STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
555 CORDOVA ST.
ANCHORAGE, AK 99501

DRAFT WASTE MANAGEMENT PERMIT

for

Niblack Project, LLC

Draft Permit No. 2013DB0001 **Date: XXXX XX, 2013**

This Waste Management Permit is issued to Niblack Project, LLC (Permittee), 1040 W. Georgia St., 15th Floor, Vancouver, British Columbia V6E 4H8, for the disposal of Niblack Project wastes as defined in sections 1.1 and 1.2. The project is located on the southern end of Prince of Wales Island about 30 miles southwest of Ketchikan in the Ketchikan Recording District on Craig A-1 USGS Map. The proposed project site is located within Section 34, T. 78 S., R. 88 E., Copper River Meridian; in Niblack Anchorage, off Moira Sound on Prince of Wales Island, Southeast Alaska. This permit is issued under the provisions of Alaska Statute (AS) 46.03.100, AS 46.03.110, and AS 46.03.120, and the Alaska Administrative Code (AAC), 18 AAC 15, 18 AAC 60, 18 AAC 70 and 18 AAC 72, as amended or revised, and other applicable state laws and regulations. This permit is effective XXXX--XX, 2013, and expires after XXXX--XX, 2018.

This permit is subject to the conditions and stipulations contained in sections 1 - 5. This permit incorporates by reference the "*Niblack Wastewater Treatment and Disposal Application under the Waste management Permit*" dated April, 2007; the "*Niblack Wastewater Treatment and Disposal Application 2012 Post-Construction Update*" dated May 25, 2012; the "*Industrial Waste Monofill Solid Waste Permit Application*", Version 12-2011, dated May 24, 2012; the "*Niblack Water Quality Monitoring Plan, 2012 Post-Construction Update*" dated May 25, 2012; the "*Niblack Mining Corporation Quality Assurance Project Plan*" dated April 13, 2007; the "*Niblack Project Underground Exploration Plan of Operations 2012 Post-Construction Update*", dated May 25, 2012; and the "*Niblack Reclamation and Closure Plan 2012 Post-Construction Update*", dated May 25, 2012. Changes to the documents incorporated herein must be approved by the Alaska Department of Environmental Conservation (Department) if they affect this permit. If the Department approves the changes, they become part of this permit.

After completing reclamation activities and terminating active wastewater treatment, the Department requires the permittee to conduct post-closure maintenance and monitoring for a minimum of 30 years after closure. The permittee shall assess conditions at the facility and respond accordingly throughout the post-closure care period. At the end of the post-closure period, the Department will determine whether post-closure care and monitoring should be extended beyond 30 years, based upon the information collected by that time.

This permit is issued under provisions of Alaska Statute 46.03, 18 AAC 15, 18 AAC 60, 18 AAC 70, and 18 AAC 72 as amended or revised, and other applicable state laws and regulations.

This permit is effective upon issuance and expires XXXX—XX, 2018. It may be terminated or modified in accordance with AS 46.03.120.

DRAFT

Wade Strickland,
Program Manager

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1 SPECIFIC PERMIT CONDITIONS

1.1 PERMIT COVERAGE

1.1.1 The Niblack Project is comprised of approximately 6,000 feet of underground drift development to provide access for continued exploration drilling on the Lookout and Mammoth massive sulfide mineral zones. Metals in the massive sulfide mineralization include copper, zinc, gold, and silver. Non-acid generating (NAG) rock will be disposed of on the hill slope adjacent to the portal. The estimated quantity of NAG rock is 46,600 cubic yards. Potentially acid generating (PAG/ML) rock will temporarily be stored on site in a 25,000 square-feet lined temporary pad and will ultimately be disposed of underground at the termination of the exploratory phase. The estimated quantity of PAG/ML rock is 14,300 cubic yards. Water from the adit and PAG/ML waste rock site will be disposed of via a two-pond treatment system with each pond measuring 76 feet x 76 feet x 8 feet deep. The water then flows to a drip infiltration system in a woodlands.

1.1.2 This permit allows the temporary storage of up to 14,300 cubic yards of PAG/ML rock in a 25,000 square-foot lined site on the land's surface, and ultimately under water at the far end of the exploration tunnel, behind a concrete plug. The permit also allows for the temporary storage of 574 cubic yards of mineralized PAG/ML ore in a lined and covered site on the land's surface as shown on Figure 5.4; the treatment and disposal of non-domestic waste water from exploration tunnel dewatering and the PAG/ML temporary storage pile as associated with exploration activities for the Niblack Project; placement of PAG/ML waste and inert waste underground in the adit at the termination of the exploration project; and monitoring of surface and ground waters.

1.1.3 In addition to the stipulations in this permit, the permittee shall adhere to the applicable requirements of 18 AAC 60 Solid Waste Management regulations, 18 AAC 70 Alaska Water Quality Standards (WQS), and 18 AAC 72.500 – 72.600 Non-Domestic Wastewater regulations. The permittee shall also adhere to requirements of the *"Niblack Wastewater Treatment and Disposal Application under the Waste management Permit"* dated April, 2007; the *"Niblack Wastewater Treatment and Disposal Application 2012 Post-Construction Update"* dated May 25, 2012; the *"Industrial Waste Monofill Solid Waste Permit Application"*, Version 12-2011, dated May 24, 2012; the *"Niblack Water Quality Monitoring Plan, 2012 Post-Construction Update"* dated May 25, 2012; the *"Niblack Mining Corporation Quality Assurance Project Plan"* dated April 13, 2007; the *"Niblack Project Underground Exploration Plan of Operations 2012 Post-Construction Update"*, dated May 25, 2012; and the *"Niblack Reclamation and Closure Plan 2012 Post-Construction Update*", dated May 25, 2012. When the terms of this permit differ from the terms of the mine documents, the most recent document, approved in writing by the Department, shall control. If there is doubt as to which document has most recently been approved by the Department, this permit shall control. Mine documents must also be updated within 90 days from the date of issuance of this permit incorporating any changes necessary to be consistent with the terms of this permit.

1.1.4 While this permit is in effect, the permittee is authorized to dispose of the following materials to the specified location(s): NAG rock to the disposal site on the hillside near the portal, PAG/ML rock to the temporary storage facility and underground, and treated wastewater to the drip infiltration areas in the forested land below and in the vicinity of the treatment ponds.

1.1.5 This permit is valid for exploration only. A separate permit will be required for an operational mine.

1.2 LIMITATIONS

1.2.1 All Facilities - The following requirements under section 1.2.1 apply to all disposal facilities at the mine site including the underground mine workings, NAG storage facility, PAG/ML temporary storage facility and the wastewater land application disposal (LAD) areas.

