAG waste rock will be temporarily stored on the surface in a lined facility, at the completion of underground activities the waste will be returned underground for permanent disposal. The temporary PAG waste rock dump is located approximately 1200 feet to the north of the portal. A plan showing the location of the temporary PAG waste rock dump is on Figure 1 and a cross section through the waste dump is shown of Figure 2. The platform for the PAG waste rock dump will be developed by excavating material from a ridge to develop sufficient flat (less than 10% grade) area for stacking the PAG waste

rock. The base of the PAG waste rock dump will consist of a composite sandwich of geotextile and High Density Polyethylene (HDPE). The geotextile provides protection for the HDPE impermeable liner.

PAG Waste Rock Dump Slope Stability

The waste rock dump cross section is used for slope stability calculation shown on Figure 2. The materials in the PAG waste rock dump and used for the stability calculation are:

- Waste rock that is placed in lifts from the bottom up with an outer face at a slope of no more than 1.5 : 1 (H:V). The maximum thickness of the waste rock is approximately 35 feet and has a strength that varies with the normal stress.
- The waste rock is placed on a composite liner that consists of a layer of geotextile for liner protection, impermeable HDPE liner for water control and a geotextile layer for liner protection.
- Bedrock is underlies the composite liner layer.
- The slope stability of the PAG waste rock dump has been calculated using the software Slope/W and the analysis method of Spencer.
- The PAG waste is drained.

The temporary PAG waste rock dump has an acceptable factor of safety against displacement of 1.7, the slope stability model and results are shown on Figure 5.

Summary

The waste rock dumps proposed on the Niblack property have adequate factors of safety for slope stability and displacement. The NAG waste rock dump will require stripping of the foundation to remove loose or organic surface material. The construction of the NAG waste rock dump will be conducted from the bottom up in a series of lifts. A safety berm for spill rock control and to improve slope stability will be constructed from waste rock as part of the first lift of waste rock. The temporary PAG waste rock dump will be built on a cut platform developed in rock and equipped with a full base liner to direct water from the PAG dump to the water treatment ponds. The outer slopes of the PAG waste rock dump will be limited to a maximum grade of 1.5 : 1 (H:V).

Yours truly

KNIGHT PIÉSOLD LTD.



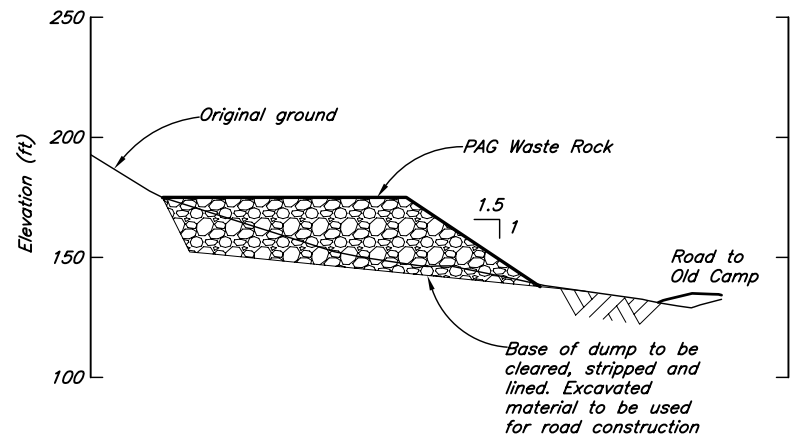
Greg Johnston, M.Sc.
Geotechnical Specialist



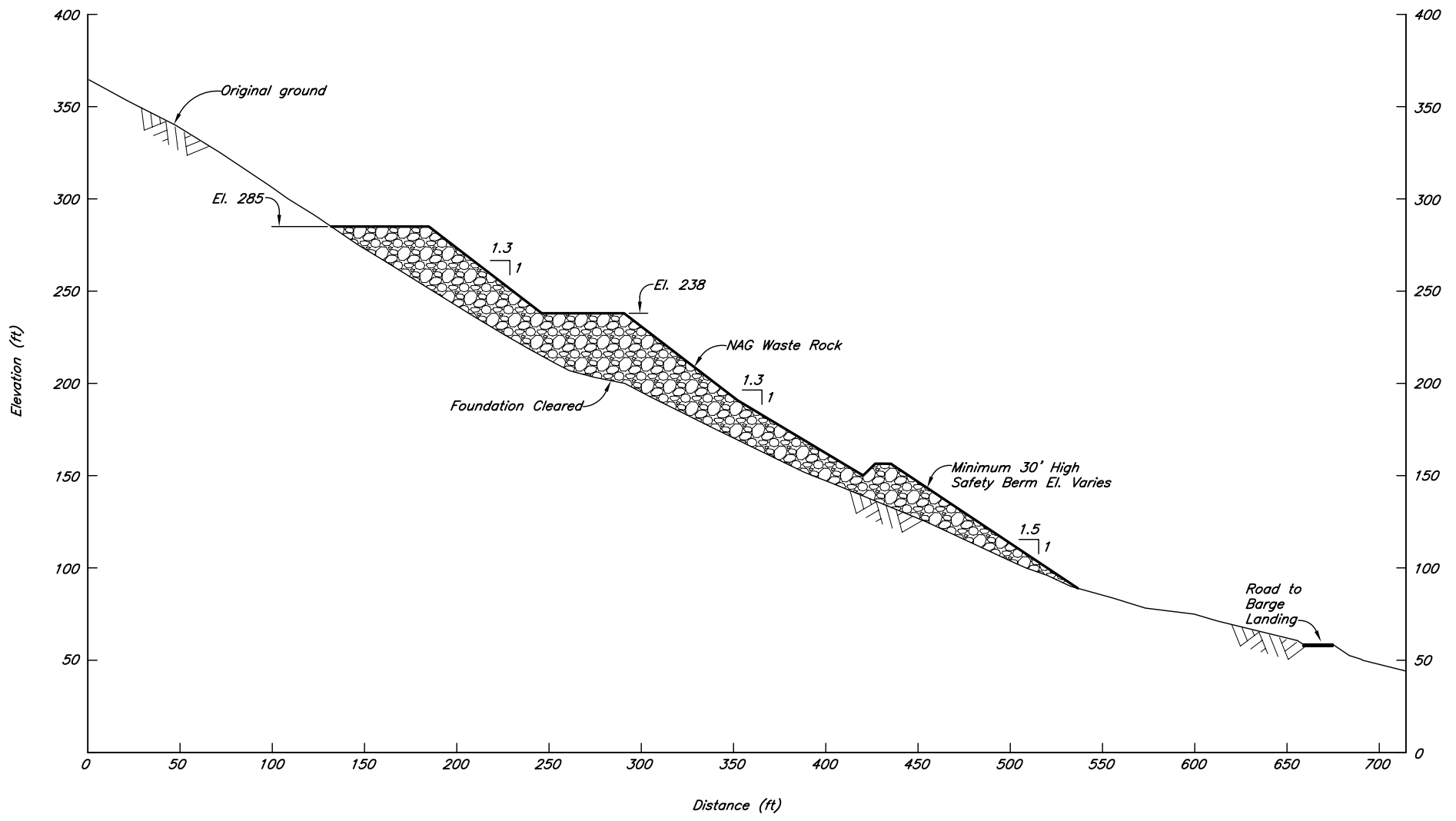
Ken Brouwer, P.Eng.
Managing Director

Attachments: Figure 1 r0 General Site Plan
Figure 2 r0 NAG and PAG Waste Rock Dump Sections
Figure 3 r0 Non Acid Generating (NAG) Waste Rock Dump Static Stability near Surface
Figure 4 r0 Non Acid Generating Waste Rock Dump Static Stability Deep Seated
Figure 5 r0 Potentially Acid Generating (PAG) Waste Rock Dump Static Stability.

/gj

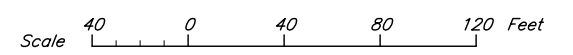


SECTION $\frac{2}{\text{FIG. 1}}$
SECTION THRU PAG WASTE ROCK DUMP

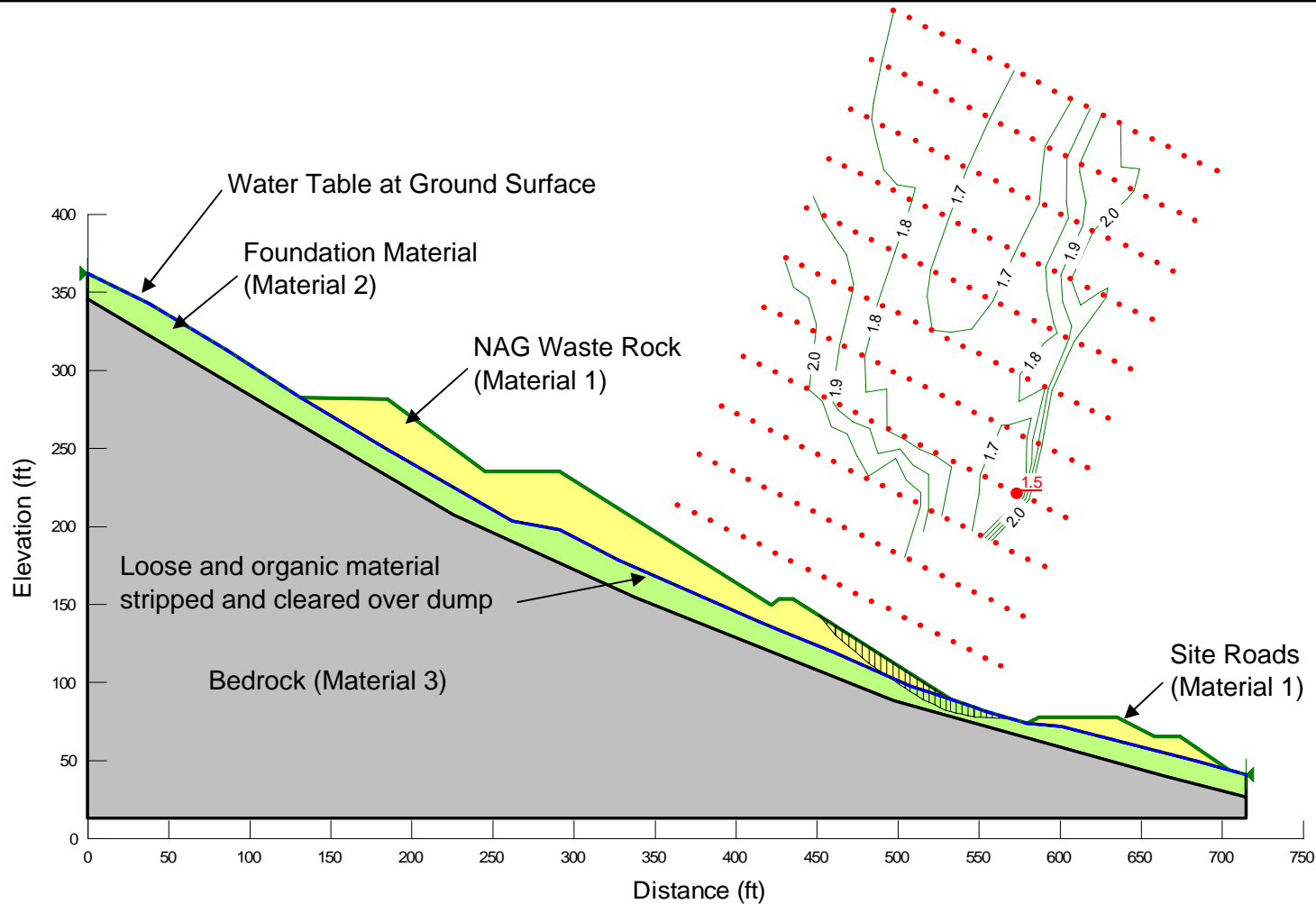


SECTION $\frac{1}{\text{FIG. 1}}$
SECTION THRU NAG WASTE ROCK DUMP

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

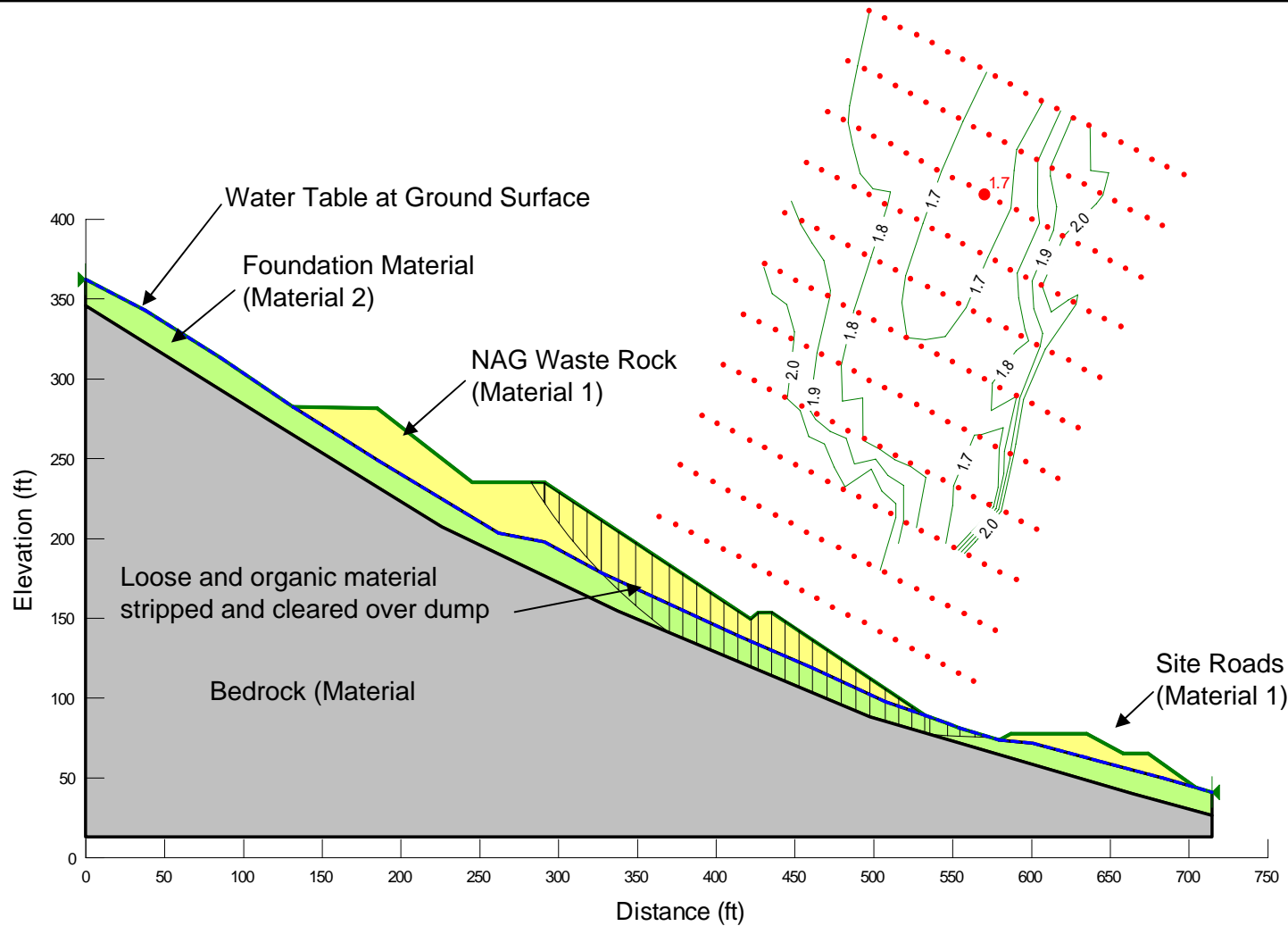


NIBLACK MINING CORP.		
PROPOSED EXPLORATION PROGRAM		
NAG AND PAG WASTE ROCK DUMP SECTIONS		
Knight Piésold CONSULTING	PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. VA06-01688
	FIGURE 2	
	REV. 0	



