MINE CLOSURE AND RECLAMATION COST ESTIMATION GUIDELINES: INDIRECT COST CATEGORIES

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April 2015

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LIST OF ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADNR	Alaska Department of Natural Resources
ARD/ML	Acid Rock Drainage and Metal Leaching
AS	Alaska Statutes
BLM	Bureau of Land Management
BMRR	NDEP Bureau of Mining Regulation and Reclamation
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
Guidelines	Draft Mine Closure and Reclamation Cost Estimation Guidelines
LMPT	Large Mine Permit Team
NDEP	Nevada Department of Environmental Protection
OSM	Office of Surface Mining, U.S. Dept. of the Interior
POO	Plan of Operations
R&C	Reclamation and Closure
SRCE	Standardized Reclamation Cost Estimator
U.S.	United States
USFS	United States Forest Service

EXECUTIVE SUMMARY

The State of Alaska's Departments of Natural Resources and Environmental Conservation have developed draft Mine Closure and Reclamation Cost Estimation Guidelines. The Guidelines are intended to provide mine operators and State of Alaska regulatory personnel with a methodology for mine reclamation and closure cost estimation. Reclamation and closure cost estimation as a process involves the thorough estimation of two main components, direct costs and indirect costs. This report investigates the sources of variability that drive the ranges of indirect costs observed with reclamation and closure projects in and outside of Alaska, based on input from State and Federal agencies with authority over reclamation and closure efforts. Alaskan heavy construction contractors were also contacted in regard to their experiences with indirect costs on projects undertaken within the state. The reclamation and closure cost estimation guidance reviewed included documents from the United States Forest Service, Bureau of Land Management, State of Nevada, and State of Alaska.

Indirect costs categories include contractor profit, contractor overhead, performance and payment bonds, liability insurance, contract administration, engineering redesign, and contingency. Each of these factors exhibit a degree of variability, due in part to variables related to the United States mining industry itself and others that are more specific or influential to Alaska-based projects. Industry-wide variables include the scale and complexity of the mine operation; presence or absence of acid rock drainage and/or metal leaching, the type of operation (surface versus underground mine), and the applicable mining laws and regulatory oversight. The variables that are more influential because of conditions present in Alaska include site access, climate, and the "maturity" of the mining operation.

Several of Alaska's unique conditions present challenges to planning both normal mine operation and reclamation and closure activities related to mine projects. Mines in Alaska vary in location from above the Arctic Circle to the islands of the southeast. Few operations have access to the public highway system, leaving them reliant on winter surface trails, air and/or water-based transportation to move needed supplies in and ore products out. Some of the projects have water-based access year-round while others have sea-borne access only during ice-free periods of the year. Climate circumstances influence not only the relative difficulty of access but also the seasonal window of time during which certain types of work may be conducted.

DOWL's review of the nature of the percentage variability of the indirect cost factors showed that contingency (both bid and scope) and engineering redesign were the two factors showing the greatest range of variability, while bonds (performance and payment) and liability insurance were the least variable factors. Contractor profit, contractor overhead, and contract administration typically show only an intermediate level of variability. These observations make sense in that contingency is where the challenges of doing business in Alaska are manifested. The range of variability in engineering redesign reflects the uncertainty to which each of the elements necessary to conduct reclamation and closure operations have been adequately characterized by the mine operator. The relatively limited variability of bonds and liability insurance reflects their tendency toward a consistent percentage independent of the size of the project. The fact that contractor profit, contractor overhead, and contract administration show an intermediate level of variability also makes sense because they are affected by project-specific nuances but as familiar, universal construction industry cost factors they are not as subject to risk as contingency and engineering redesign.

The review found that while all of the variables (scale/complexity; presence or absence of acid rock drainage and/or metal leaching; the type of operation; mining laws and regulatory oversight; access; climate; and the maturity of the mining operation) influenced the indirect cost factors to an extent, no one variable seemed to do so disproportionately.

One item of note in terms of the indirect costs associated with reclamation and closure of Alaskan mining projects is the relatively limited range of totals observed when the indirect cost percentages are summed across all seven cost factors. By leaving out one outlier mine, Rock Creek, the variance in the sum of the indirect cost factors across the remaining mining projects is less than 20 percent (the sums range from 40.3 percent to 47.5 percent). This observation is despite the major difference in periods of operation and overall scale/magnitude of reclamation and closure cost. Considering the relatively small number of active, large mining projects in Alaska, combined with the wide variability in their individual operating (and reclamation and closure) conditions, the narrow variability in indirect cost percentage sums reflects a consistency in the approach of Alaska Department Natural Resources' Large Mine Permitting Teams in setting reclamation and closure indirect cost percentage values.