1.2.1.1 The following materials shall not be disposed unless specifically approved by the Department in writing:

1.2.1.1.1 Chemical containers with fewer than three rinses and discarded, unused chemicals;

1.2.1.1.2 Uncombusted household waste;

1.2.1.1.3 Sewage solids that are untreated or contain less than 10% solids by weight calculated as dry weight over wet weight;

1.2.1.1.4 Asbestos waste;

1.2.1.1.5 Hazardous wastes, as defined by 40 CFR Part 261, and radioactive material, explosives, strong acids, untreated pathogenic waste, glycol, solvents, oily wastes, waste oil, greases, paints, chemical wastes, transformers, and packing material or associated equipment; however, this prohibition does not preclude disposal of Bevill excluded waste, natural minerals found in mine rock or residual wastes included as byproducts of the beneficiation process, which may be discarded into the drystack or underground mine, as long as they are in quantities that would not cause significant impact on mine closure, reclamation, or water quality;

1.2.1.1.6 Fuels, oil, transformers, paint and/or associated equipment and packing material;

1.2.1.1.7 Glycol and solvents; or

1.2.1.1.8 Batteries.

1.2.2 POTENTIALLY ACID GENERATING and METALS LEACHING (PAG/ML)

WASTE ROCK

1.2.2.1 Prior to the disposal of rock to the NAG or PAG/ML sites, the character of the rock shall be determined as detailed in the *Niblack Project Underground Exploration Plan of Operations 2012 Post-Construction Update*", dated May 25, 2012 (hereinafter called the "Plan of Operations") as follows: PAG/ML rock is characterized as having: total sulfur equal to or greater than 0.4 percent, ratio of acid neutralizing potential to acid generating potential (ANP:AGP) equal to or less than 3, and/or visible zinc or copper sulfide minerals present in the waste rock.

1.2.2.2 Rock shall be stored and disposed of in accordance with the Plan of Operations.

1.2.2.3 PAG/ML rock shall be placed on a protective synthetic liner during temporary storage on the land surface. The liner shall be protected on either side from punctures by sand layers and shall be of adequate thickness to not be damaged by vehicular placement of the rock or creep during the storage period.

1.2.2.4 Waste rock placement shall not impair the integrity of the liner.

1.2.2.5 Seepage water from the PAG/ML rock pile shall be captured and treated before discharge, as defined in section 1.2.4.1 of this permit.

1.2.2.6 PAG/ML rock shall be removed from the temporary PAG/ML storage site upon closure of the site, and placed underground at the far (southern) end of the drift. It shall be submerged under water and sealed with a concrete plug, or otherwise disposed of underground to prevent contact with oxygen and the production of leachate.

1.2.2.7 If the 574 cubic yards of mineralized ore remains on the site at closure it shall be disposed of in a similar manner to the PAG/ML rock.

1.2.3 TREATMENT FACILITY OPERATION

1.2.3.1 During the period beginning on the effective date of this permit and lasting through the expiration or termination date, the Permittee is authorized to discharge treated non-domestic wastewater from exploration activities as specified in this permit.

1.2.3.2 The wastewater shall be dispersed for land infiltration up to a maximum rate of 300 gallons per minute (gpm), or at an increased rate provided the applicant submits information that the treatment plant and land infiltration area can adequately treat and infiltrate wastewater at a higher rate.

1.2.3.3 The disposal shall be free of any additives such as antifreeze solutions, methanol, solvents, corrosion inhibitors, toxic substances, grease, and oils.

1.2.3.4 No other treated or untreated wastewater, sludge, or other materials shall be discharged to the lands or waters of the state unless otherwise approved in writing by the Department.

1.2.3.5 Should a planned bypass of the treatment system be required, the Permittee must notify the Department in writing and obtain Department approval prior to this bypass operation, stating the reason for the bypass and expected duration. Additional monitoring and other conditions may be required by the Department.

1.2.3.6 Regular inspections are to be conducted of the LAD system:

1.2.3.6.1 During non-freezing conditions, at least once per week;

1.2.3.6.2 During freezing conditions, valves of the main lines of all active zones are to be checked at least once per day;

1.2.3.6.3 During freezing conditions, settling pond levels and the flow meter are to be checked twice daily, with any anomalous activity investigated and mitigated immediately.

1.2.4 EFFLUENT TREATMENT AND DISPOSAL

1.2.4.1 The drainage from the adit and PAG/ML pile runoff will be treated before discharge through settling, flocculation, precipitation, filtration and clarification, or any combination of these techniques as approved by the Department.

1.2.4.2 If necessary to ensure proper operation of the treatment works, the flow limits listed in section1.2.3.2 shall be achieved through grouting of subsurface flows, as described in the approved Wastewater Treatment and Disposal Application under the Waste Management Permit, or other methods as approved by the Department, as adit development proceeds. Any discharge exceeding the hydraulic flow design capacity of the treatment plant shall be reported verbally to the Department at 907-269-4114 within 24 hours.

1.2.4.3 The intent of the infiltration system is to infiltrate all water into the ground such that it does not result in surface seeps or runoff. The permittee shall verbally notify the Department at 907-269-4114 within 24 hours if the system is not operating as designed and shall provide a written proposal to the address in Item 1.6.7 on how to best ensure the infiltration system works as designed.

1.3 SITE MAINTENANCE

1.3.1 Information on engineering changes to the facility, new waste treatment processes, changes to waste disposal facilities, changes to the groundwater monitoring well system, and the addition of new point sources that discharge into the LAD must be submitted to the Department and written approval must be obtained prior to any such changes or discharges.

1.3.2 The permittee shall develop the site in accordance with department approved plans and as as required by this permit, and in accordance with any approved amendments to those plans. Pollution prevention concepts as specified in section 2.10 shall be incorporated into operational plans for the mine.

1.4 SITE CONSTRUCTION & OPERATION

1.4.1 The permittee shall take reasonable measures to control dust that may occur from NAG rock and PAG/ML rock temporary storage facilities, roads, or other mine components by wetting or other effective measures.

1.4.2 The permittee shall prevent disposal of waste materials from exceeding the design capacity of the disposal facilities.

1.4.3 The permittee shall control and treat surface water, groundwater and leachate as necessary to prevent off-site WQS exceedances caused by site activities.

1.4.4 The permittee shall notify the Department in writing at least 15 days before the introduction of a new chemical into the waste treatment streams. Material Safety Data Sheets on new chemicals must be forwarded to the Department at time of notification and maintained on site. Introduction of new chemicals into the process requires Department written approval.

1.4.5 The permittee shall submit plans to the Department for approval at least 60 days before construction of a modification that will significantly change the quality or quantity of a discharge, operation of a waste treatment component, or a disposal facility.