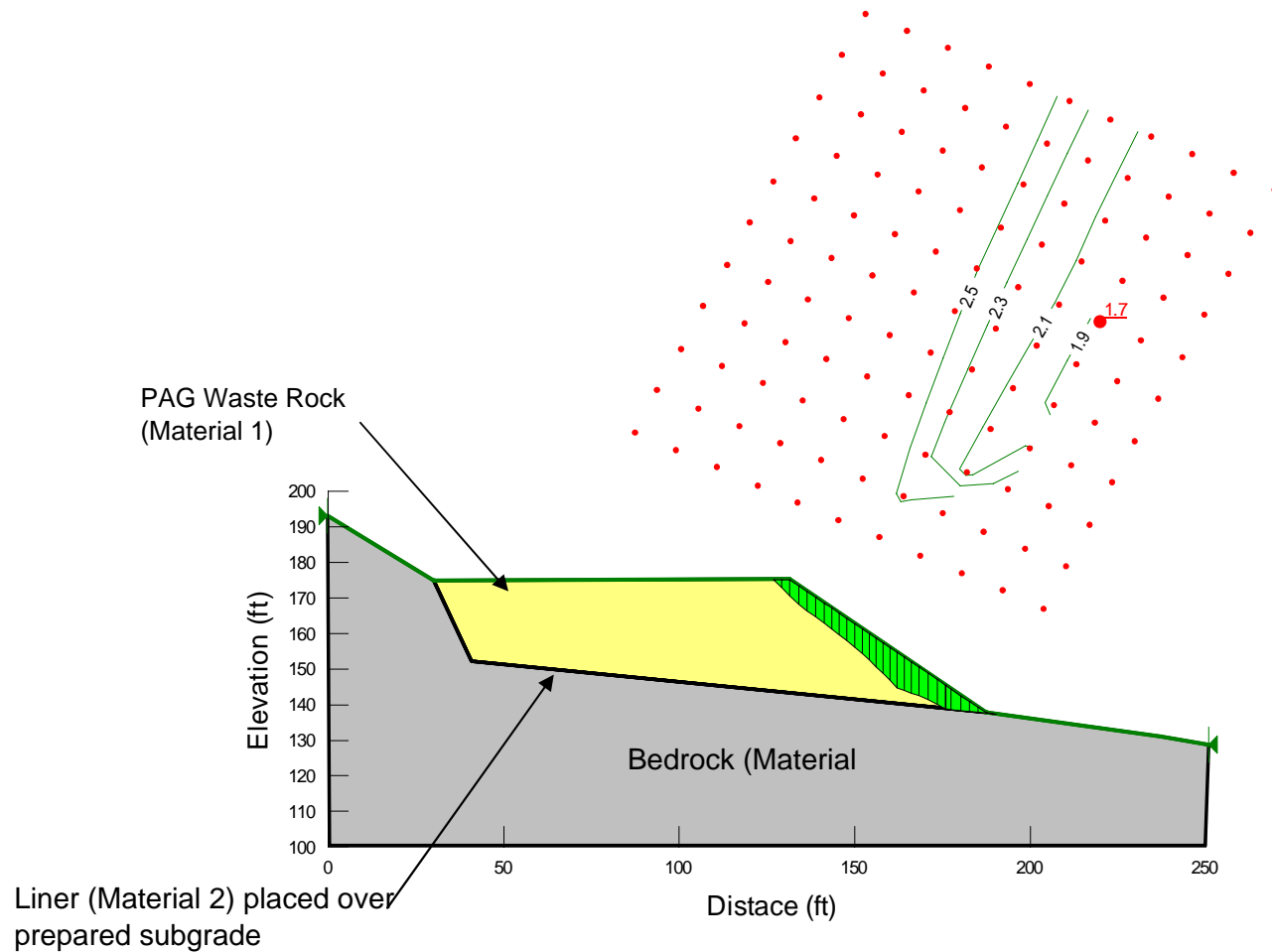
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 Material #: 2 Description: Foundation Material (Near Surface) Model: ShearNormalFn Wt: 125 Strength Fn: 1 Piezometric Line: 1
 Material #: 3 Description: Bedrock Model: Bedrock Piezometric Line: 1
 This Analysis used the Method of: Spencer

NIBLACK MINING CORP		
PROPOSED EXPLORATION PROGRAM		
NON ACID GENERATING (NAG) WASTE ROCK DUMP STATIC STABILITY NEAR SURFACE		
<i>Knight Piésold</i> CONSULTING	PROJECT / ASSIGNMENT NO. VA102-205/2	REF NO. VA06-1688
	FIGURE 3	
		REV. 0



Material #: 1 Description: NAG Waste Rock Model: ShearNormalFn Wt: 110 Strength Fn: 1 Piezometric Line: 1
 Material #: 2 Description: Foundation Material (Near Surface) Model: ShearNormalFn Wt: 125 Strength Fn: 1 Piezometric Line: 1
 Material #: 3 Description: Bedrock Model: Bedrock Piezometric Line: 1
 This Analysis used the Method of: Spencer

NIBLACK MINING CORP		
PROPOSED EXPLORATION PROGRAM		
NON ACID GENERATING WASTE ROCK DUMP STATIC STABILITY DEEP SEATED		
<i>Knight Piésold</i> CONSULTING	PROJECT / ASSIGNMENT NO. VA102-205/2	REF NO. VA06-1688
	FIGURE 4	
		REV. 0



Material #: 1 Description: PAG Waste Rock Model: ShearNormalFn Wt: 120 Strength Fn: 1 Piezometric Line: 0
 Material #: 2 Description: Liner Model: MohrCoulomb Wt: 50 Cohesion: 0 Phi: 34 Piezometric Line: 0
 Material #: 3 Description: Bedrock Model: Bedrock Piezometric Line: 0
 The Analysis Method Used: Spencer

NIBLACK MINING CORP		
PROPOSED EXPLORATION PROGRAM		
POTENTIALLY ACID GENERATING (PAG) WASTE ROCK DUMP STATIC STABILITY		
<i>Knight Piésold</i> CONSULTING	PROJECT / ASSIGNMENT NO. VA102-205/2	REF NO. VA06-1688
	FIGURE 5	
		REV. 0

APPENDIX B

Calculation for Storm Water Drainage Structures and Culverts

(Pages B1 to B5)

tmp#20.txt

TR-55 Tabular Hydrograph Method
Input Summary

Description
 Basin A--No. of PAG, 5-in precip
 Rainfall Distribution Type I
 Ia/P Interpolation On
 Total Area 21.13 ac

 Peak Time 10.20 hrs
 Peak Flow 12.14 cfs

Given Input Data:

Subarea Description	D/S Subareas	Area (ac)	CN	Tc (hrs)	Tt (hrs)	Rainfall (in)
Basin A		21.13	60	0.21	0.00	5.00

Support Data:

tmp#14.txt

TR-55 Tabular Hydrograph Method
Input Summary

Description
 Basin B--PAG Offsite, 5-in precip
 Rainfall Distribution Type I
 Ia/P Interpolation On
 Total Area 1.18 ac

 Peak Time 10.10 hrs
 Peak Flow 0.89 cfs

Given Input Data:

Subarea Description	D/S Subareas	Area (ac)	CN	Tc (hrs)	Tt (hrs)	Rainfall (in)
Basin B		1.18	60	0.10	0.00	5.00

Support Data:

tmp#15.txt

TR-55 Tabular Hydrograph Method
Input Summary

Description
 Basin C--Camp Creek, 5-in precip
 Rainfall Distribution Type I
 Ia/P Interpolation On
 Total Area 359.00 ac

 Peak Time 10.20 hrs
 Peak Flow 206.17 cfs

Given Input Data:

Subarea Description	D/S Subareas	Area (ac)	CN	Tc (hrs)	Tt (hrs)	Rainfall (in)
Basin C		359.00	60	0.20	0.00	5.00

Support Data:

tmp#16.txt

TR-55 Tabular Hydrograph Method
Input Summary

Description
 Basin D--N. Waterfall Cr., 5-in precip
 Rainfall Distribution Type I
 Ia/P Interpolation On
 Total Area 65.13 ac

 Peak Time 10.20 hrs
 Peak Flow 37.40 cfs

Given Input Data:

Subarea Description	D/S Subareas	Area (ac)	CN	Tc (hrs)	Tt (hrs)	Rainfall (in)
Basin D		65.13	60	0.19	0.00	5.00

Support Data:

tmp#17.txt

TR-55 Tabular Hydrograph Method
Input Summary

Description
 Basin E--S. Waterfall Cr., 5-in precip
 Rainfall Distribution Type I
 Ia/P Interpolation On
 Total Area 43.59 ac

 Peak Time 10.20 hrs
 Peak Flow 25.03 cfs

Given Input Data:

Subarea Description	D/S Subareas	Area (ac)	CN	Tc (hrs)	Tt (hrs)	Rainfall (in)
Basin E		43.59	60	0.19	0.00	5.00

Support Data:

tmp#18.txt

TR-55 Tabular Hydrograph Method
Input Summary

Description
 Basin F--Portal, 5-in precip
 Rainfall Distribution Type I
 Ia/P Interpolation On
 Total Area 45.91 ac

 Peak Time 10.20 hrs
 Peak Flow 26.37 cfs

Given Input Data:

Subarea Description	D/S Subareas	Area (ac)	CN	Tc (hrs)	Tt (hrs)	Rainfall (in)
Basin F		45.91	60	0.22	0.00	5.00

Support Data:

tmp#19.txt

TR-55 Tabular Hydrograph Method
Input Summary

Description
 Basin G--NAG Offsite, 5-in precip
 Rainfall Distribution Type I
 Ia/P Interpolation On
 Total Area 24.58 ac

 Peak Time 10.10 hrs
 Peak Flow 18.48 cfs

Given Input Data:

Subarea Description	D/S Subareas	Area (ac)	CN	Tc (hrs)	Tt (hrs)	Rainfall (in)
Basin G		24.58	60	0.13	0.00	5.00

Support Data:

Niblack Time of Concentration Calculations			Basin A	Basin B	Basin C	Basin D	Basin E	Basin F	Basin G
			No. of PAG	PAG	Camp Cr.	N. Waterfall Cr.	N. Waterfall Cr.	Portal	NAG
Basin Area	Desc	Units	21.13	1.18	359	65.13	43.59	45.91	24.58
		acres							
Sheet Flow									
RCN			60	60	60	60	60	60	65
Mannings n		n/a	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Begin Elev		ft	1800	710	2557	2325	2000	2200	2000
End Elev		ft	1700	625	2400	2050	1900	2125	1950
L	flow length	feet	266	114	262	313	266	281	152
P2	2-yr 24-hr rain	inches	5	5	5	5	5	5	4
s	slope	ft/ft	0.38	0.75	0.60	0.88	0.38	0.27	0.33
Tt	Travel time	hr	0.13	0.05	0.11	0.10	0.13	0.15	0.10
Shallow Conc--Trapezoidal									
Mannings n			0.045	0.045	0.045	0.045	0.045	0.045	0.045
Begin Elev		ft	1700	625	2400	2050	1900	2125	1950
End Elev.		ft	800	215	955	1575	1050	1300	265
Flow Depth		feet	0.1	0.1	0.6	0.3	0.19	0.19	0.2
Bottom Width		ft	8	2	8	8	8	8	10
Side Slopes		H:V	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Flow Area		sq ft	0.840	0.240	6.240	2.760	1.664	1.664	2.160
Wetted Perimeter		ft	8.82	2.82	12.95	10.47	9.57	9.57	11.65
r	hydraulic rad.	ft	0.095	0.085	0.482	0.264	0.174	0.174	0.185
s	slope	ft/ft	0.921	0.530	0.535	0.441	0.856	0.806	1.000
v	velocity	ft/sec	6.62	4.65	14.88	9.03	9.54	9.26	10.76
Q	Discharge	cfs	5.56	1.12	92.87	24.93	15.88	15.41	23.24
L	flow length	ft	977.00	774.00	2701.00	1077.00	993.00	1023.00	1685.00
Tt	travel time	hours	0.04	0.05	0.05	0.03	0.03	0.03	0.04
Open Chnl--Trapezoidal									
Mannings n		n	0.04		0.04	0.04	0.04	0.04	
Begin Elev		ft	800		955	1575	1050	1300	
End Elev		ft	130		120	110	115	150	
Flow Depth		ft	0.25		1.4	0.55	0.4	0.38	
Bottom Width		ft	4		4	4	4	4	
Side Slopes		H:V	3.0		3.0	3.0	3.0	3.0	
Flow Area		sq ft	1.188		11.480	3.108	2.080	1.953	
Wetted Perimeter		ft	5.58		12.85	7.48	6.53	6.40	
r	hydraulic rad.	ft	0.213		0.893	0.416	0.319	0.305	
s	slope	ft/ft	0.521		0.276	0.504	0.546	0.669	
v	velocity	ft/sec	9.58		18.16	14.72	12.83	13.80	
Q	Discharge	cfs	11.37		208.45	45.73	26.69	26.95	
L	flow length	ft	1286.00		3022.00	2909.00	1713.00	1720.00	
Tt	travel time	hours	0.04		0.05	0.05	0.04	0.03	
Total TOC			0.21	0.10	0.20	0.19	0.19	0.22	0.14

APPENDIX C

**QA/QC Plan for PAG/ML Temporary Storage Facility
Liner Installation**

(Pages C1 to C6)

APPENDIX 7. QA/QC FOR LINER INSTALLATION

H. Quality Assurance / Quality Control (QA/QC) for the Liner Installations

1. HDPE Geomembrane

MANUFACTURER'S QUALITY CONTROL

The geomembrane liner shall be of high quality formulation, containing approximately 97% polymer and 3% carbon black with anti-oxidants and heat stabilizers. It shall be resistant to ultraviolet rays.

The geomembrane shall be HDPE material manufactured of new, first-quality products designed and manufactured specifically for the purpose of liquid containment in hydraulic structures. The finished material shall be free of holes, blisters, undispersed raw materials, or any sign of contamination by foreign matter.

MATERIAL PROPERTIES

The material provided as smooth high-density polyethylene (HDPE) geomembrane shall conform to the following standards:

Smooth 2.00 mm HDPE Geomembrane Specifications				
Minimum Typical Material Properties				
	Property	Test Method	Value	Units
A	Min. thickness	ASTM D5199	1.8	mm
B	Density	ASTM D1505	0.94	g/cc
C	Tensile Properties ⁽¹⁾	ASTM D6693		
	- Tensile @ Yield		29	kN/m
	- Tensile @ Break		53	kN/m
	- Elongation @ Yield		12	%
	- Elongation @ Break		700	%
D	Tear Resistance Initiation	ASTM D1004	249	N
E	Puncture Resistance	ASTM D4833	640	N
F	Stress Crack Resistance⁽²⁾	ASTM D5397, (App.)	300	Hours
G	Carbon Black (Range)	ASTM D1603	2.0 to 3.0	%
H	Carbon Black Dispersion⁽³⁾	ASTM D5596	See note 3	
I	Seam Strengths⁽⁵⁾	ASTM D6392 @5 cm/min		
	Peel		28	kN/m
	Shear			
	- Hot Wedge	21.2	kN/m	
	- Extrusion Weld	18.2	kN/m	

Notes:

1. Yield elongation is calculated using a gage length of 33 mm. Break elongation is calculated using a gage length of 50 mm.
2. The yield stress used to calculate the applied load for the SP-NCTL test should be the mean value via MQC testing.
3. Carbon Black Dispersion for 10 different views:
 - 9 in Categories 1 or 2
 - 1 in Category 3

The Geosynthetics Supplier/Installer shall provide a written guarantee covering materials and all workmanship as well as degradation due to ultraviolet light for exposed areas. The material shall be warranted against manufacturer's defects for a period of 5 years from the date of installation. The installation shall be warranted against defects in workmanship for a period of 2 years from the date of installation.