1.4.6 Within 90 days after completing construction of a significant modification to an existing waste treatment component, the permittee must submit the following:

1.4.6.1 As built drawings of the treatment component(s) which show any changes of those aspects that would affect performance of that component as required in 18 AAC 72.600;

1.4.6.2 A summary of the quality control activities that were carried out during construction; and

1.4.6.3 The revised operating plans that reflect modifications made during construction.

1.4.7 The permittee shall maintain fuel handling and storage facilities in a manner that

prevents the discharge of hazardous substances.

1.4.8 The permittee shall report spills of hazardous substances according to an agreement with the Department's Division of Spill Prevention and Response at http://dec.alaska.gov/spar/spillreport.htm.

1.5 MONITORING

1.5.1 The Monitoring shall conform to the *Niblack Water Quality Monitoring Plan, 2012 Post-Construction Update*, dated May 25, 2012, except as required in this permit.

1.5.2 For surface impacted groundwater encountered below the forest floor, water quality shall be maintained at or better than the background water quality determined before commencement of any exploratory activity as defined in Table B. Should the water quality deteriorate over time, then the cause shall be determined, and if due to activities associated with the exploratory work, appropriate corrective or mitigating actions shall be taken in accordance with section 1.7 and the *Niblack Water Quality Monitoring Plan, 2012 Post-Construction Update*, dated May 25, 2012.

1.5.3 Test procedures for the analysis of pollutants shall follow EPA- approved methods or other methods of analysis approved by the Department according to 18 AAC 70.020(c). Specific analysis and field measurement methods, including reporting limits, calibration and maintenance procedures will be included in the quality assurance project plan (QAPP).

1.5.4 Water quality sites to be monitored are shown on Figures 2, 3, 4, and 5 and are:

1.5.4.1 Surface water quality sites WQ4, WQ6, WQ10, and WQ13;

1.5.4.2 Ground water quality sites MW1, MW2, MW3 and MW4;

1.5.4.3 The PAG/ML site underdrain and the PAG/ML pond;

1.5.4.4 Effluent going to the LAD from the mine dewatering treatment pond, site EFF1;

1.5.4.5 Additional monitoring sites as required by the Department; this will be determined based on site conditions and review of monitoring results.

1.5.5 Grab samples for the parameters that shall be collected and reported are shown in **Table A**. Sample processing methods specified in the *Niblack Water Quality Monitoring Plan, 2012 Post-Construction Update* dated May 25, 2012 will be used for the sample preparation and laboratory analysis.

Table A - Parameters to be monitored

Monitoring Sites	Parameter	–Sample Type
EFF1	Total Dissolved Solids (TDS)	Grab

WQ4, WQ6, WQ10, WQ13 **MW1, MW2, MW3, MW4** **PAG/ML underdrain, PAG/ML pond**	Hardness	Grab
	Temperature	Grab
	Conductivity	Grab
	pH	Grab
	Nitrogen (nitrate + nitrite)	Grab
	Sulfate	Grab
	Aluminum	Grab, Total[a]
	Arsenic	Grab, Total
	Cadmium	Grab, Total and Dissolved[b]
	Chromium	Grab, Total
	Copper	Grab, Total and Dissolved[b]
	Lead	Grab, Total
	Mercury	Grab, Total
	Selenium	Grab, Total
	Zinc	Grab, Total and Dissolved[b]

Note:

a. Total refers to total recoverable as the unfiltered fraction of the sample.
b. Dissolved refers to filtration of the sample through a 0.45 µm filter, as described in the "*Niblack Water Quality Monitoring Plan, 2012 Post-Construction Update*" dated May 25, 2012.

1.5.6 For groundwater wells where monitoring provides data on water quality trends within the forest floor area down-slope of the project, facility threshold values have been established to show when there is a statistically significant increase over background water quality values. Threshold values for parameters with average concentrations in the effluent (EFF1) greater than three times the average values in well water prior to activities are listed in **Table B**. Whenever a threshold value is exceeded in a well, the corrective action requirements in section 1.7 must be followed.

Table B - Groundwater well threshold values

Monitoring Site	Dissolved[b] Cadmium (µg/L)	Total Recoverable[a] Chromium (µg/L)	Dissolved[b] Copper (ug/L)	Dissolved[b] Zinc (µg/L)
MW1 [a]	--	--	2.61	--
MW2 [b]	0.044	--	--	7.59
MW3 [b]	0.07	6.31	--	11.76

Table B Notes:

a. MW1 is located to monitor NAG storage/disposal areas, and does not receive drainage from the LAD areas. The indicator chemical of copper was selected based on NAG material concentrations in shaker flask extractions.

b. MW2 and MW3 are located downgradient of LAD discharge areas. The indicator chemicals were selected based on comparison of background (pre-activity) groundwater well concentrations to LAD discharge concentrations (as measured at station EFF1). Parameters with concentrations more than three times greater in the LAD discharge water than in background groundwater were selected as indicator chemicals.

b. Dissolved cadmium, copper, and zinc will be monitored. Dissolved refers to filtration of the sample through a 0.45 µm filter, as described in the "*Niblack Water Quality Monitoring Plan, 2012 Post-Construction Update*" dated May 25, 2012. Unfiltered total chromium will be monitored. If the unfiltered total chromium value exceeds the chromium (VI) water quality standard of 50 µg/L, samples of dissolved chromium (VI) may be requested.

1.5.7 Water quality shall be monitored quarterly except as otherwise noted in this section.

1.5.7.1 For surface water, if any parameter exceeds any WQS found in 18 AAC 70, the corrective action requirements in section 1.7 must be followed.

1.5.7.2 PAG/ML facility field parameters (pH, temperature, conductivity, dissolved oxygen and turbidity) must be monitored weekly while personnel are on site; all other monitoring is quarterly.

1.5.8 If the Permittee monitors any influent, effluent, or groundwater characteristic identified in this permit more frequently than required, the results of such monitoring shall be reported to the Department in the monitoring report.

1.5.9 Post-closure monitoring will be required to ensure existing water quality conditions are not degraded during the post-closure period. Monitoring of water quality will be annually for a period of two years for all wells listed in Table C. Thereafter monitoring for well MW1 and surface sites WQ4 and WQ13 will be at post-closure years 5, 10, 15, 20 and 30, as shown in **Table C**.

Table C - Post-closure monitoring

Monitoring site	Monitoring periods (post-closure years)
MW2, MW3, MW4	1 and 2
MW1	1, 2, 5, 10, 15, 20 and 30
WQ4, WQ13	1, 2, 5, 10, 15, 20 and 30

1.5.10 Post-closure monitoring of drainage water from the closed adit shall be required should it fill the adit and exit the portal. If there is a discharge from the adit, this water shall be sampled at the portal at years 1, 2, 5, 10, 15, 20 and 30 post-closure. The water quality shall be no worse than the natural condition of groundwater from seeps in the general locality of the mine portal.