INSTALLATION QUALITY CONTROL

The geomembrane shall be installed on the area shown on the Drawings or as directed by the Engineer.

Prior to deployment of geomembrane, the Geosynthetics Supplier/Installer shall inspect, certify and accept, with the Engineer, all surfaces on which the geomembrane is to be placed to ensure conformance with the specifications. Surfaces not in compliance with the specifications shall be rectified by the Contractor / ECM.

The geomembrane will be placed using methods and procedures that ensure a minimum of handling. The installer shall provide adequate temporary anchoring devices to prevent damage due to winds.

The liner shall be installed in a relaxed condition and shall be free of tension or stress upon completion of the installation. All necessary precautions, including provisions for installing extra material, shall be taken to avoid trampolining of liner, which will remain exposed.

Horizontal field seams on slopes should be kept to a minimum. Seams shall be made by lapping the uphill material over the downhill material with sufficient overlap. A minimum of three feet is required from the toe of the slope to any horizontal seam on flat areas.

Extreme care shall be taken by the Geosynthetics Supplier/Installer in the preparation of the areas to be welded. The area to be welded shall be cleaned and prepared according to the approved procedures, and all sheeting shall be welded together by thermal methods.

The welding equipment used shall be capable of continuously monitoring and controlling the temperatures in the zone of contact where the machine is actually fusing the lining material, to ensure changes in weather conditions will not affect the integrity of the weld.

No "fish mouths" shall be allowed within the seam area. Where "fish mouths" occur, the material shall be cut, overlapped, and extrusion welded. All welds on completion of the Work shall be tightly bonded. Any membrane area showing distress due to excessive scuffing or puncture from any cause shall be replaced or repaired.

The Geosynthetics Supplier/Installer shall take into account that rapid weather changes are very possible, resulting in delays in construction of field seams. Jointing of panels and repairs will only be permitted under weather conditions allowing such work within the warranty limits imposed by the liner manufacturer.

Field Seam Inspection and Testing

A maximum effort shall be made to install a perfect liner. This means that all seams completed in the field, patches and extrusions shall be inspected, tested and recorded.

A quality control technician shall inspect each seam, marking his initials and the date inspected at the end of each panel. Any area showing a defect shall be marked and repaired in accordance

with HDPE repair procedures. All field sampling and testing shall be done by the Geosynthetics Supplier / Installer as approved by the Engineer.

The field installation testing program shall consist of periodic visual observations, continuity, and strength tests. These inspections and tests are to be made routinely and are automatic regardless of other types of testing required. The program shall include:

1) Visual Observations

- Visual observations are to be made routinely and shall include the following:
- Visually check field seams for squeeze out, footprint, melt and overlap.
- Check machines for cleanness, temperature and related items.
- Any area of the seam or panel showing a defect shall be marked and repaired in accordance with the applicable repair procedures.

2) Continuity testing is required for all field seams and repaired areas. Inter-seam pressure or “air testing” and testing using vacuum box are considered acceptable methods for continuity testing.

- The test procedures for interseam pressure or air testing is the following:
- Seal both ends of the seam to be tested by applying heat to the end of the seam until flow temperature is achieved. Clamp off the ends and let cool.
- Insert a pressure gauge/needle assembly into the end of the seam and seal.
- Apply air pressure to the void between the two seams according to the following schedule:

HDPE INITIAL PRESSURE SCHEDULE			
Material HDPE Thickness	Pressure Range		Allowable leak down after 5 minutes (kPa)
	Minimum (kPa)	Maximum (kPa)	
1.8 mm	1.4	1.7	0.1

- The initial start pressure is read after a 2-minute relaxing period, which allows the air to reach ambient liner temperature; the ending pressures is read after 5 minutes.
- The results of the leak test shall be marked at the test location and shall be recorded by the Geosynthetics Supplier/Installer. If the test fails, the location of the leak shall be found and repaired or the entire seam shall be repaired and retested.

The test procedure for vacuum box testing is as follows:

- Mix a solution of liquid detergent and water and apply an ample amount to the area to be tested. If a seam contains excess overlap or loose edges it is to be trimmed before testing.

- Place a translucent vacuum box over the area and apply a slight amount of downward pressure to the box to the seal strip to the liner.
- Apply a vacuum (0.15 to 0.25 kPa) to the area. Any leaks will become visible by large bubbles and shall be repaired.

3) Strength Testing

For trial welds, the following procedure is to be used:

Trial welds shall be completed under the same conditions and using the same materials, preseaming and seaming techniques as used to fabricate field seams. The trial weld samples shall be a minimum of 1000 mm long by 300 mm wide, marked with the date, technician's name, ambient temperature and welding machine number and temperature. Coupons from the test weld shall be tested for peel and bonded seam strength using a calibrated tensiometer, as well as thickness, in accordance with the applicable ASTM or NSF 54 standards as appropriate. If failings results occur, the welding machine shall be repaired or replaced or retested.

The minimum frequency for obtaining trial weld samples from each of the welding machines in operation is the following:

- Prior to the beginning of seaming operations.
- After every four hours of seaming operation.
- After repairs have been made to the seaming equipment.
- By each technician using the seaming equipment.
- As required by the Engineer.

For destructive testing of field seams the following procedures are to be used:

Destructive samples may be obtained from field seams or repaired areas by cutting perpendicular to the seams. The sample should be approximately 600 mm long by 300 mm wide. This sample shall be cut into two samples of 300 mm by 300 mm and labeled with the welder identification, date and location. One of the samples will be retained by the Engineer and one of the samples will be tested by the Geosynthetics Supplier/Installer, using a calibrated tensiometer, in accordance with the applicable ASTM or NSF 54 standards as appropriate.

The frequency for obtaining destructive test samples shall not be less than one sample per 100 m of field seams. Coupons from the destructive sample shall be tested for peel and bonded seam strength as well as thickness, in accordance with the applicable ASTM standards. If one or more of the coupon fails, the sample will be considered a failure.

In the event of a failing test result, additional samples, on either side of the failure, shall be tested to isolate the portion of the weld shall be "capped". Alternatively, the entire seam can be re-welded and retested.

2. Geotextile Underlay and Overlay

MANUFACTURER'S QUALITY CONTROL

The geotextile filter fabric required for the Work shall consist of a material composed of at least 85 percent by weight of polyolefins, polyesters, or polyamides. It shall be resistant to chemical attack, rot and mildew, and shall have no tears or defects, which adversely alter its physical properties.

MATERIAL PROPERTIES

Geotextile filter fabric material shall be non-woven needle punched material that shall meet the following specifications:

Property	Test Method	Geotextile Filter Fabric
Weight	ASTM D-5261	542 g/m ² (16oz/yd ²)
Grab Tensile Strength	ASTM D-4632	1.73 kN
Grab Tensile Elongation	ASTM D-4632	50 percent
Mullen Burst	ASTM D-3786	5169 kPa
Puncture	ASTM D-4833	1.07 kN
Trapezoidal tear	ASTM D-4533	0.667 kN
UV Resistance	ASTM D-4355	Not required
Apparent Opening Size	ASTM D-4751	0.150 US Sieve
Permittivity	ASTM D- 4491	0.7 sec ⁻¹
Flow Rate	ASTM D- 4491	2035 l/min/m ²

The geotextile filter fabric shall be placed directly on the prepared sub-grade or as a protective layer on the HDPE liner with seams upward and shall extend for a minimum of 3 feet past the designed toe slope.

Installation Procedures

Unless otherwise specified, the geotextile filter fabric shall have a 150 mm overlap and shall be heat fused. Any seams that are flawed shall be repaired by the Contractor at his expense.

As-Built Documentation

The Geosynthetic Supplier/Installer shall provide the Owner and Engineer with copies of all the fabrication and installation test logs and conformance data.

APPENDIX D

Property Title and Survey Plats of Patented Mining Claims

(Pages D1 to D23)

**NIBLACK MINING CORP.
NIBLACK PROJECT**

PATENTED MINING CLAIMS

<u>Patented claims controlled by Niblack Mining Corporation</u>		
<u>Mineral Survey #</u>	<u>Recording District</u>	<u>Claim(s)</u>
553	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.

ASSIGNMENT AGREEMENT

THIS AGREEMENT dated for reference the 15th day of April, 2005.

BETWEEN:

ABACUS MINING & EXPLORATION CORPORATION, a body corporate duly incorporated under the laws of the Province of British Columbia and having its office at Suite 615-800 West Pender Street, Vancouver, British Columbia, V6C 2V6

(hereinafter referred to as "Abacus")

OF THE FIRST PART

AND:

NIBLACK MINING CORP. a body corporate, duly incorporated under the laws of the Province of British Columbia and having its office at Suite 615-800 West Pender Street, Vancouver, British Columbia, V6C 2V6

(hereinafter referred to as "Niblack")

OF THE SECOND PART

WHEREAS:

- A. Abacus is the registered and beneficial owner of all of the issued shares of Abacus Alaska Ltd. ("ALL"), a body corporate duly incorporated under the laws of the State of Alaska, U.S.A.;
- B. Abacus and Niblack are parties to an agreement dated December 16th, 2004 (the "Arrangement Agreement") providing for the completion of a plan of arrangement between them (the "Arrangement");
- C. ALL is the holder of certain mineral property interests as described in the Arrangement Agreement and known as the "Niblack Property";
- D. The Arrangement closed April 15, 2005;
- E. Pursuant to closing of the Arrangement, Abacus issued reorganization shares to the shareholders of Abacus, which shares were transferred to Niblack and subsequently redeemed by Abacus;
- F. The terms of the Arrangement require Abacus to pay the redemption price for the foregoing reorganization shares by transferring to Niblack 100% of the issued shares of ALL and

the entire interest of Abacus in the properties of ALL including all tangible and intangible property related to the past exploration thereof undertaken by or under the direction of ALL and Abacus.

NOW THEREFORE THIS AGREEMENT WITNESSETH THAT for and in consideration of the mutual covenants and agreements hereinafter contained and for other good and valuable consideration (the receipt and sufficiency of which is hereby acknowledged) the parties hereto hereby agree as follows:

1. When used in this Agreement, the phrase "Niblack Property" shall mean and include 100% of the issued shares of ALL and the entire direct and indirect interest of Abacus in the properties of ALL including all tangible and intangible property related to the past exploration thereof undertaken by or under the direction of ALL and Abacus.
2. Abacus represents and warrants to Niblack that Abacus is the owner of the Niblack Property free and clear of encumbrances save and except as set out in the Arrangement Agreement.
3. Abacus hereby transfers and assigns unto Niblack the entire interest of Abacus in the Niblack Property free and clear of encumbrances of every kind and nature, save and except as set out in the Arrangement Agreement.
4. Niblack hereby accepts the transfers and assignments made in paragraph 3 herein and acknowledges that the redemption price for the reorganization shares has been paid.
5. Abacus shall take all such action as may be required to cause the issued capital of ALL to be transferred to Niblack on the register of shareholders of ALL and shall complete the foregoing as soon as possible following April 15, 2005.
6. Each notice, demand or other communication required or permitted to be given under this Agreement shall be in writing and shall be delivered to a party hereto ("Party"), at the address for such Party specified above. The date of receipt of such notice, demand or other communication shall be the date of delivery. Each notice, demand or other communication required or permitted to be given under this Agreement may be delivered by facsimile and shall be deemed to have been received at the time the facsimile is transmitted. Facsimile numbers for the Parties are: 604-682-0307.
7. The Parties may at any time and from time to time notify the other Party in writing of a new address or facsimile number to which notice shall be given to it thereafter until further change.
8. No consent or waiver expressed or implied by either party in respect of any breach or default by the other in the performance of such other of its obligations hereunder will be deemed or construed to be a consent to or a waiver of any other breach or default.

9. The parties will promptly execute or cause to be executed all documents, deeds, conveyances and other instruments of further assurance which may be reasonably necessary or advisable to carry out fully the intent of this Agreement.
10. This Agreement shall enure to the benefit of and be binding upon the parties and their respective successors and assigns.
11. This Agreement is deemed made and shall be enforceable under the laws of British Columbia and in the courts thereof.

IN WITNESS WHEREOF Abacus and Niblack have signed this Agreement in the presence of their duly authorized officers in that behalf.

ABACUS MINING & EXPLORATION CORPORATION

Per:



Authorized Signatory

NIBLACK MINING CORP.

Per:



Authorized Signatory

GARY A. ZEPKIN
LOUIS F. VEERMAN
JAMES D. LINVILLER
JAMES D. DEWITT
JAMES H. WILSON
GEORGE R. LYLE
MICHAEL S. MCLAUGHLIN
SUSAN M. WEST
JOAN E. FOHLF
MICHAEL R. NAVE
MARGARET S. JONES
ASHA TINKER BRAY
NELLENE A. BOOTHBY
MICHELLE D. HIGUCHI
STEVEN J. BOOKMAN
MARTHA GARDNER
MARGARET S. JONES
PAMELA D. WEISS
HEIDI L. DRYGAS

LAW OFFICES OF
Guess & Rudd
P.C.

510 L STREET, SUITE 700
ANCHORAGE, ALASKA 99501-1964
TELEPHONE (907) 793-2200
FACSIMILE (907) 793-2299

September 21, 2005

W. EUGENE GUESS 1992-1975
JOSEPH RUDD 1993-1978
FRANCIS E. SMITH, JR. 1941-1991

OFFICES IN
ANCHORAGE & FAIRBANKS

OF COUNSEL
MARGARET S. JONES

Via Email and Via Fedex

SEP 23 2005

Niblack Mining Corp.
Attention: Mr. Paddy Nichol
#615 – 800 West Pender Street
Vancouver, B.C. V6C 2V6
CANADA

Re: **Good Standing of Abacus Alaska, Inc.**
Our File No. 5436.8

Gentlemen:

We acted as special Alaska counsel to Niblack Mining Corp., a British Columbia corporation (the "Company"), and its wholly-owned subsidiary Abacus Alaska, Inc., an Alaska corporation ("Abacus Alaska"). We are rendering this opinion at the request of the Company.

Materials Examined

In this regard we have examined originals or copies, certified or otherwise identified to our satisfaction, of the following corporate records and public records:

- (1) the Articles of Incorporation, Bylaws, and Share Register of Abacus Alaska as maintained by Abacus Alaska in its corporate book in our possession;
- (2) the records maintained by the Office of the Corporations Section of the Division of Banking Securities, and Corporations within the State of Alaska Department of Commerce, Community, and Economic Development ("DCEED") (formerly known as the Department of Community and Economic Development) pertaining to Abacus Alaska; and
- (3) a Certificate of Compliance pertaining to Abacus Alaska dated September 15, 2005, issued by the Commissioner of DCEED.

The foregoing records comprise the records that we consider to be relevant and necessary to examine as a basis for the opinions hereinafter expressed.

We have considered such questions of law as we have deemed relevant and necessary to consider as a basis for the opinions hereinafter expressed. The opinions hereinafter expressed are expressed, however, only with respect to the federal laws of the United States of America and the laws of the State of Alaska in effect on the date of this

Niblack Mining Corp.
Attention: Mr. Paddy Nichol
September 21, 2005
Page 2

opinion. We disclaim any obligation to undertake to advise you of any matters which may come to our attention after said date which may affect the opinions expressed in this letter.