1.5.11 The permittee shall visually monitor the wastewater dispersal area for stress to

vegetation and for channelization resulting from surface application of treated wastewater. Monitoring shall occur no less than once per week during periods with temperatures above freezing. During freezing conditions end valves on main lines of all active zones are to be checked at least once per day, and settling pond levels and the flow meter are to be checked twice daily, with any anomalous activity investigated and mitigated immediately.

1.5.12 If a threshold value as determined by pre-project sampling is exceeded for any monitoring location, then the cause of the exceedance shall be determined as specified in section 1.7.

1.5.13 The permittee must ensure a QAPP is compliant with monitoring requirements of this permit. The QAPP may be contained in an overall monitoring plan for the entire project. The QAPP, or the QAPP portion of an overall monitoring plan, must be completed within 60 days of the effective date of this permit.

1.5.13.1 The QAPP must be designed to assist in planning for the collection and analysis of effluent and receiving water samples in support of the permit and in explaining data anomalies when they occur.

1.5.13.2 Throughout all sample collection and analysis activities, the permittee must use Quality Assurance/Quality Control (QA/QC) chain-of-custody procedures described in the most recent editions of *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QAPP must be prepared in the format which is specified in these documents.

1.5.13.3 The permittee must amend the QAPP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAPP.

1.5.13.4 A copy or copies of the QAPP must be kept on site and made available to the Department upon request.

1.5.14 Samples taken as required by section 1.5 shall be analyzed in conformance with the most recently submitted *Monitoring Plan* and QAPP.

1.5.15 Groundwater monitoring and corrective action shall be in accordance with section 1.7, 18 AAC 60 Solid Waste Management regulations, the most recent *Monitoring Plan*, and QAPP.

1.5.16 The Department may modify monitoring requirements, including the establishment of additional monitoring points in response to trends showing changes in the concentration of parameters being monitored.

1.5.17 If the permittee monitors any influent, effluent, receiving water, air or solid waste characteristic in addition to those identified in this permit, or more frequently than required, the results of such monitoring shall be available for inspection by the Department, or other location proposed by the permittee and agreed upon by the Department. The permittee shall provide copies of the results to the Department

upon request.

1.6 REPORTING

1.6.1 The Department shall be orally notified within one working day if significant changes are observed as a result of visual monitoring. If stress to vegetation or channelization is observed, the permittee shall also orally notify the Department within one working day. The bulleted notification, documentation, evaluation and corrective action plan requirements in accordance with Section 10 of the "*Niblack Water Quality Monitoring Plan, 2012 Post-Construction Update"* dated May 25, 2012 shall be implemented if a significant change is detected through visual monitoring.

1.6.2 If freeze-up conditions at monitoring wells prevent sampling, or sampling cannot be conducted because of worker safety concerns, the Permittee will notify the Department.

1.6.3 When an exceedance of a threshold is discovered at a groundwater monitoring location, or if noncompliance with a requirement set out in sections 1.1, 1.2, 1.3, or 1.4 is discovered, the permittee shall verbally notify the Department no later than the end of the next State of Alaska working day after discovery, and shall conduct corrective actions according to section 1.7.

1.6.4 The permittee shall provide the Department with quarterly monitoring reports summarizing inspection and monitoring results required in section 1.5. Reports shall satisfy the following conditions.

1.6.4.1 Due Dates - Reports for the first three calendar quarters are due within 60 days after the quarter ends, and the report for the fourth calendar quarter shall be submitted by April 1st of the following year.

1.6.4.2 Form – Hard copy reports shall be provided to the address stated in section 1.6.7.

1.6.4.3 Content - Reports shall contain a narrative portion discussing data and information collected during the preceding quarter. Reports shall include a conclusion section summarizing the data and making recommendations for any changes necessary to ensure permit compliance.

1.6.4.4 Graphing - Reports shall present water quality data in graphical form to indicate trends as well as:

1.6.4.4.1 Graphs of concentration measurement versus time must include the past five years of data, if available, and may contain all historic data.

1.6.4.4.2 The graphs must also include the parameter, units, and applicable permit limit (threshold) or water quality standard.

1.6.4.4.3 Multiple stations, identified using symbols in a legend, may be included in the same graph.

1.6.4.4.4 Scales shall be proportioned to display the limit or WQS, as indicated by a highlighted line, near the top of the graph or when data exceeds the limit, the maximum value shall be near the top of the graph.

1.6.4.4.5 Formatting shall allow addition of new data to each graph's cumulative data when producing the next quarterly report.

1.6.4.4.6 For graphical purposes, non-detect values shall be plotted at one half the method detection limit (MDL), and values between the minimum level of quantification (ML) and MDL shall be plotted at the value of the qualified measurement.

1.6.5 Annual Report – The annual report shall be submitted to the Department by April 1st of the following year. In addition to satisfying the requirements of section 1.6.4, the fourth calendar quarter report serves as the annual report. In addition to the items specified in the "*Niblack Water Quality Monitoring Plan, 2012 Post-Construction Update*", the annual report shall include:

1.6.5.1 A summary of monitoring results, exceedances of threshold levels established in this permit and water quality standards in surface waters.

1.6.5.2 Graphical presentation of parameters at each monitoring site including pre-production values.

1.6.5.3 Volumes of NAG and PAG/ML rock.

1.6.5.4 Project progress.

1.6.5.5 Work proposed during the next year.

1.6.5.6 Any foreseen changes to the Plan of Operations.

1.6.6 All records and information and reports resulting from the monitoring activities required by this permit, including but not limited to all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation, shall be retained in Alaska for observation by the Department for a minimum of five years. Upon request from the Department, the permittee shall submit certified copies of such records.

1.6.7 All written reports submitted under the requirements of this permit shall be sent to:

Dept. of Environmental Conservation
Division of Water, Compliance Program
555 Cordova St.
Anchorage, AK 99501

1.6.8 Knowingly making a false statement, by the permittee, the operator or other employees, including contractors, on any such report may result in the imposition of criminal penalties as provided for under AS 46.03.790.

1.7 CORRECTIVE ACTIONS

1.7.1 The permittee shall comply with 18 AAC 60.815 if the visual monitoring program

in section 1.5.11 discovers damage or potential damage to the waste treatment or storage related facilities that could lead to water quality violations.