Opinions

Based upon and subject to the foregoing, and also subject to the limitations set forth hereinafter, it is our opinion as follows:

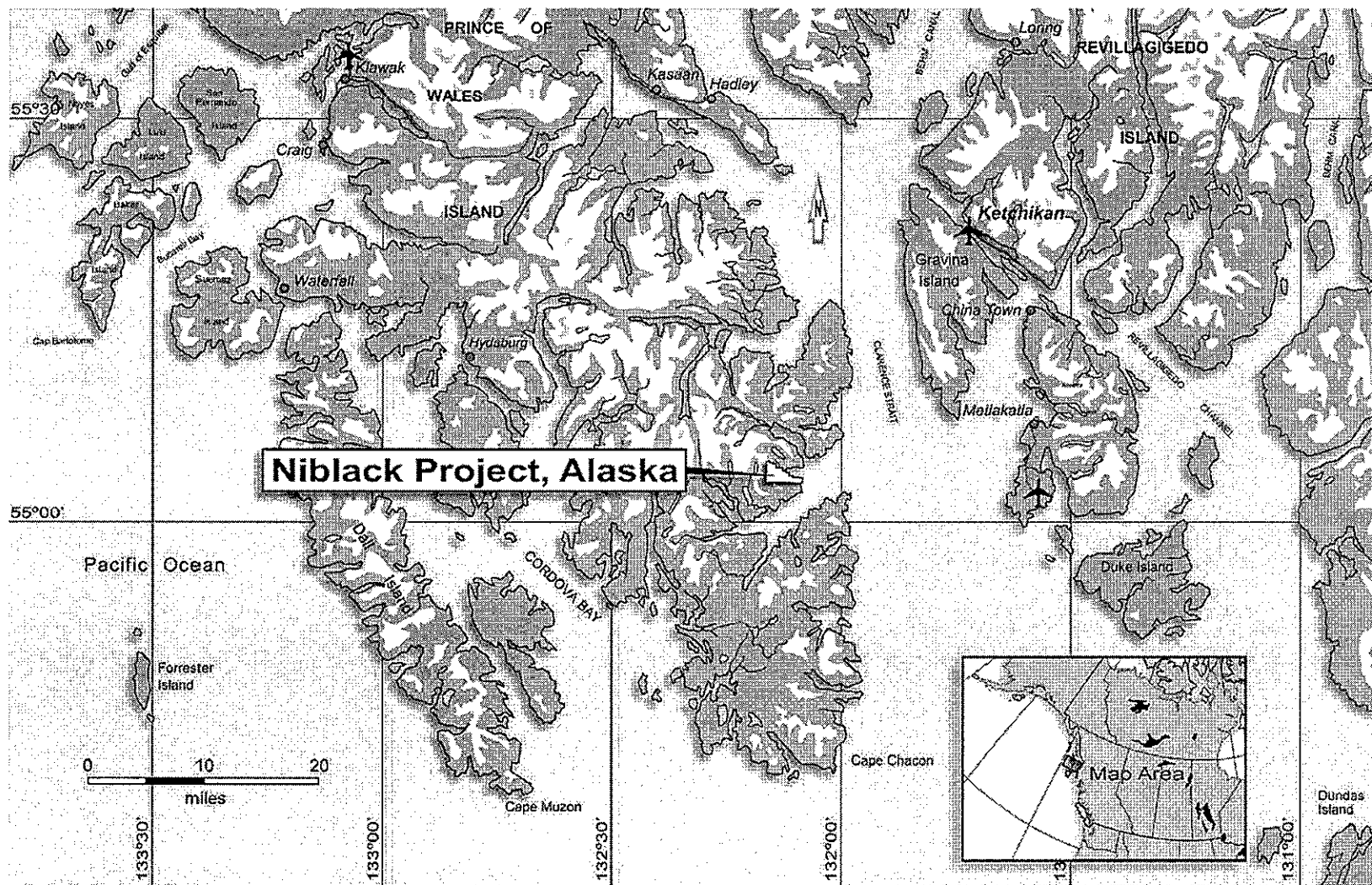
1. Abacus Alaska is a corporation duly incorporated and validly existing under the laws of the State of Alaska, and is in good standing with respect to the filing of biennial reports required to be filed under the laws of the State of Alaska.
2. Abacus Alaska has all requisite corporate power and authority both (a) to own the properties that it owns within the Ketchikan Recording District of the State of Alaska and (b) to carry on its business, as is now being conducted by it, respecting said properties.
3. The Company is the registered owner all of the issued and outstanding share capital of Abacus Alaska.

Limitations

This opinion letter is solely for the benefit of the Company and Abacus Alaska. This opinion letter and may not be relied upon by, used by, or circulated, quoted, or referred to any other person without our prior written approval.

Very truly yours,

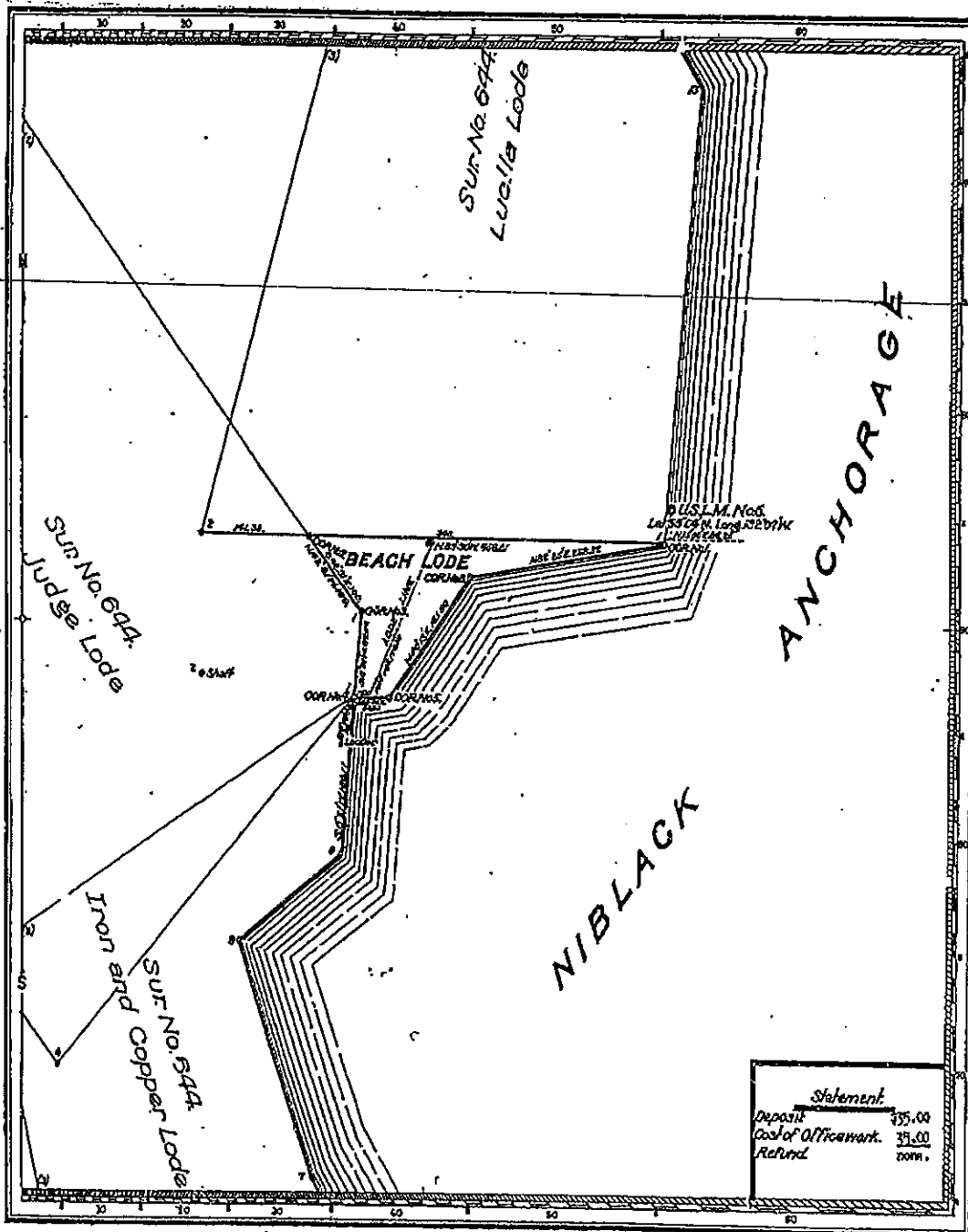

Steven V. Rudd P.C.



Niblack Project, Alaska

NIBLACK MINING CORP.		
PROPOSED EXPLORATION PROGRAM		
LOCATION MAP		
Knight Piésold CONSULTING	PROJECT/ASSIGNMENT NO. VA102-205/2	REF. NO. 10
	FIGURE 1	
		REV. 0

(4-675)



Statement	
Deposit	75.00
Cost of Office work	25.00
Refund	none.

Mineral Survey No. 1585

Juneau Legal District

PLAT
OF THE CLAIM OF

A.A. Wakarfield Estate
KNOWN AS THE

BEACH LODE

IN Ketchikan MINING DISTRICT,
Territory of Alaska

Containing an Area of 0.520 Acres

Scale of 100 Feet to the inch.

Variation 28' 30"E

SUBMITTED May 20-23, 1931

Frank A. Metcalf U.S. Mineral Surveyor

The Original Field Notes of the Survey of the Mining Claim shown which this plat has been made under my direction, have been examined and approved, and are on file in this Office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the locus thereof.

I further certify that Five Hundred Dollars worth of labor has been expended or improvements made upon, or for the benefit of, each location embraced in said mining claim by claimant A.A. Wakarfield Estate or

grantee and

that said improvements consist of 1 Shaft
Value 750.00

that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

Public Survey Office

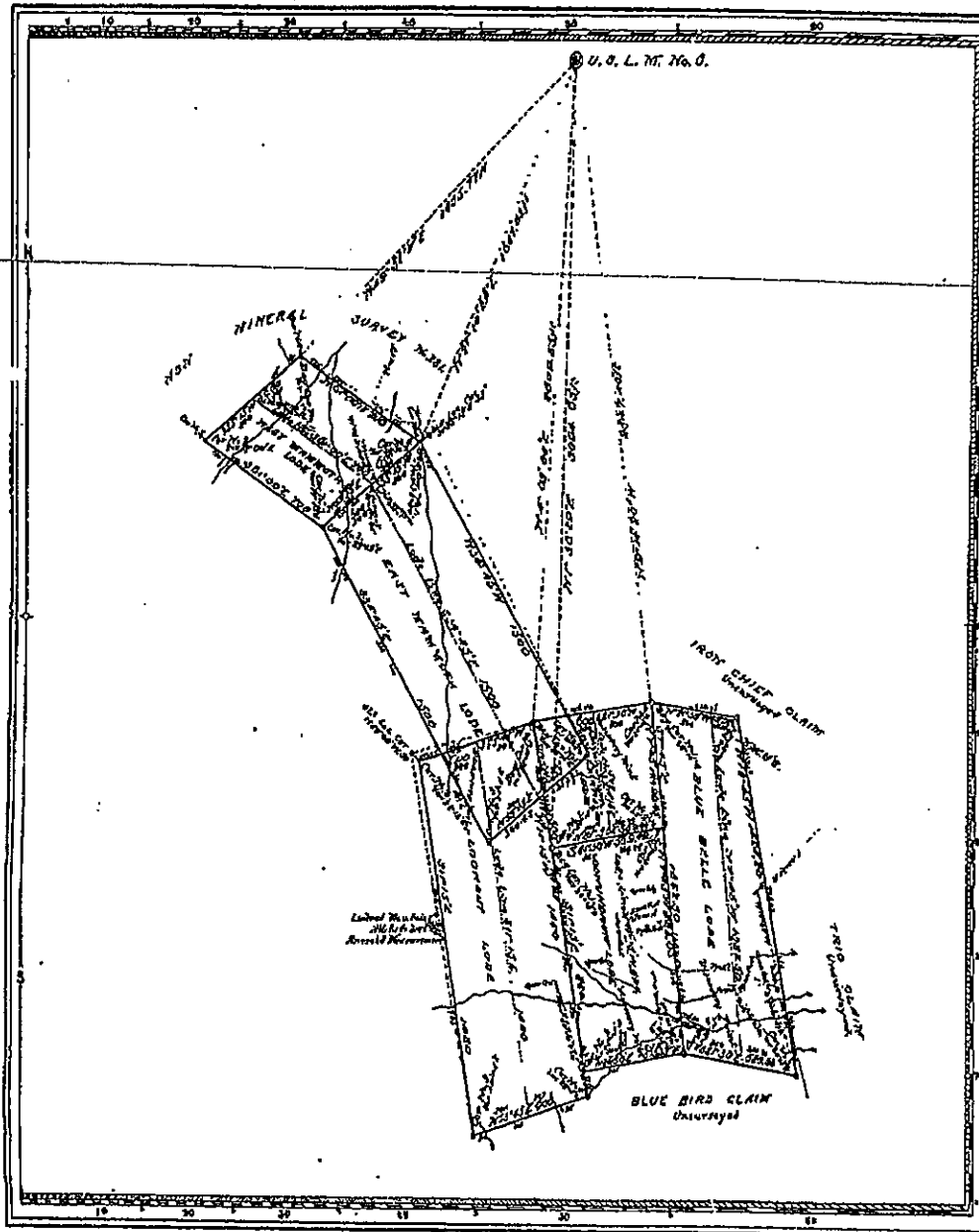
Juneau, Alaska

April 25, 1932

[Signature]
Mineral Engineer

in Charge

(4-675)



Claims located June 27, July 25, Aug 12 and Sept 6, 1897,
 Revised Aug 16 and 18, and Sept 16, 1899
 Mineral Survey M-553,
 Application for survey February 12, 1901
 Lot M9

SITKA Land District

PLAT

OF THE CLAIM OF
GEORGE M. WAKEFIELD
 and **A. P. SWINEFORD**
 KNOWN AS THE
LOOKOUT GROUP

Consisting of the West Mammoth, Lookout
 Conundrum, Conundrum Extension, Blue
 Bells and East Mammoth Lots Claims
 in Wrangell
 DISTRICT OF ALASKA
 Containing an area of 72,219 Acres.

Scale of 100 feet to the inch.

Validated from 1818 to 1918.

RETURNED from Oct 13 to Nov 26 1901 BY

Nathan H. Whitefield

U.S. Deputy Mineral Surveyor

The Original Field Notes of the Survey of the Mining Claim of
 George M. Wakefield and A. P. Swineford
 known as the

LOOKOUT GROUP

Consisting of the West Mammoth, Lookout,
 Conundrum, Conundrum Extension, Blue-
 Bells and East Mammoth Lots Claims
 from which this plat has been made and my directions
 have been examined and approved, and are on file in this office
 and I hereby certify that they furnish such an accurate descrip-
 tion of said Mining Claims as will, if incorporated into a patent,
 very fully identify the premises, and that such references
 is made therein to natural objects or permanent monuments
 as will perpetuate and fix the location thereof.

If further certified for three hundred dollars worth of labor has
 been expended or improvements made upon said Mining
 Claim by claimant or their grantee, and that
 said improvements consist of Open Cuts and
 Tunnels Total Value \$5,000.00

And the location of said improvements is correctly shown
 upon this plat, and that no portion of said labor or im-
 provements has been included in the estimate of expendi-
 tures upon any other claim.

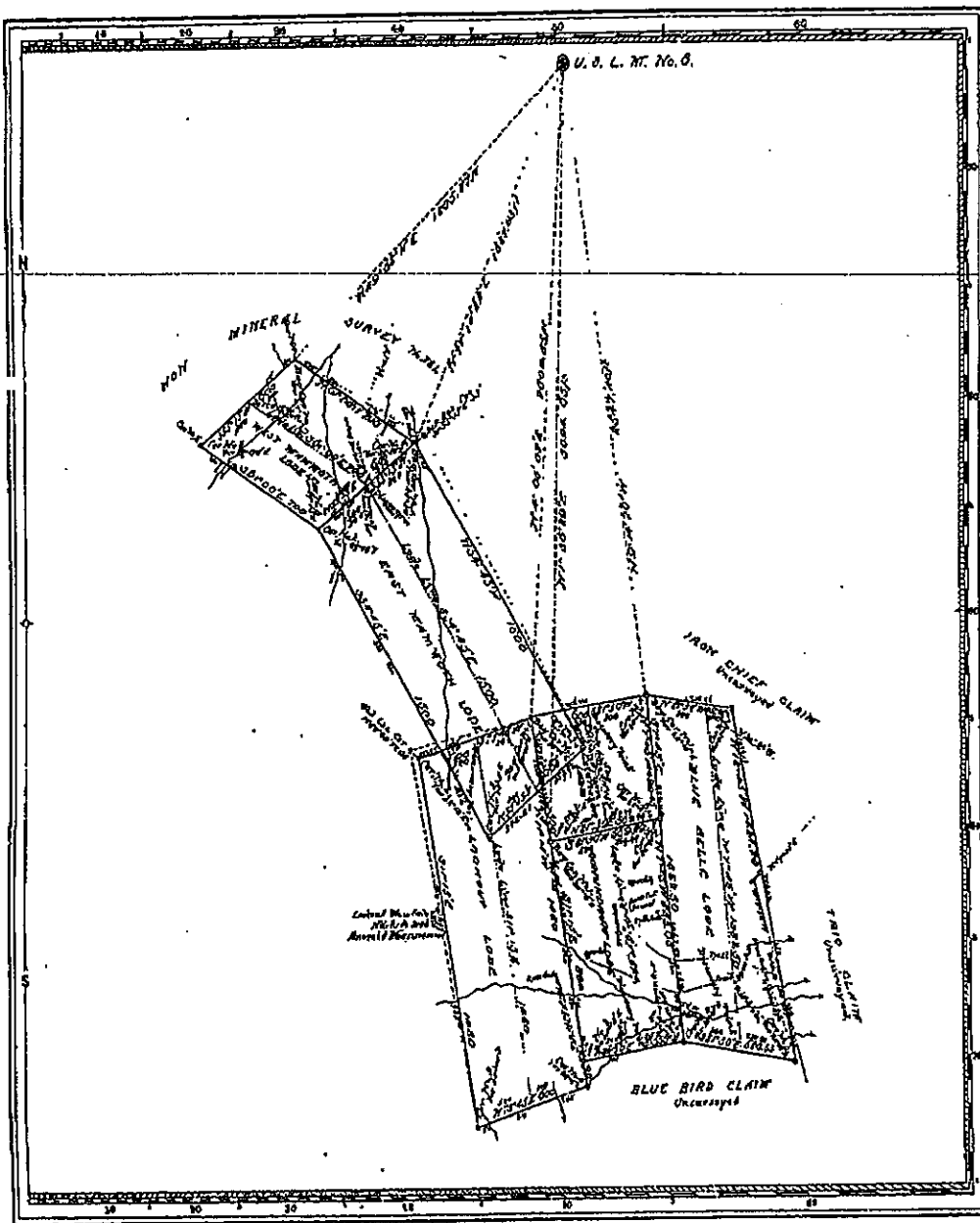
And I further certify that this is a correct plat of said Mining
 Claims made in conformity with said original field notes of the
 survey thereof, and the same is hereby approved.

U.S. Deputy Mineral Surveyor

SITKA, ALASKA. To the County Council for

April 18th, 1902 ALASKA.

(4-675)



Claims located June 29 July 23 Aug 12 and Sept 4 1899.
 Recd. Reg. Board 12, and Sept 10, 1899.
 Mineral Survey No. 533.
 Application for survey February 12, 1901.
 Lot No. 19

SITKA Land District.

PLAT

OF THE CLAIM OF
GEORGE M. WAKEFIELD.
 and **A. P. SWINEFORD**
 KNOWN AS THE
LOOKOUT GROUP

Consisting of the West Mammoth, Lookout,
 Conundrum, Conundrum Extension, Blue
 Belle and East Mammoth Lode Claims
 in Wrangell **MINERAL DISTRICT**
DISTRICT OF ALASKA
 Containing an area of 74,733 Acres.
 Scale of 400 feet to the inch.

Variation from 22° 15' E to 29° 15' E
 Magnetic from Oct 13 to Nov 26 1901, by
 Nathan B. Whitefield,
 U.S. Geol. Surv. Geophys. Div.

The original field notes of the survey of the Mining Claims of
 George M. Wakefield and A. P. Swineford
 shown as the

LOOKOUT GROUP

Consisting of the West Mammoth, Lookout,
 Conundrum, Conundrum Extension, Blue
 Belle and East Mammoth Lode Claims
 from which this plat has been made and a map thereon
 has been examined and approved, and an opinion filed in this office
 and thereon certified that they furnish such a correct description
 of said Mining Claims as will, if incorporated into a patent,
 well fully to identify the premises, and that such references
 is made therein to natural objects or permanent monuments
 as will perpetuate and fix the locus thereof.
 If further certificate for thousand dollars worth of labor has
 been expended or in premises made upon said Mining
 Claims or claims or their grants, and that
 said improvements consist of Open Cuts and
 Tunnels Total Value \$5,000.00

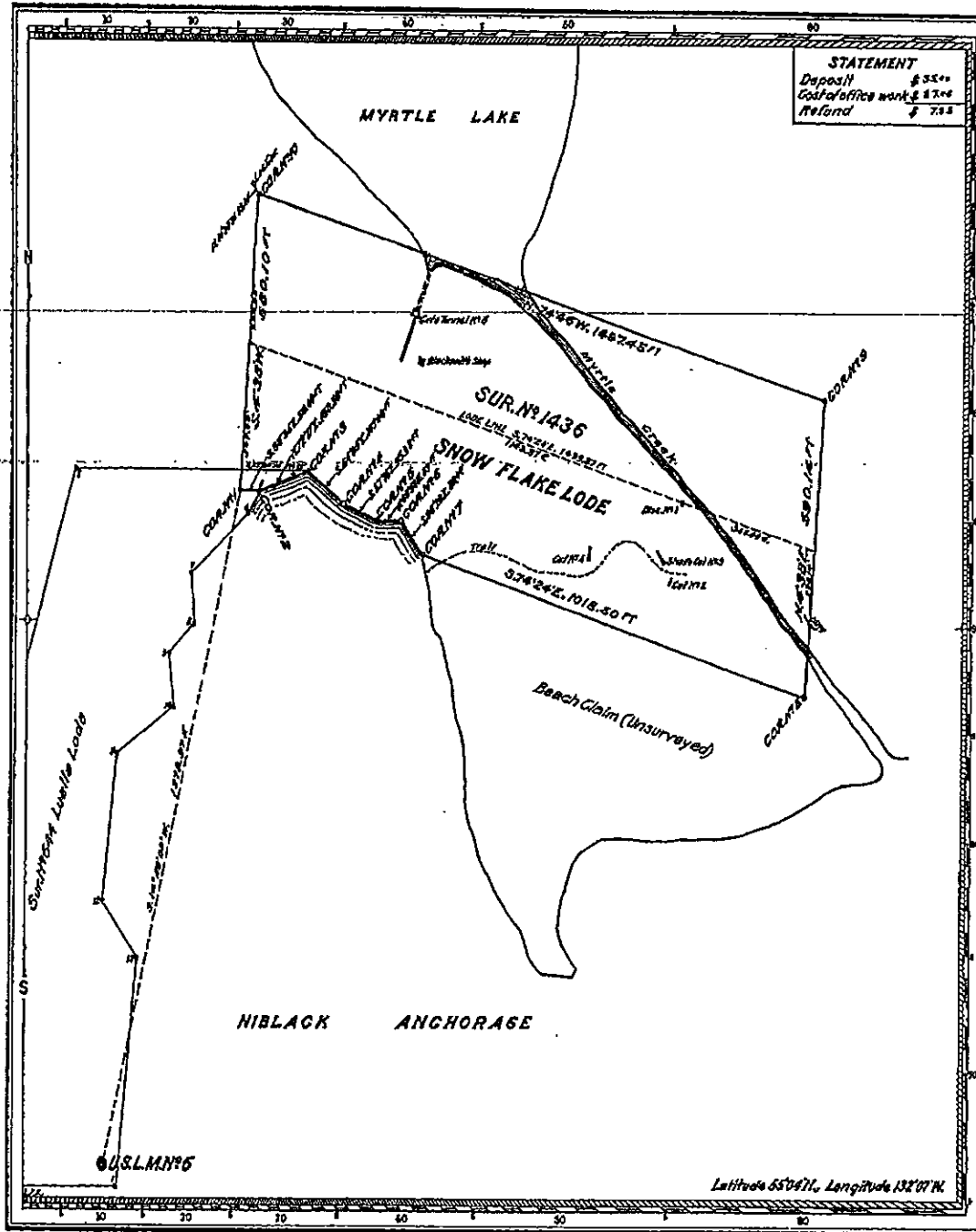
that the location of said improvements is correctly shown
 upon this plat, and that no portion of said labor or im-
 provements has been included in the estimate of expendi-
 tures upon any other claim.

And I further certify that this is a correct plat of said Mining
 Claims made in conformity with said original field notes of the
 survey thereof, and the same is hereby approved.

Nathan B. Whitefield
 U.S. Geol. Surv. Geophys. Div.

SITKA, ALASKA. W. George Grant for

April 18th, 1902 ALASKA.



Claim Located _____ November 6, 1911.

Mineral Survey No. 1436

Lot No. _____
J. M. R. A. U. Land District

PLAT
 OF THE CLAIM OF
The G. M. Wakefield Mineral Land Company,

KNOWN AS THE
Snow Flake Lode,

IX Metropolitan Mining District,
 Territory of Alaska,
 Containing an Area of _____ Acres
 Scale of _____ Feet to the inch.
 Revision 2d 3d East.
 SURVEYED October 23 - 28 1920 BY
Frank A. McCall, U.S. Deputy Mineral Surveyor.

The Original Field Notes of the Survey of the Mining Claim of
The G. M. Wakefield Mineral Land Company,
 known as the Snow Flake Lode,

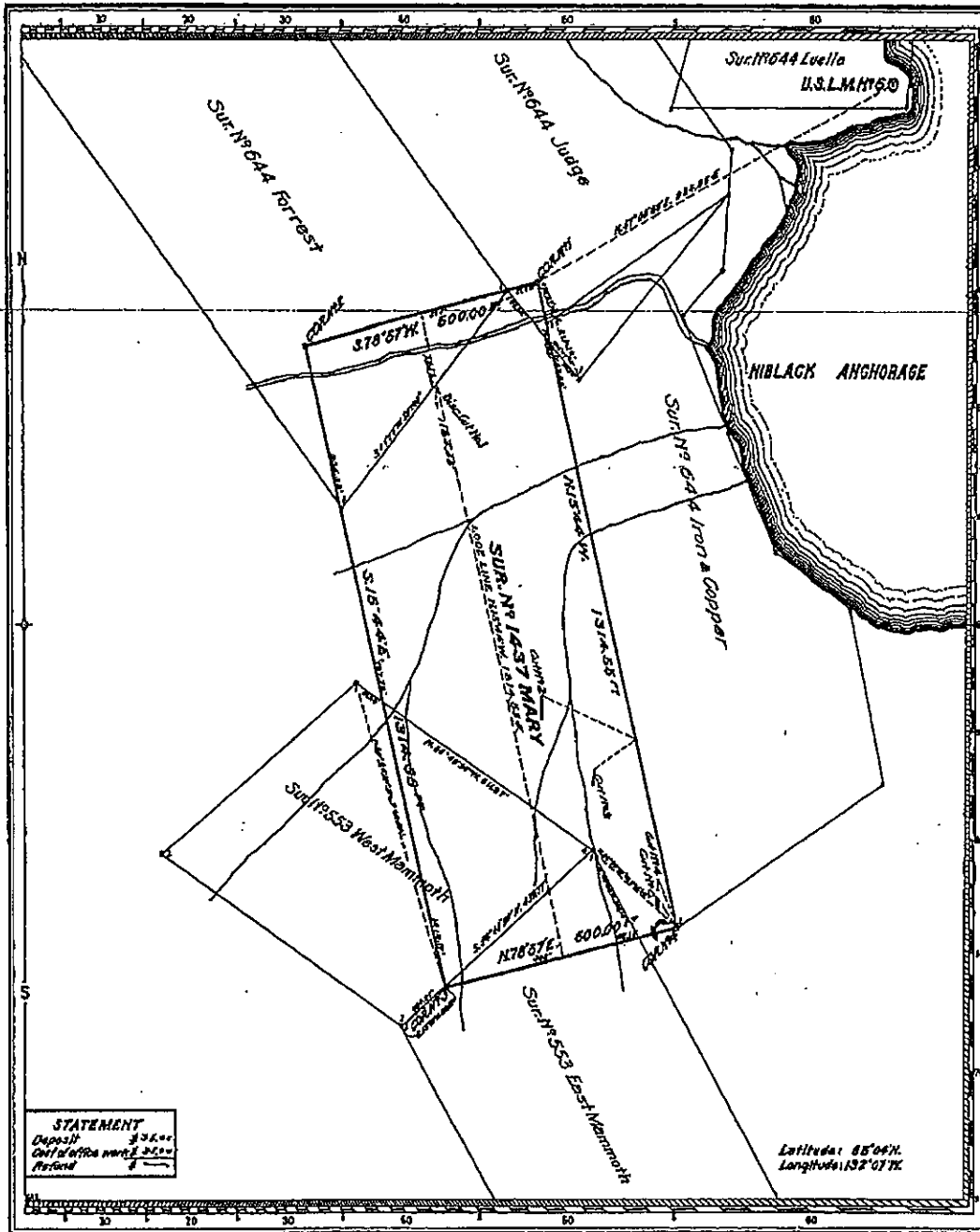
from which this plat has been made under my direction,
 have been examined and approved, and are on file in this Office,
 and I hereby certify that they furnish such an accurate description
 of said Mining Claim as will, if incorporated into a patent,
 serve fully to identify the premises, and that such reference is
 made therein to natural objects or permanent monuments as
 will perpetuate and fix the locus thereof.

I further certify that Five Hundred Dollars worth of labor has
 been expended or improvements made upon said Mining Claim
 by claimant _____ the grantors and that
 said improvements consist of 1 sub. 10 ft. long, value
\$100.00, 1 sub. 25 ft. long, \$300.00, 6 ft. of shaft
and 25 ft. of sub, \$500.00, 25 ft. of tunnel and
100 ft. of sub, \$700.00. Total value \$7900.00.
 that the location of said improvements is correctly shown
 upon this plat, and that no portion of said labor or improve-
 ments has been included in the estimate of expenditure
 upon any other claim.

And I further certify that this is a correct plat of said Mining
 Claim made in conformity with said original field notes of the
 survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office, Juneau, Alaska,
 U.S. Surveyor General for
December 23, 1920. A. A. S. K. L.

Latitude 65° 04' N. Longitude 132° 07' W.



Claim Located May 16, 1905,

Mineral Survey No. 1437

Loc. No. JUR. E. A. N. Land District.