1.7.2 If a WQS is exceeded at a surface water monitoring station, if a groundwater threshold in section 1.5.6 is exceeded, or if noncompliance with a requirement set out in sections 1.1, 1.2, 1.3, or 1.4 is discovered, the permittee shall:

1.7.2.1 Orally notify the Department no later than the end of the next State of Alaska working day.

1.7.2.2 Determine the extent of the exceedance through adequate sampling.

1.7.2.3 Consult with the Department, and if required:

1.7.2.3.1 Document in writing and implement a plan to determine the cause and/or source of the exceedance.

1.7.2.3.2 Submit to the Department, within seven working days after an exceedance is verified by the permittee, a plan for corrective actions to prevent adverse environmental impacts and further exceedances of applicable WQS or thresholds.

1.7.2.3.3 Implement the corrective action plan as approved by the Department.

1.8 SUSPENSION OF OPERATIONS

1.8.1 Suspension of operations is defined as a suspension of activities at the site for more than 90 days but less than three years. The length of time for the period of suspension may be extended beyond three years by written authorization from the Department. The permittee shall submit a conceptual suspension of operations plan to the Department within 90 days of permit issuance.

1.8.2 The permittee must notify the Department within three days of suspending operations. The notice shall provide the nature of and reason for the suspension and its anticipated duration.

1.8.3 No later than ten days after operations have been suspended, the permittee shall submit a detailed suspension of operations plan that replaces the suspension of operations conceptual plan required by section 1.8.1 with current information and specific details. The suspension plan shall address the following:

1.8.3.1 Explanation of what would reasonably result in resuming or permanently terminating exploration, activities;

1.8.3.2 Reclamation or construction activities during the period of temporary suspension;

1.8.3.3 Procedures, methods, and schedule to be implemented for the treatment, disposal, or storage of process water;

1.8.3.4 The control of surface and groundwater drainage to and from the facility and the surrounding area;

1.8.3.5 The control of erosion from rock storage and disposal areas, camp site, and

any other disturbed areas within the facility boundary;

1.8.3.6 The secure storage of chemicals during the period of suspended operations; and

1.8.3.7 Procedures for maintaining and monitoring treatment and water balance.

1.8.4 The Department shall have 30 days to review and approve or request modifications to the suspension plan.

1.8.5 Once a suspension of operations plan has been approved, it becomes enforceable under the conditions of this permit and full implementation of the approved suspension plan is required. The plan can be amended by submitting a revised plan to the Department for approval.

1.8.6 During suspension of operations, the permittee shall:

1.8.6.1 Continue pollution control activities including but not limited to dust control, maintenance of the drainage diversion structures, maintenance of all discharge and leakage control structures and processes.

1.8.6.2 Continue monitoring and reporting activities of all active portions of the site including the PAG/ML, NAG, water treatment, and underground mine workings as specified by this permit or the suspension plan.

1.8.6.3 Continue reclamation and corrective action requirements in light of the nature of the closure.

1.8.7 Written Department approval is required before resuming operations after a period of temporary closure.

1.9 TERMINATION OF ACTIVE EXPLORATION

1.9.1 Termination of active exploration activities is defined as the permanent cessation of those activities. Updated reclamation and monitoring plans must be submitted for approval within 90 days after initiating termination of active exploration. The updated plans must address current conditions at the facility. Updates and changes to those plans must be approved in writing by the Department.

1.9.2 Termination of active exploration at the site must be implemented and completed according to the conditions of this permit and with the plans approved by the Department and incorporated by reference into this permit.

1.9.3 Closure of the waste disposal facilities will be complete when the following criteria are met:

1.9.3.1 Conditions in sections 1.2.2.6 and 1.2.2.7.

1.9.3.2 Reclamation shall be completed in accordance the most recent Plan of Operations as approved by the Department and incorporated by reference

into this permit; and

1.9.3.3 The Department determines that active water treatment is no longer required for any water discharged from the facility.

1.9.4 Closure must be achieved before terminating any care and maintenance activities required by section 1.8.6 and the approved suspension plan if a period of suspended operations occurred immediately preceding termination of exploration.

1.9.5 The permittee shall maintain the facility by correcting any erosion or settlement of sites that may impair water quality or otherwise threaten the environment, up until the time that this permit, or any successor permit, is transferred to another entity or terminated by the Department.

1.9.6 Disposal of demolition debris underground may be approved during closure activities according to a plan approved by the Department.

1.9.7 Post-closure monitoring of ground and surface water quality and visual monitoring for settlement, seeps, and erosion is required in years 1, 2, 5, 10, 15, 20, and 30 after satisfying the criteria in section 1.9.3. Post-closure monitoring shall be performed according to the most recent Plan of Operations approved by the Department. This schedule and the parameters monitored may be modified by the Department based on the monitoring results received.

1.10 PROOF OF FINANCIAL RESPONSIBILITY

1.10.1 The permittee shall provide the Department with proof of financial responsibility for closure of the facility and post-closure monitoring. The proof of financial responsibility shall cover the activities set out in section 3, and shall be in the amount shown in section 3. The area covered by the financial responsibility required in this section is shown on the map attached as section 5.

1.10.2 The Department in consultation with Department of Natural Resources (DNR) will review, and modify, if necessary, the financial responsibility requirements including adjustments for inflation, concurrent reclamation and expansion or other changes to the operation of the facility annually, or during the renewal, modification or amendment of this permit. The permittee shall address the adequacy of the financial responsibility in the annual report required in section 1.6.5.

1.10.3 The proof of financial responsibility may be in the form of a trust fund, surety bond, letter of credit, insurance, or any other mechanism approved by the Department.

1.10.4 Approved proof of sufficient financial responsibility must remain available through the post-closure period, up to 30 years, and may not be released until the Department certifies in writing that closure of the facility and the required post-closure monitoring have been successfully concluded, or that another entity will

assume responsibility for permit compliance and/or post-closure monitoring.

1.10.5 It shall be the responsibility of the permittee to provide acceptable proof of financial responsibility within 60 days of the permit's effective date. The Department will accept or reject the financial surety as expeditiously as possible, but in no event later than 30 days after its receipt.

1.10.6 If the permittee is unable to provide proof of financial responsibility that is acceptable to the Department, and is approved by the Department in writing within the time periods stated above, this permit will expire automatically at that time, notwithstanding any other approvals to the contrary, unless the Department's failure to act is responsible for the delay in accepting or rejecting this proof.

1.10.7 If the permittee fails to comply with the terms and conditions of this permit, as written, modified, or amended; and if the Department concludes that such failure may prevent, inhibit or delay satisfactory closure or post-closure monitoring of the facility; then the Department may exercise its rights under the approved mechanism for financial responsibility to access the funds and use them for appropriate closure and post-closure activities.

2 GENERAL PERMIT CONDITIONS

2.1 ACCESS & INSPECTION

The permittee shall allow the Commissioner or his/her representative to access the permitted facility at reasonable times to conduct scheduled or unscheduled inspections or tests to determine compliance with this permit, state laws, and regulations.

2.2 INFORMATION ACCESS

Except where protected from disclosure by applicable state or federal law, all records and reports submitted in accordance with the terms of this permit shall be available for public inspection at the Alaska Department of Environmental Conservation, 610 University Avenue, Fairbanks, Alaska.

2.3 CIVIL & CRIMINAL LIABILITY

Nothing in this permit shall relieve the permittee from any potential civil or criminal liability for noncompliance with the permit or with applicable laws.

2.4 AVAILABILITY

The permittee shall post or maintain a copy of this permit available to the public at the facility.

2.5 ADVERSE IMPACT

The permittee shall take all necessary means to minimize any adverse impacts to the receiving waters or lands resulting from noncompliance with any limitation specified in this permit, including any additional monitoring needed to determine the nature and

impact of the noncompliant activity. The permittee shall cleanup and restore all areas adversely impacted by the noncompliance.

2.6 CULTURAL OR PALENTOLOGCAL RESOURCES

Should cultural or paleontological resources be discovered as a result of this activity, work, which would disturb such resources, shall be stopped, and DNR, Division of Parks and Outdoor Recreation, State Historic Preservation Office (907-465-4563), shall be notified promptly.

2.7 APPLICATIONS FOR RENEWAL

In accordance with 18 AAC 15.100(d), an application for renewal or amendment of this permit must be made no later than 30 days before the expiration date of the permit or the planned effective date of the amendment.

2.8 OTHER LEGAL OBLIGATIONS

This permit does not relieve the permittee from the duty to obtain any other necessary permits from the Department or from other local, state, or federal agencies, and to comply with the requirements contained in any such permits. All activities conducted and all plans implemented by the permittee pursuant to the terms of this permit shall comply with all applicable local, state, and federal laws and regulations.

2.9 TRANSFER OF OWNERSHIP

In the event of any change in control or ownership of the permitted facility, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Director of the Division of Water at 555 Cordova Street, Anchorage, AK 99501. The original permittee remains responsible for permit compliance unless and until the succeeding owner or controller agrees in writing to assume such responsibility, and the Department approves assignment of the permit. The Department will not unreasonably withhold such approval.

As between the state and the permittee, no transfer of this permit shall relieve the permittee of any liability arising out of operations conducted prior to such transfer, regardless of whether such liability accrues before or after such transfer.

2.10 POLLUTION PREVENTION

In order to prevent and minimize present and future pollution, when making management decisions that affect waste generation, the permittee shall consider the following order of priority options as outlined in AS 46.06.021:

1st waste source reduction,
2nd recycling of waste,
3rd waste treatment, and
4th waste disposal.

3 FINANCIAL RESPONSIBILITY FOR FACILITY RECLAMATION, MAINTENANCE, CLOSURE, & POST-CLOSURE MONITORING

Under AS 46.03.100(f), 18 AAC 15.090, and18 AAC 60.265, it assigns the Department authority and responsibility requiring proof of financial responsibility for closure of the facility and post-closure monitoring. The total proof of financial responsibility for the life of this permit, unless modified sooner, shall be **$1,409,959**. A detailed breakdown of the financial responsibility cost estimate can be found in the *Niblack Reclamation and Closure Plan 2012 Post-Construction Update*, dated May 25, 2012, with costs subsequently amended in August 2012 and as shown below. A summary of the cost breakdown from the reclamation plan is shown. See the reclamation plan for details of the tasks. The permittee can apply to have the amount of the financial responsibility adjusted during the life of the permit, if for example concurrent reclamation has been completed. The Niblack Project financial responsibility is based on the following.

Task Number	Reclamation task	Cost
Task 1	Relocation of PAG/ML Material and Reclaim Site (14,300 cy)	$186,280
Task 2	Portal Closure Including Adit Plug	$161,832
Task 3	Fill Placement and Grading, Final Contouring at NAG Site	$25,520
Task 4	Reclaim Water Treatment Facilities and Sediment Pond Areas	$20,055
Task 5	Stormwater Conveyance and Settling Ponds Below NAG Site	$6,139
	Equipment Mob/Demob	$80,000
	Personnel transport	$12,240
	Equipment standby	$43,229
	Support equipment including barge camp	$191,808
	Direct Costs Subtotal	**$731,663**
	Liability insurance (1.5% of total labor costs)	$2,354.91
	Contractor Overhead (10%)	$73,166
	Contractor Profit (15%)	$109,749
	Engineering Design (5%)	$36,583
	Scope contingency (7%)	$51,216
	Bid contingency (10%)	$73,166
	Contingency (5%)	$36,583
	Contract admin / Agency Oversight (3% of direct)	$21,950
	Contract Performance & Payment Bond (1.5%)	$10,975
	Direct and Indirect Costs Subtotal	**$1,110,824**
	Inflation (3.2% per year for 5 years)	$189,477
	TOTAL TASK 1 THROUGH TASK 5	**$1,300,301**
Task 6	Reclamation and Water Quality Monitoring Surveys:	
	Year 1	
	Reclamation/revegetation monitoring	$4,784
	Water quality sampling	$14,484
	Year 2	

	Reclamation/revegetation monitoring	$4,937
	Water quality sampling	$14,948
	Year 3	
	Reclamation/revegetation monitoring	$5,095
	Year 5	
	Water quality sampling	$7,560
	Reclamation/revegetation monitoring	$5,426
	Year 10	
	Water quality sampling	$8,850
	Year 20	
	Water quality sampling	$12,126
	Year 30	
	Water quality sampling	$16,616
	TOTAL TASK 6 (including 3.2% inflation per year)	**$94,827**
	Bid contingency (5%)	**$4,741**
	TOTAL TASK 6 (including inflation and bid contingency)	**$99,568**
	GRAND TOTAL	**$1,409,959**[1]