PLAT
OF THE CLAIM OF
The S. M. Babcock Mineral Land Company,

KNOWN AS THE
Mary Lode,

IN SEKOTIAK MINING DISTRICT,
Territory of Alaska,
Containing an Area of _____ Acres
Scale of _____ Feet to the inch.
Korotation _____

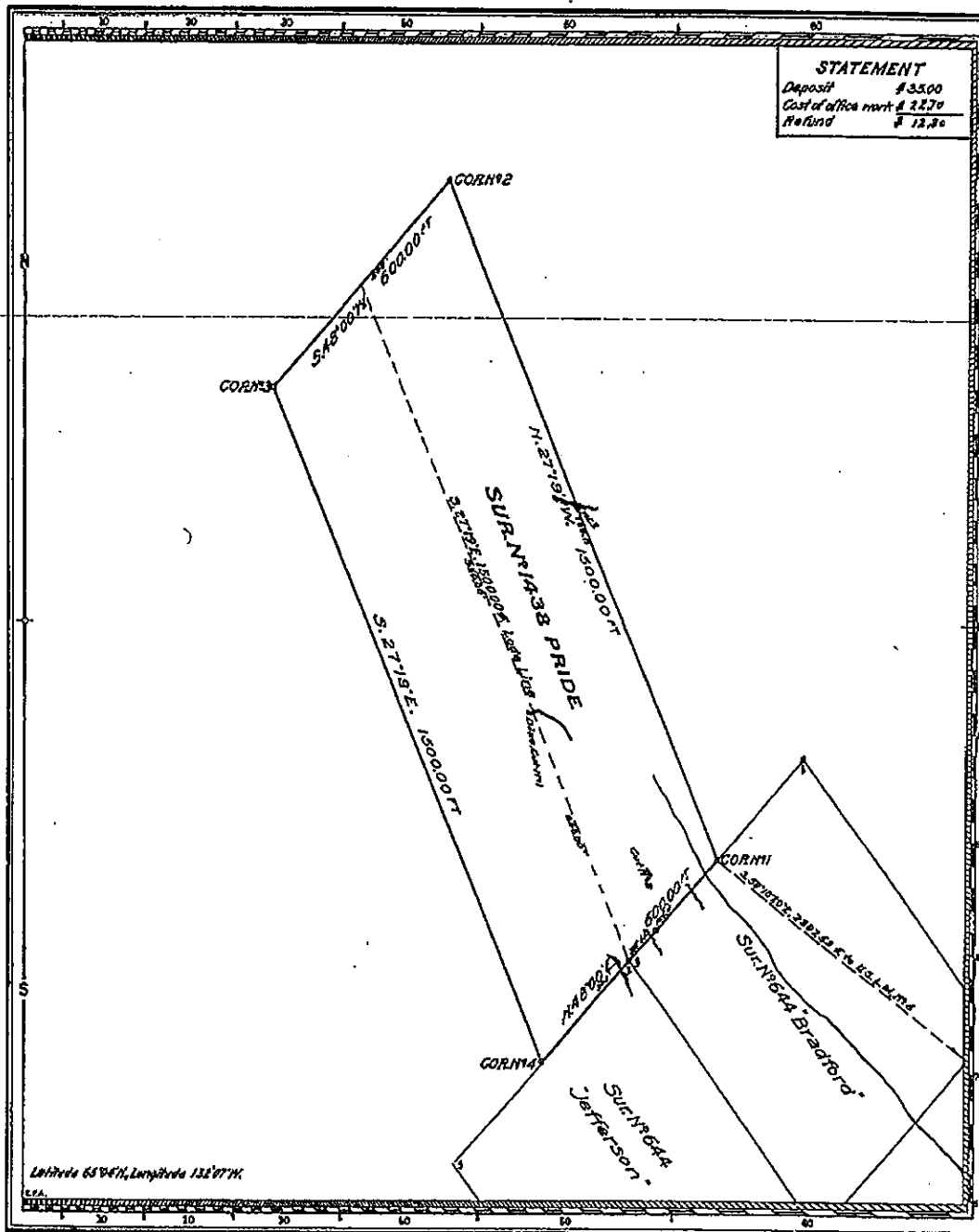
SUBMITTED October 28-November 2, 1920, BY
Frank A. McCall, U.S. Deputy Mineral Surveyor.

The Original Field Notes of the Survey of the Mining Claim of
The S. M. Babcock Mineral Land Company,
known as the Mary Lode,

from which this plat has been made under my direction,
have been examined and approved, and are on file in this Office,
and I hereby certify that they furnish such an accurate description
of said Mining Claim, as well as incorporated into a plat, as
serve fully to identify the premises, and that such reference is
made therein to natural objects or permanent monuments as
will perpetuate such as the locus thereof.
I further certify that Five Hundred Dollars worth of labor has
been expended or improvements made upon said Mining Claim
by claimant _____ on the grants and that
said improvements consist of 5 units, total length
150 feet. Total value \$1500.00.

that the location of said improvements is correctly shown
upon this plat, and that no portion of said labor or improve-
ments has been included in the estimate of expenditures
upon any other claim.
And I further certify that this is a correct plat of said Mining
Claim made in conformity with said original field notes of the
survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office. [Signature]
Surveyor General for _____
Jurisdiction, Alaska,
February 4, 1920. ALASKA.



STATEMENT
 Deposit \$35.00
 Cost of office work \$22.70
 Refund \$12.80

Claim Located August 14, 1912.

Mineral Survey No. 1438.

Lot No. _____
 T H N E A V Land District.

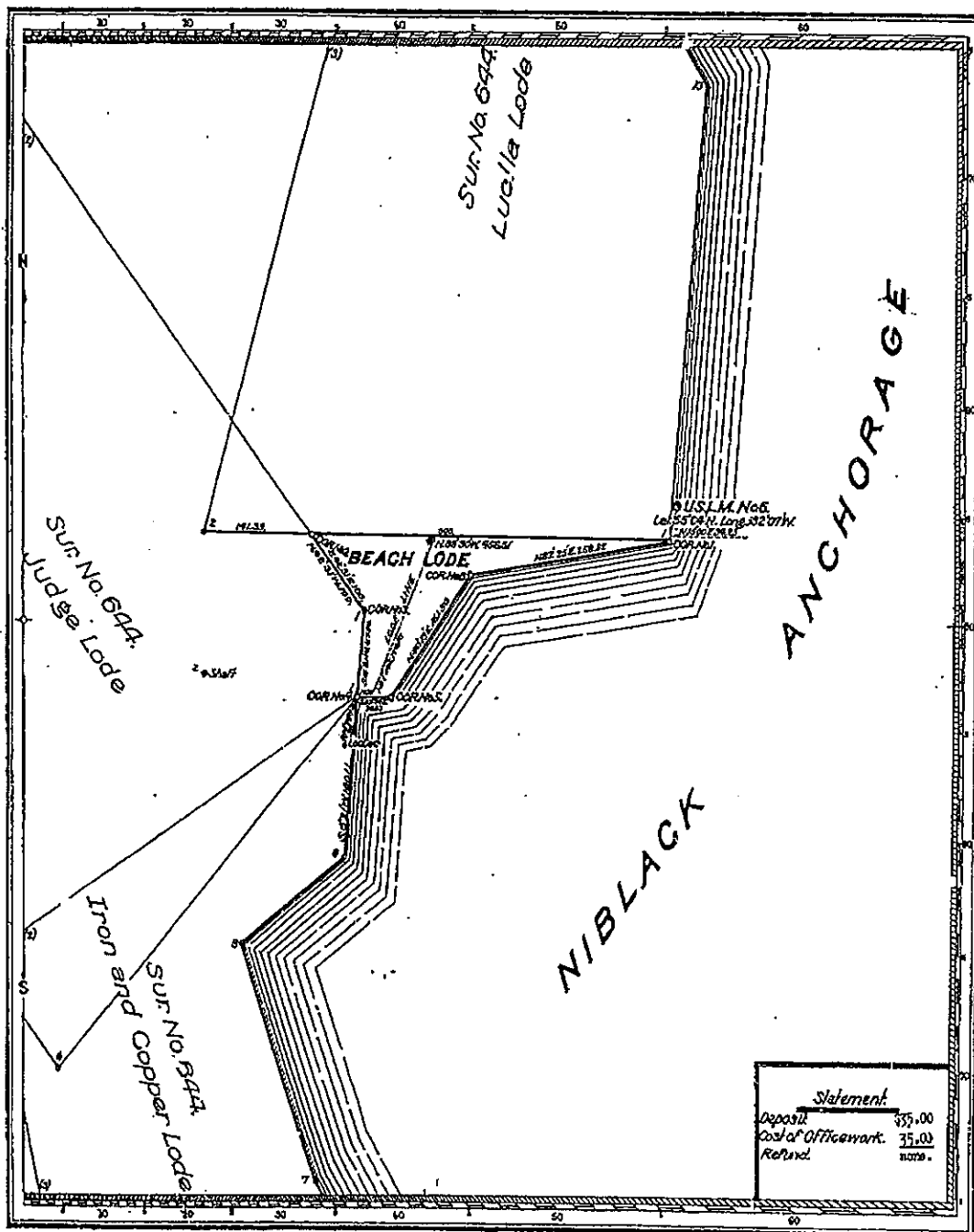
PLAT
 OF THE CLAIM OF
 The G. H. Wakefield Mineral Land Company,
 KNOWN AS THE
 Pride Lode,

IN Ketchikan, MINING DISTRICT,
 Territory of Alaska,
 Containing an Area of 19.90 Acres.
 Scale of 200 Feet to the inch.
 Variation 20' 30" East.
 SURVEYED November 2 - 6, 1909, BY
 Frank A. Meisell, U.S. Deputy Mineral Surveyor.

The Original Field Notes of the Survey of the Mining Claim of
 The G. H. Wakefield Mineral Land Company,
 known as the Pride Lode,

from which this plat has been made under my direction,
 have been examined and approved, and are on file in this Office,
 and I hereby certify that they furnish such an accurate description
 of said Mining Claim as will, if incorporated into a patent,
 serve fully to identify the premises, and that such reference is
 made therein to natural objects or permanent monuments as
 will perpetuate and fix the locus thereof.
 I further certify that Five Hundred Dollars worth of labor has
 been expended or improvements made upon said Mining Claim
 by claimant _____ or his _____ grantee and that
 said improvements consist of: DRIFTWAY, 100 ft.
 wide and 15 ft. deep, value \$1000.00; Rd. 5 ft.
 wide and 10 ft. deep, value \$100.00. Total
 value of improvements \$1100.00.
 And the location of said improvements is correctly shown
 upon this plat, and that no portion of said labor or improve-
 ments has been included in the estimate of expenditures
 upon any other claim.
 And I further certify that this is a correct plat of said Mining
 Claim made in conformity with said original field notes of the
 survey thereof, and the same is hereby approved.

U.S. Surveyor General Office }
 J. J. _____ }
 U.S. Surveyor General for _____
 January 17, 1912. } A. L. A. K. A.

Mineral Survey No. 1585Juneau Land District**PLAT**

OF THE CLAIM OF

A. A. Wakafield Estate

KNOWN AS THE

BEACH LODGEIN Ketchikan, MINING DISTRICT,Territory of AlaskaContaining an Area of 0.520 AcresScale of 100 Feet to the inch.Variation 28° 30' ESUBMITTED May 20-23, 1931 BYFrank A. Metcalf U.S. Mineral Surveyor

The Original Field Notes of the Survey of the Mining Claim from which this plat has been made under my direction, have been examined and approved, and are on file in this Office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate such the locus thereof.

I further certify that Two Hundred Dollars worth of labor has been expended or improvements made upon, or for the benefit of, each location embraced in said mining claim by claimant A. A. Wakafield Estate or

grantees and

that said improvements consist of 1 Shaft

Value 750.00

that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

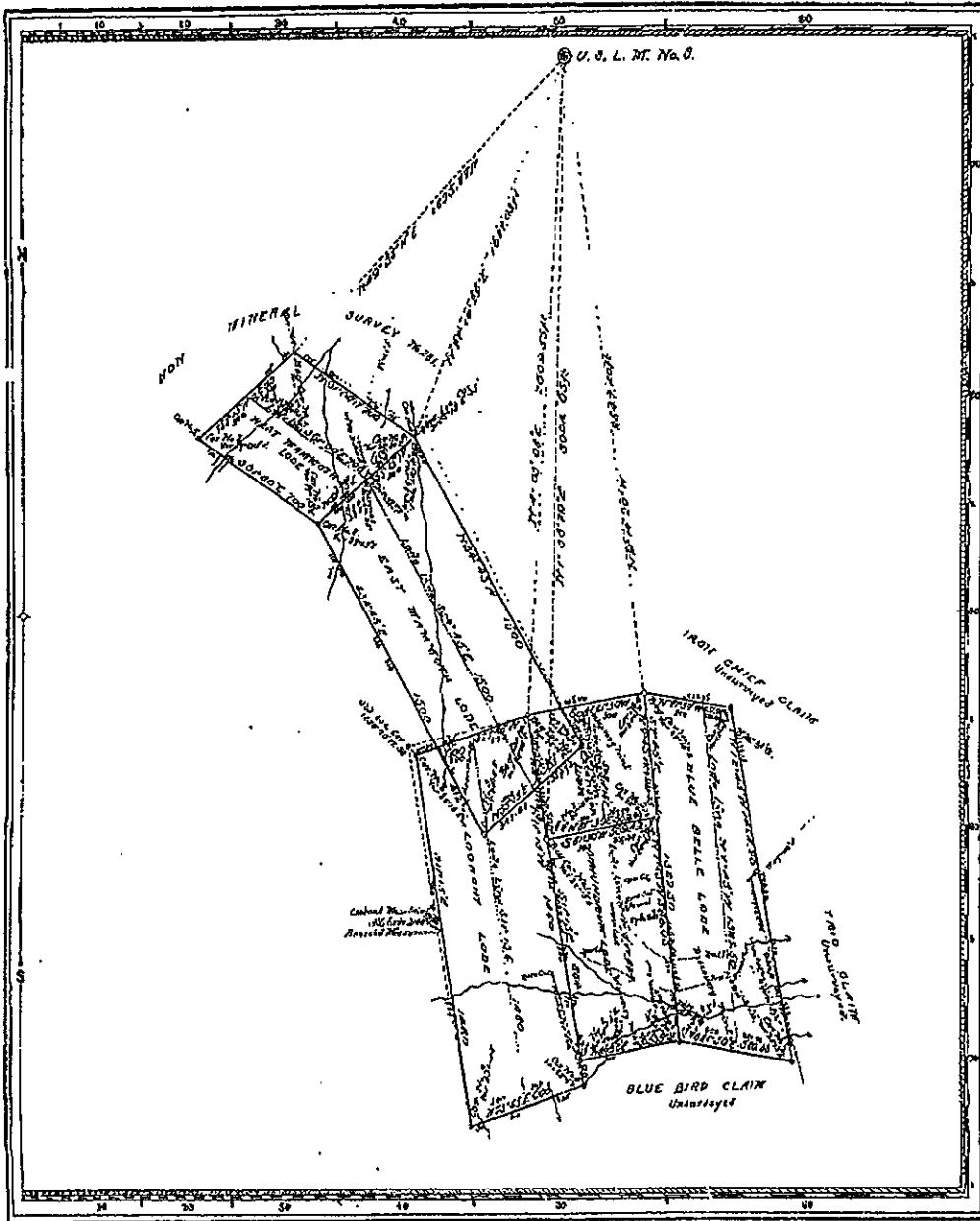
Public Survey Office

Juneau, AlaskaApril 25, 1932

C. H. Purvis
 Industrial Engineer

in Charge

Statement	
Deposit	\$35.00
Cost of Officer's work	\$35.00
Refund	none.



(Mineral Located June 27, July 27, Aug 14, and Sept 16, 1899.
Records Aug 20 and 16, and Sept 16, 1899
Mineral Survey No. 552.
Application for survey February 12, 1901.
Lot No.
SITKA Land District.

PLAT

OF THE CLAIM OF
GEORGE M. WAKEFIELD
and **A. F. SWINEFORD**

KNOWN AS THE
LOOKOUT GROUP

Consisting of the West Mammoth, Lookout,
Conundrum, Conundrum Extension, Blue
Belle and East Mammoth Lots Claims
in Wrangell Mining District,
DISTRICT OF ALASKA
(Containing an Area of 78,239 Acres.)

Scale of 400 Feet to the Inch.

Validated from 11:15² to 2:15²

REGISTERED from Oct 13 to Nov 26 1901 BY

Nathan B. Whitefield

U.S. Deputy Mineral Surveyor

The Original Field Notes of the Survey of the Mining Claim of
George M. Wakefield and A. F. Swineford
Known as the

LOOKOUT GROUP

Consisting of the West Mammoth, Lookout,
Conundrum, Conundrum Extension, Blue-
Belle and East Mammoth Lots Claims
from which this plat has been made under my direction
have been examined and approved, and are on file in this office,
and I hereby certify that they furnish such an accurate descrip-
tion of said Mining Claim as will, if incorporated into a patent,
enable the holder to identify the premises, and that such references
is made therein to natural objects or permanent monuments
as will perpetuate and fix the corners thereof.

If further certified that Five Hundred Dollars worth of labor has
been expended or improvements made upon said Mining
Claim by the claimant or their grantors, and that
said improvements consist of Open Cuts, and
Tunnels Total Value \$5,000.00

that the location of said improvements is correctly shown
upon this plat, and that no portion of said labor or im-
provements has been included in the estimate of expendi-
ture upon any other claim.

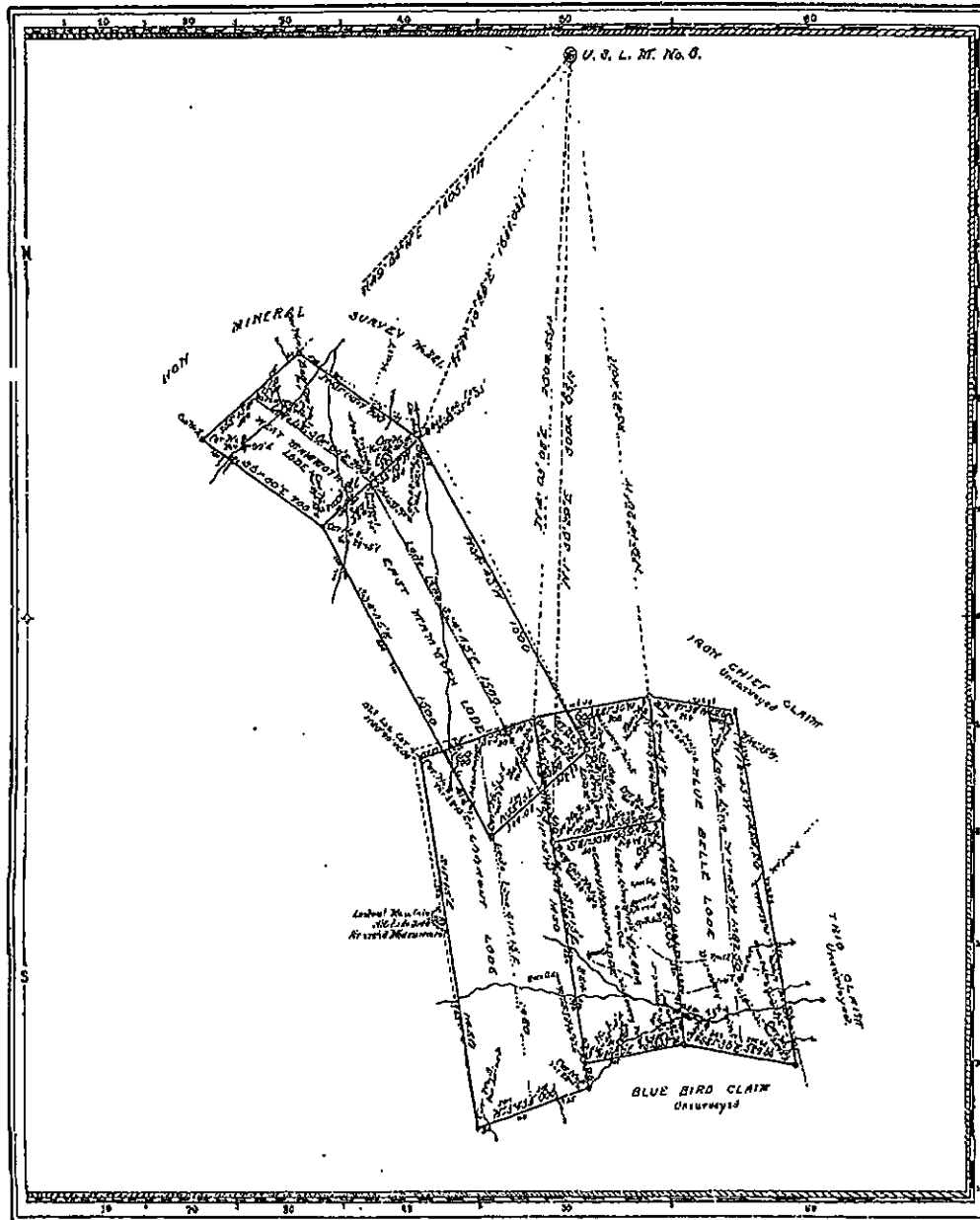
And I further certify that this is a correct plat of said Mining
Claim made in conformity with said original field notes of the
survey thereof, and the same is hereby approved.

Nathan B. Whitefield (Signature)

SITKA, ALASKA. U.S. Deputy Mineral Surveyor

17 27 22 18 01, 1902

ALASKA.



Claims located June 17, July 25, Aug 19, and Sept. 6, 1899.
 Revised May 24, 1900, and Sept. 16, 1900
 Mineral Survey No. 553.
 Application for survey February 12, 1901
 Lot No.

SITKA, Land District.

PLAT

OF THE CLAIM OF
GEORGE M. WAKEFIELD
 and **A. F. SWINEFORD**
 KNOWN AS THE
LOOKOUT GROUP

Consisting of the West Mammoth, Lookout,
 Concordum, Concordum Extension, Blue
 Belle and East Mammoth Lode Claims
 In Wrangell Mining District,
DISTRICT OF ALASKA
 Containing an area of 78,219 Acres.

Scale of 400 feet to the inch.

Variation from true N. 25° 15' E.

NEEDED from Oct 13 to Nov 25, 1901, BY

Nathan B. Wakefield

U. S. Deputy Mineral Surveyor.

The Original Field Notes of the Survey of the Mining Claims of
 George M. Wakefield and A. F. Swineford
 known as the

LOOKOUT GROUP

Consisting of the West Mammoth, Lookout,
 Concordum, Concordum Extension, Blue
 Belle and East Mammoth Lode Claims
 from which this plat has been made under my direction
 have been examined and approved, and are on file in this office
 and I hereby certify that they furnish such an accurate descrip-
 tion of said Mining Claims as will, if incorporated into a patent,
 more fully identify the premises, and that such references
 is made therein to natural objects or permanent monuments
 as will perpetuate and fix the locus thereof.

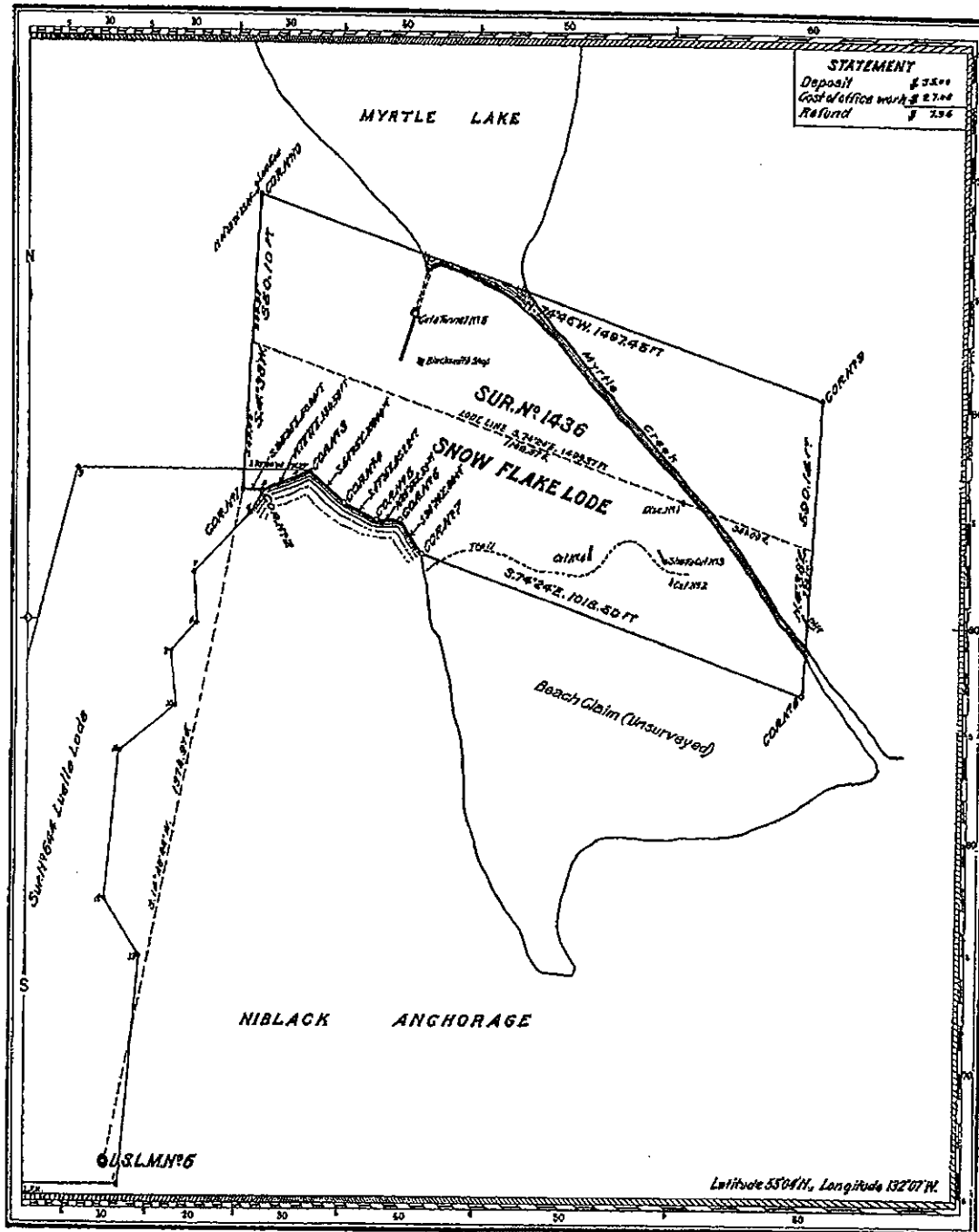
If further costs for the hundred dollars worth of labor has
 been expended in improvements made upon said Mining
 Claims by claimant or their grantors, and that
 said improvements consist of Open Cuts and
 Tunnels Total Value \$9,000.00

that the location of said improvements is exactly shown
 upon this plat, and that no portion of said labor or im-
 provements has been included in the estimate of expendi-
 tures upon any other claims.

And I further certify that this is a correct plat of said Mining
 Claims made in conformity with said original field notes of the
 survey thereof, and the same is hereby approved.

Witness my hand and seal at
 SITKA, ALASKA, this 13th day of

April 13th, 1902 ALASKA.



Claim Located..... November 6, .. 1911.

Mineral Survey No. 1436

Lor No.
J. U. K. E. A. U. Land District.

PLAT
OF THE CLAIM OF
The G. M. Wakefield Mineral Land Company, ...

KNOWN AS THE
Snow Flake Lode,

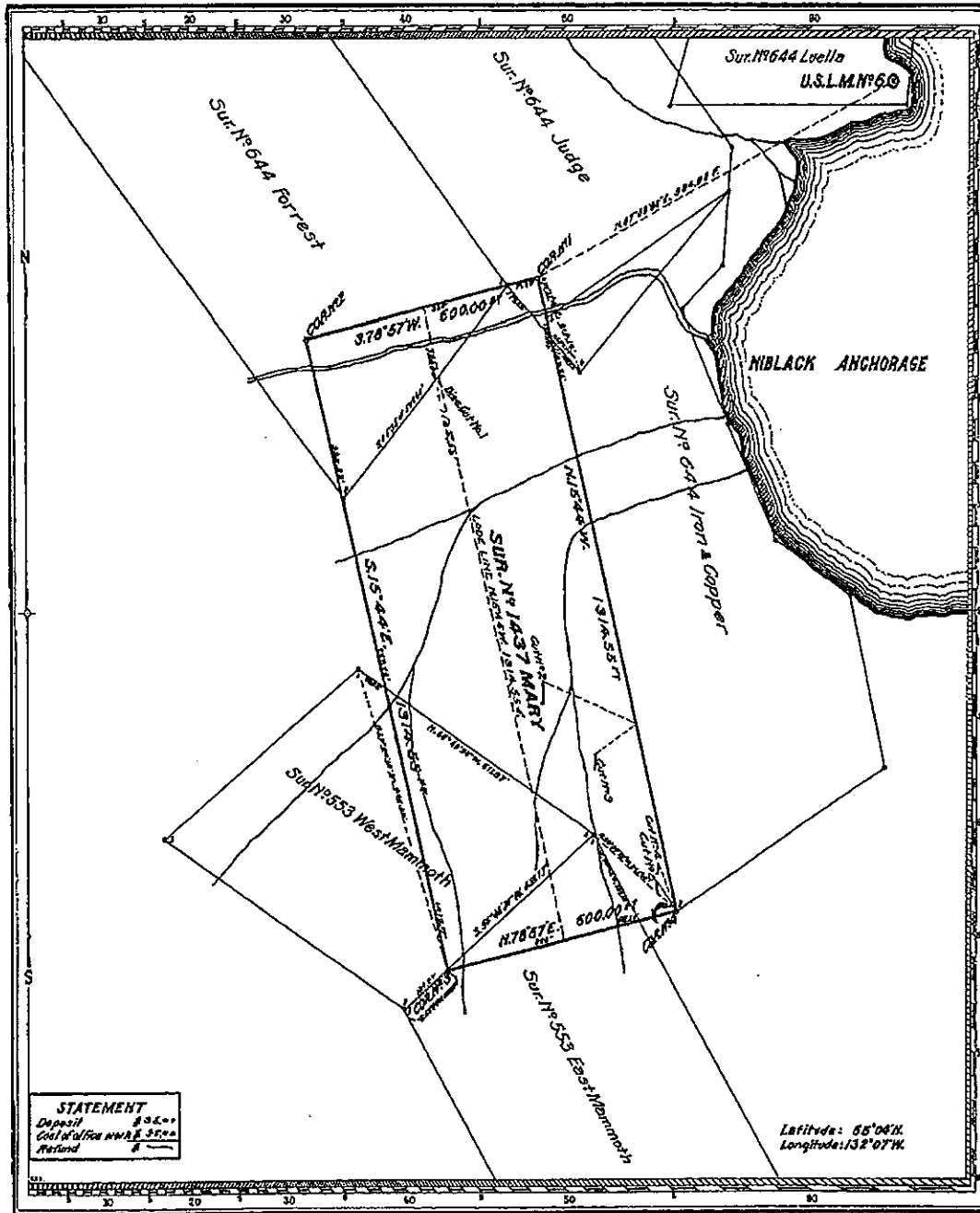
IN .. Netchikan .. MINING DISTRICT,
Territory of Alaska,
Containing an Area of ... 39,308 .. Acres
Scale of ... 200 .. Feet to the inch.
Variation 26° 30' East.