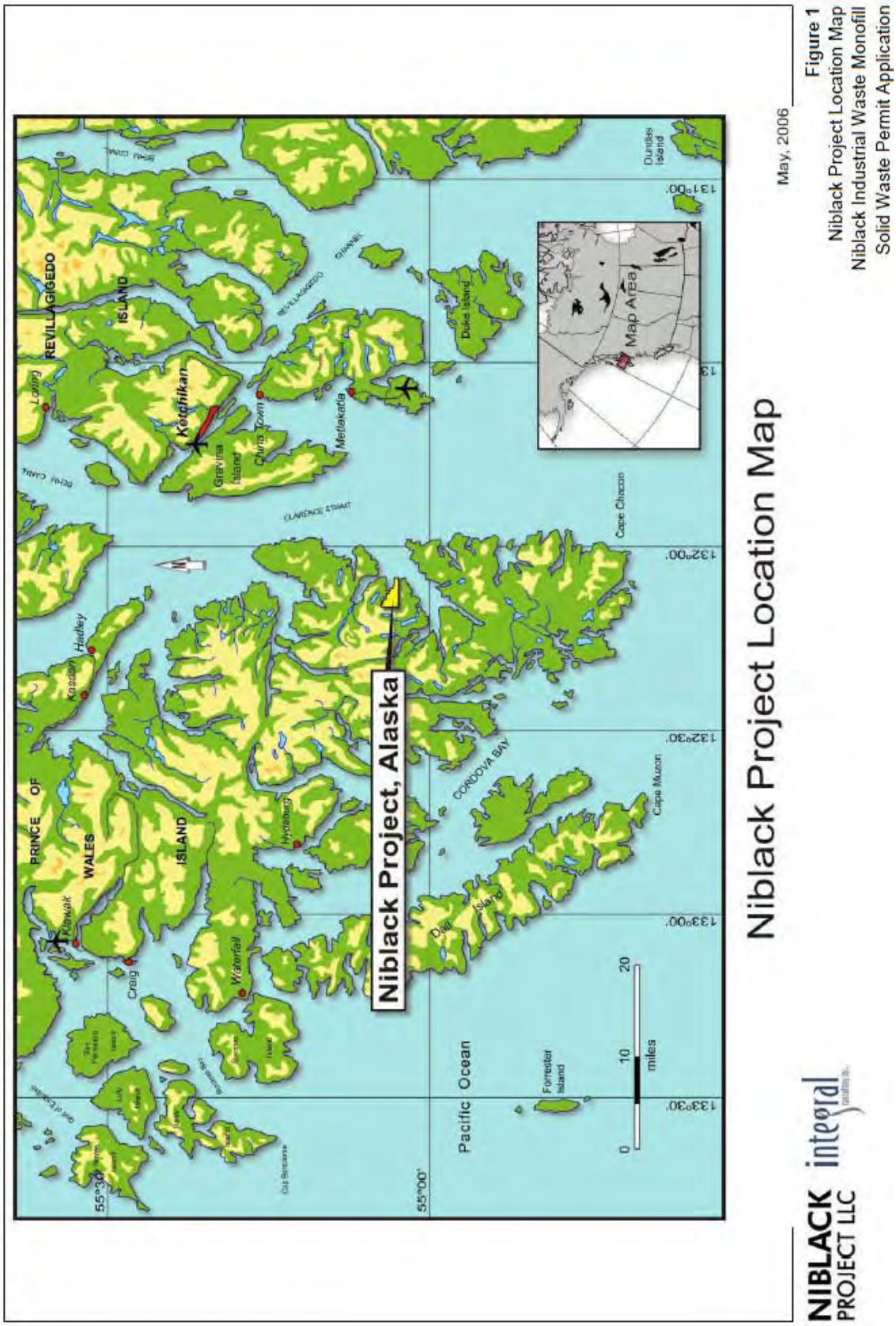
[1.] The financial responsibility will be reevaluated and adjusted as allowed in section 1.10.2.

4 GLOSSARY OF TERMS

AAC	Alaska Administrative Code
Accidental Discharges	Unforeseen bypass of treatment that may enter and affect discharge quality
ADEC	Alaska Department of Environmental Conservation
C.F.R	Code of Federal Regulations
gpm	Gallons per minute
Hardness	A property of water, primarily due to the presence of ions of calcium and magnesium, expressed as mg/1 of $CaCO_3$, determined using TA EPA method 130.1 or 130.3
LAD	Land application and disposal system
mg/l	Milligrams per liter
NAG	Non-acid generating
Natural Conditions	Any physical, chemical, biological, or radiological condition existing in a waterbody before any human-caused influence on discharge to, or addition of material to a waterbody [18 AAC 70.990(40)].
PAG/ML	Potentially Acid Generating/Metals Leaching
Plan of Operations or POO	The Underground Exploration Plan of Operations 2012 Post-Construction Update, May 25, 2012.
QAPP	Quality Assurance Project Plan
Representative sampling	The sample represents the characteristics of the discharge, collected under routine operating conditions
Standard Test Inorganics	Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Zinc
Total Dissolved Solids (TDS)	Expressed as "dissolved inorganic substances" in 18 AAC 70.020(b)(1), total dissolved solids (TDS) refers to inorganic cations and anions including chlorides, carbonates, and sulfates in natural and treated waters. It is the unfiltered residue remaining after drying the sample a 103°-105°C
Treatment Works	A plant, disposal field, lagoon, pumping station, constructed drainage ditch, or surface water intercepting ditch, incinerator, area devoted to sanitary landfills, or other works installed for the purpose of treating, neutralizing, stabilizing, or disposing of sewage, industrial waste, or other waste. (AS 46.03.900)
Threshold	A threshold is the upper tolerance or prediction limit established from the distribution of the natural condition data used to determine if there is a statistically significant increase.
µg/1	Micrograms per liter
WQS	Alaska Water Quality Standards (18 AAC 70)

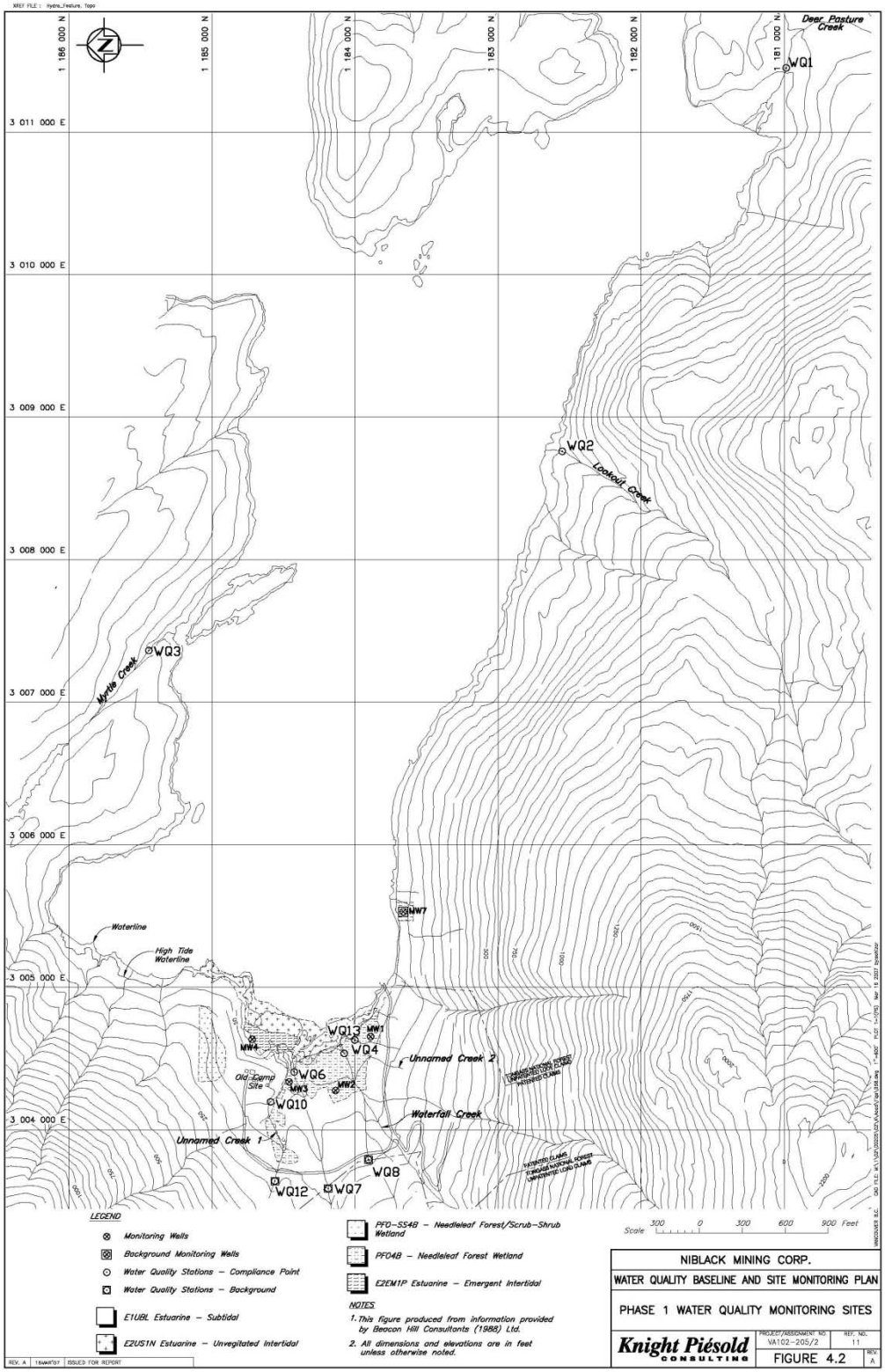
5 FACILITY MAPS

5.1 FIGURE 1 – PROJECT LOCATION

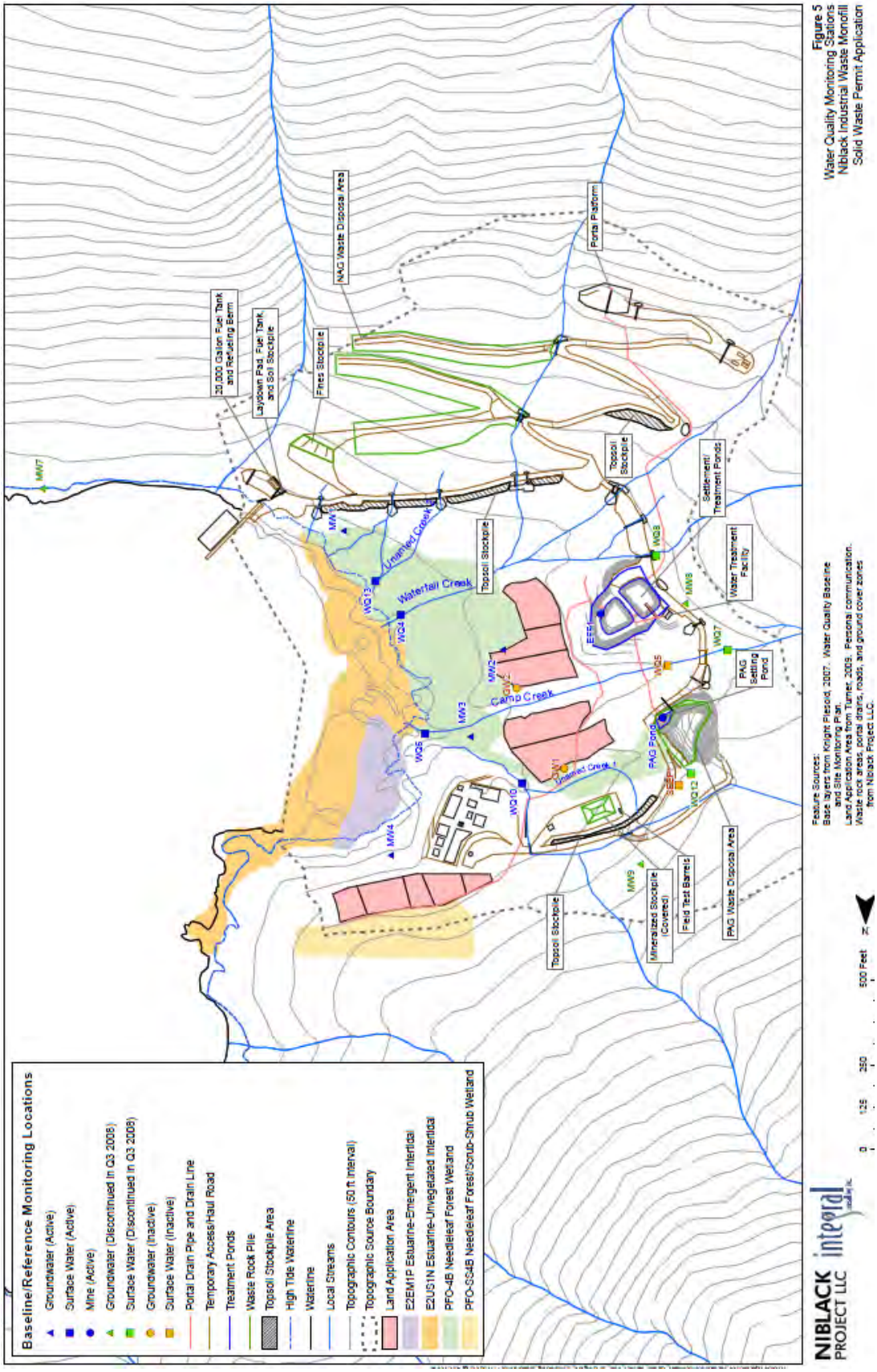


5.2 FIGURE 2 – OFFSITE MONITORING SITES

5.3 FIGURE 3 – PROJECT MONITORING SITES



5.4 FIGURE 4 – WATER QUALITY MONITORING SITES CLOSE UP(1)



5.5 FIGURE 5 – WATER QUALITY MONITORING SITES CLOSE UP(2)