SUBMITTED .. October 23 - 28 .. 1920 .. BY
Frank J. Katochif, .. U.S. Deputy Mineral Surveyor,

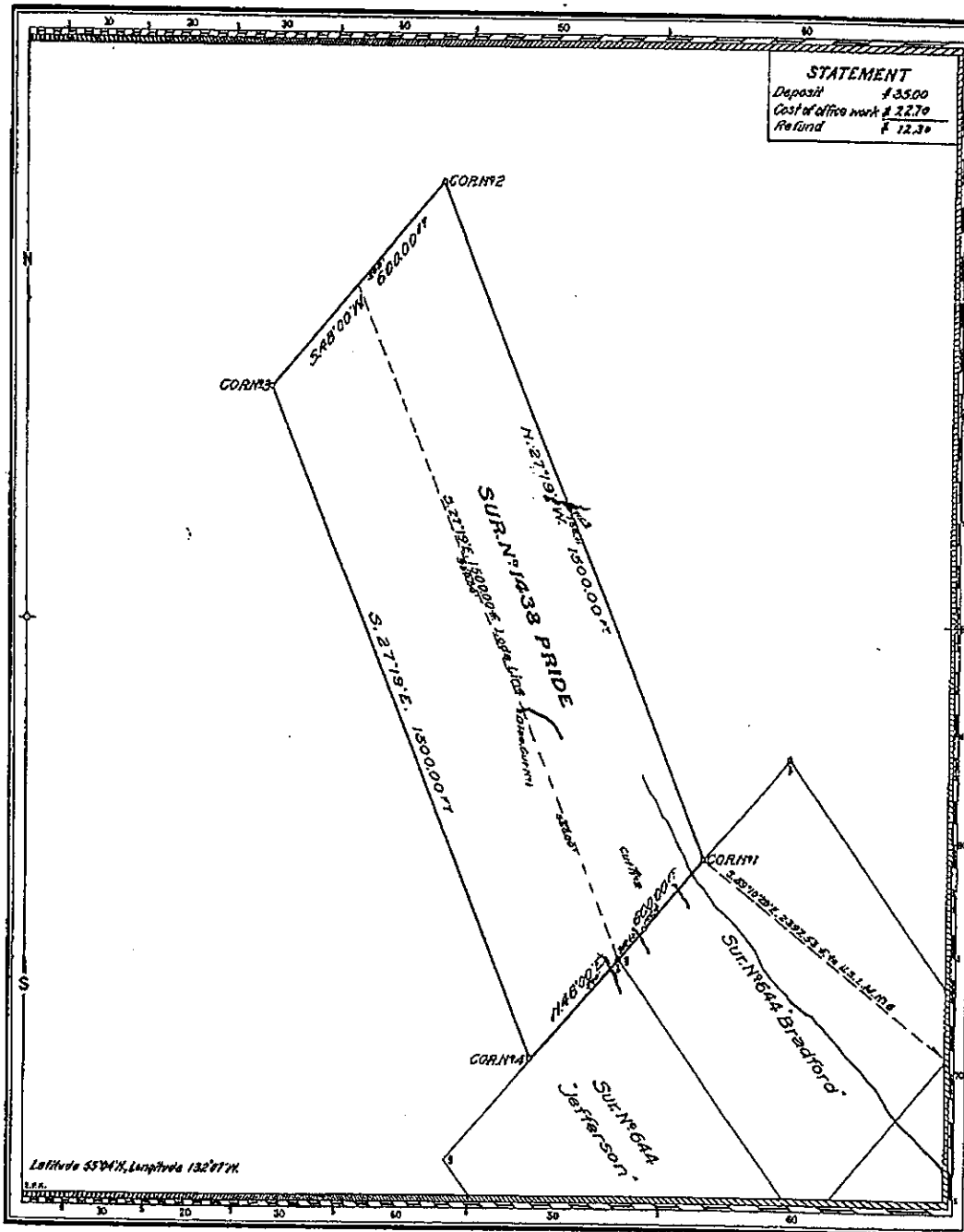
The Original Field Notes of the Survey of the Mining Claims of
The G. M. Wakefield Mineral Land Company, ...
known as the Snow Flake Lode,

from which this plat has been made under my direction,
have been examined and approved, and are on file in this Office,
and I hereby certify that they furnish such an accurate descrip-
tion of said Mining Claims as will, if incorporated into a patent,
serve fully to identify the premises, and that such reference is
made therein to natural objects or permanent monuments as
will perpetuate and fix the locus thereof.
I further certify that Two Hundred Dollars worth of labor has
been expended or improvements made upon said Mining Claims
by claimants .. or .. its grantors and that
said improvements consist of 1 cut 10 ft. long, value
\$100.00; 1 cut 25 ft. long, \$300.00; 6 ft. of shaft
and 25 ft. of cut, \$500.00; 25 ft. of tunnel and
100 ft. of cut, \$700.00. Total value, \$7900.00,
that the location of said improvements is correctly shown
upon this plat, and that no portion of said labor or improve-
ments has been included in the estimate of expenditures
upon any other claim.
And I further certify that this is a correct plat of said Mining
Claims made in conformity with said original field notes of the
survey thereof, and the same is hereby approved.

U.S. Surveyor General Office. *[Signature]*
Juneau, Alaska, .. U.S. Surveyor General for ..
December 29, 1920. .. A L A S K A ..



Claim Located May 16, 1907,
 Mineral Survey No. 1437
 Lot No. _____
J. W. H. I. V. Land District.
PLAT
 OF THE CLAIM OF
The G. W. Wakefield Mineral Land Company,
 KNOWN AS THE
Mary Lode,
 IN ITCHIKOMI MINING DISTRICT,
 Territory of Alaska,
 Containing an Area of _____ Acres.
 Scale of _____ Feet to the Inch.
 Variation _____
 SUBMITTED October 28-November 2, 1920, BY
Frank A. Metcalf, U.S. Deputy Mineral Surveyor.
 The Original Field Notes of the Survey of the Mining Claim of
The G. W. Wakefield Mineral Land Company,
 known as the Mary Lode,
 from which this plat has been made under my direction,
 have been examined and approved, and are on file in this Office
 and I hereby certify that they furnish such an accurate description
 of said Mining Claim as will, if incorporated into a patent,
 serve fully to identify the premises, and that such reference is
 made therein to natural objects or permanent monuments as
 will perpetuate and fix the locus thereof.
 I further certify that Five Hundred Dollars worth of labor has
 been expended or improvements made upon said Mining Claim
 by claimant _____ see _____ grants and that
 said improvements consist of 5 suits, total worth
130 feet Total value \$1300.00.
 that the location of said improvements is correctly shown
 upon this plat, and that no portion of said labor or improve-
 ments has been included in the estimate of expenditures
 upon any other claim.
 And I further certify that this is a correct plat of said Mining
 Claim made in conformity with said original field notes of the
 survey thereof, and the same is hereby approved.
 U.S. Surveyor General's Office _____
J. W. H. I. V. U.S. Surveyor General for _____
February 4, 1920. A. L. A. S. T. A.



STATEMENT
 Deposit \$35.00
 Cost of office work \$22.70
 Refund \$12.30

Claim Located August 14, 1932

Mineral Survey No. 1438

Lot No. J. U. E. A. U. Land District

PLAT

OF THE CLAIM OF
 The G. M. Wakefield Mineral Land Company,

KNOWN AS THE
 Pride Lode,

IN Katblikan MINING DISTRICT,
 Territory of Alaska,
 Containing an Area of 39.927 Acres
 Scale of 200 Feet to the Inch
 Variation 2° 30' East

SERIALIZED Number 2 - 6, 1932, BY
 Frank A. McCall, U.S. Deputy Mineral Surveyor

The Original Field Notes of the Survey of the Mining Claim of
 The G. M. Wakefield Mineral Land Company,
 known as the Pride Lode,

from which this plat has been made under my direction,
 have been examined and approved, and are on file in this Office,
 and I hereby certify that they furnish such an accurate description
 of said Mining Claim as will, if incorporated into a patent,
 serve fully to identify the premises, and that such reference is
 made therein to natural objects or permanent monuments as
 will perpetuate and fix the locus thereof.
 I further certify that Two Hundred Dollars worth of labor has
 been expended or improvements made upon said Mining Claim
 by claimant or his assigns and that
 said improvements consist of: Blasting, out 100 ft.
 wide and 15 ft. deep, value \$1000.00; Out 5 ft.
 wide and 10 ft. deep, value \$100.00. Total
 value of improvements \$1100.00,
 that the location of said improvements is correctly shown
 upon this plat, and that no portion of said labor or improve-
 ments has been included in the estimate of expenditures
 upon any other claim.
 And I further certify that this is a correct plat of said Mining
 Claim made in conformity with said original field notes of the
 survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office
 Juneau, Alaska, U.S. Surveyor General for
 January 17, 1932 ALASKA



KETCHIKAN TITLE AGENCY, INC.

57 Main Street, Suite 209, Ketchikan, Alaska 99901

Fax: (907) 225-0703

Phone: (907) 225-9635

PRELIMINARY COMMITMENT FOR TITLE INSURANCE

agent for STEWART TITLE GUARANTY COMPANY

NIBLACK MINING CORP.
Unit 615 800 West Pender Street
Vancouver, BC V6C2V6
Attention: Paddy Nicol

Our Order Number: **AK-24883**
Date: October 5, 2005 at 8:00 a.m.

cc: Joe Perkins/Guess & Rudd

<input type="checkbox"/>	Owner's Standard Coverage				
<input type="checkbox"/>	Purchaser's Standard Coverage				
<input type="checkbox"/>	Mortgagee's Standard Coverage				
<input type="checkbox"/>	Mortgagee's ALTA Coverage				
<input checked="" type="checkbox"/>	Open Standard Owner's Coverage	Amount	\$250.00	Premium	\$250.00

Stewart Title Guaranty Company is prepared to issue on request and on recording of any appropriate documents, its policy or policies as applied for, with coverages as indicated, based on this preliminary commitment that title to the property described herein is vested on the date shown above in:

ABACUS ALASKA, INC., an Alaska corporation

Subject only to the exceptions shown herein and to the terms, conditions and exceptions contained in the policy form.

This report and commitment shall have no force or effect except as a basis for the coverage specified herein.

By *Robert M. Austin*
Validating Signatory:

- NOTE:** Please include our order number AK-24883 on all payments.
- NOTE:** State regulations require payment of a minimum of \$250.00 within 30 days of receipt of this preliminary commitment for title insurance. The \$250.00 payment will be applied to our overall title premium should a title insurance policy be issued by our company within one year of the issuance of this report. If not, it will be applied as a cancellation fee, in addition to any extra parcel charges.
- NOTE:** We agree to issue policy to you according to the terms of the Commitment. When we show the policy amount and your name as the proposed insured, this Commitment becomes effective as of the Commitment Date shown. All of the terms and conditions of the 1982 ALTA Commitment apply to this Preliminary Title Report.
1. If the Requirements shown in this Commitment have not been met within six months after the Commitment Date, our obligation under this Commitment will end. Also, our obligation under this Commitment will end when the Policy is issued and then our obligation to you will be under the Policy.
 2. The Exceptions may be amended to show any defects, liens or encumbrances that appear for the first time in the public records or are created or attached between the Commitment Date and the date on which all of the requirements are met. We shall have no liability to you because of this amendment.
 3. If any defects, liens or encumbrances existing at Commitment Date are not shown in Exceptions, we may amend the Commitment to show them. If we do amend the Commitment to show these



KEYCHIKAN TITLE AGENCY, INC.

57 Main Street, Suite 209, Ketchikan, Alaska 99901

Phone:(907) 225-9635

Fax: (907) 225-0703

PRELIMINARY COMMITMENT FOR TITLE INSURANCE

agent for STEWART TITLE GUARANTY COMPANY

defects, liens or encumbrances, we shall be liable to you according to paragraph no. 4 unless you knew of this information and did not tell us about it in writing.

4. Our only obligation is to issue you the policy referred to in this Commitment when you have met its Requirements. If we have any liability to you for any loss you incur because of an error in this Commitment, our liability will be limited to your actual loss caused by your relying on this Commitment when you acted in good faith to:

- a.: Comply with the Requirements shown on Commitment or
- b.: Eliminate with our written consent any Exceptions shown.

NOTE: Investigation should be made to determine if there are any service installation, or maintenance, or construction charges for sewer, water, or electricity.

ATTN: TRANSACTION CLOSERS: Please note that Closing Instructions must be furnished before a policy can be issued.

SPECIAL NOTE: Please be aware that a change in coverage amount may necessitate a change in the premium amount.

Please verify before document preparation.



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LEGAL DESCRIPTION

PARCEL NO. 1:

Lookout Lode, Conundrum Lode, Conundrum Extension Lode, Blue Bell Lode, West Mammoth Lode, East Mammoth Lode Mining Claims, embraced in U.S. Mineral Survey 553, Ketchikan Recording District, First Judicial District, State of Alaska.

PARCEL NO. 2:

Judge Lode, Bradford Lode, Jefferson Lode, Forest Lode, Iron and Copper Lode, Luella Lode Mining Claims, embraced in U.S. Mineral Survey 644, Ketchikan Recording District, First Judicial District, State of Alaska.

PARCEL NO. 3:

Mary Lode Mining Claim, embraced in U.S. Mineral Survey 1437, Ketchikan Recording District, First Judicial District, State of Alaska.

PARCEL NO. 4:

Pride Lode Mining Claim, embraced in U.S. Mineral Survey 1438, Ketchikan Recording District, First Judicial District, State of Alaska.

PARCEL NO. 5:

Snow Flake Mining Claim, embraced in U.S. Mineral Survey 1436, Ketchikan Recording District, First Judicial District, State of Alaska.

PARCEL NO. 6:

Beach Lode Mining Claim, embraced in U.S. Mineral Survey 1585, Ketchikan Recording District, First Judicial District, State of Alaska.

SUBJECT TO:

1. Reservations and exceptions as contained in the U.S. Patent and acts relating thereto.
2. Subject property lies outside the boundaries of a taxing authority.
3. Any prohibition of or limitation of use, occupancy or improvements of the land resulting from the rights of the public or riparian owners to use any portion thereof which is now or formerly may have been covered by water, and the rights of the public as set forth in Alaska Statutes 38.05.128.
4. Any adverse claim based upon the assertion that some portion of said land is tide or submerged lands, or has been created by artificial means or has accreted to such portion so created.
5. Paramount rights and easements in favor of the United States to regulate commerce, navigation, fishing and the production of power.
6. Rights of the public and/or governmental bodies as to any portion hereof lying below the mean high water mark of the existing creek.
7. The right of the proprietor of any lode claim, the vein or lode of which has its top or apex outside of the land herein describe and which vein or lode will be found to penetrate, intersect, pass through or dip into said land through the side lines of said lode claim, to enter said land along the dip of said vein or lode for the purpose of extracting and removing the ore therefrom.
8. Any adverse interest or claims of right or title based upon the assertion that some conflict exists in the boundaries of the herein described patented mining claims and the boundaries of said claims as shown upon the respective mineral survey plats thereof and/or boundaries of other patented mining claims in the vicinity.



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9. Terms and conditions contained in that certain Special Warranty Deed and Assignment (Mining Claims), executed by LAC Minerals LTD., an Ontario corporation and LAC Minerals (USA) Inc. (also known as Lac Minerals (U.S.A.) Inc., a Delaware corporation, Grantor, to Abacus Alaska, Inc., an Alaska corporation, Grantee, dated February 20, 1996 and recorded February 29, 1996 in Book 254 at page 852.
10. Terms and conditions contained in that certain Special Warranty Deed and Assignment (Mining Claims), executed by Noranda Exploration, Inc., a Delaware corporation, Grantor, to Abacus Alaska, Inc., an Alaska corporation, Grantee, dated February 20, 1996 and recorded February 29, 1996 in Book 254 at page 864.
11. Short Form Agreement entered into by and between Abacus Alaska, Inc., an Alaska corporation, and Teck Resources Inc., a Colorado corporation, according to the terms and provisions thereof, dated February 27, 1996 and recorded December 6, 1996 in Book 265 at Page 678.

END OF EXCEPTIONS