1.0 INTRODUCTION

The State of Alaska Department of Natural Resources (ADNR) and State of Alaska Department of Environmental Conservation (ADEC) have developed draft Mine Closure and Reclamation Cost Estimation Guidelines (Guidelines). The Guidelines are intended to provide mine operators and State of Alaska (State) regulatory personnel with a detailed, consistent methodology for mine reclamation and closure (R&C) cost estimation. The Guidelines will be used in the development of formal agreements between mine operators and the State in order to provide sufficient financial assurance (bonding) to accomplish full mine closure if the mine operator were – for whatever reason – unable to meet this critical, future responsibility. R&C cost estimation as a process involves the thorough estimation of two main components: direct costs and indirect costs. The direct costs stem from doing work at a mine site that directly completes elements of the R&C work including:

- Earthwork: Grading and Backfill
- Revegetation/Stabilization
- Monitoring/Field Sampling
- Mobilization and Demobilization
- Post-Closure Care, Maintenance, and Monitoring
- Detoxification/Water Treatment/Disposal of Wastes
- Structure, Equipment, and Facility Removal
- Onsite Construction Management, Support, and Maintenance

Appendix A presents the current version of the draft Guidelines relating to direct costs with DOWL's suggested revisions.

Estimation of a mine's direct R&C costs is a relatively straight-forward exercise; however, estimating indirect costs presents a greater challenge. Each category of indirect costs – contractor profit, contractor overhead, performance and payment bonds, liability insurance, contract administration, engineering redesign, and contingency – exhibits a degree of variability.

The purpose of this report is to describe the sources of variability that drive the ranges observed/experienced with R&C projects in and outside Alaska. Further, the report recommends reasonable ranges of the various indirect cost categories, based on input from State and Federal

agencies involved in R&C efforts, Alaskan heavy construction contractors, and others. The report discusses sources of variability in indirect cost factors common to all mining projects as well as those more Alaska-specific. This report provides suggestions and recommendations regarding what range of indirect cost variability will provide adequate assurance for R&C by further refining the indirect cost calculation process and enhancing the methodology descriptions.

The report's analysis and findings are limited to an extent due to the limited documentation on how indirect costs have been accounted for over time, whether through Alaska's permitting authorities or other state and federal agencies. Another reason for the lack of information is simply the limited examples available to demonstrate how default R&C programs are executed. Alaska has not had a large mine operator default on their closeout responsibilities for over 15 years and defaulted mine closures outside of Alaska are also uncommon. Finally, the report is limited by the sample size in Alaska. Each mining operation has its own unique set of circumstances in terms of location, access, operational constraints, and R&C issues, producing a series of isolated observation points with little consistency upon which to base trends.

1.1 Report Organization

This report summarizes the data and opinions on the variability of indirect R&C costs garnered from a variety of sources and provide recommendations for how those variables may be applied to lode/mineral (aka hardrock) mining projects in the State. This report does not address the indirect costs incurred for coal mining. The remainder of this section introduces the categories of indirect costs. Section 2 presents the variability and ranges of indirect costs recommended by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) while Section 3 presents data from recent R&C financial assurance/bond amount authorization actions associated with each of the large mines now operating in Alaska. The next two sections present supporting information describing the sources of variability in costs in general (Section 4) and specifically for Alaska projects (Section 5). Section 6 presents DOWL's recommendations for changes to the percentage ranges for the indirect cost categories, which may be adopted as ADNR and ADEC finalize the draft Guidelines. Section 7 provides recommended narrative descriptions of each indirect cost parameter for inclusion in a revised version of the Guidelines. Section 8 presents a general summary and conclusions for the indirect cost report.

1.2 Alaska Guidelines - Indirect Cost Categories

The following discussion introduces and defines the seven indirect cost categories identified by ADNR and ADEC as the essential non-direct aspects of the R&C cost estimation process. Further discussion of Alaskan R&C cost variability is also provided in later sections of the report. For purposes of these Guidelines, the "contractor" being referenced is the R&C contractor hired by the State to execute the mine operator's R&C plan.

1.2.1 Contractor Profit

Contractor profit is broadly defined as the financial benefit to the contractor realized when the amount of revenue gained from a business activity exceeds the expenses, costs and taxes needed to sustain the activity.

The variability in contractor profit generally ranges from six percent to 10 percent of total direct cost, and is derived from the size of the project, type and extent of closure work needed, the project duration (i.e. will equipment have to remain onsite through a winter?), and the standards required to demonstrate successful closure. Smaller profit margins on simple and small projects may be justified while a contractor may expect greater profit margins when undertaking large, complex projects with a substantial amount of risk.

1.2.2 Contractor Overhead

Contractor overhead refers to all ongoing business expenses not including or related to direct labor, direct materials, or third-party expenses that are billed directly to a project. A number of cost elements that make up a contractor's non-direct, overhead cost total include: general management, insurance, marketing and proposal costs, internal quality control or quality assurance, home office rent, utilities, computers, phones, general accounting, and legal or other business costs that are not directly charged to each project.

The typical range in Contractor overhead cost is approximately four percent to eight percent of total direct cost, and can be impacted by R&C site circumstances. Remote mines or difficult situations where closure will require significant amounts of contractor management involvement can all result in increased overhead costs. Conversely, a small or simple project, finished in a short time would tend to lower the amount spent on overhead.

1.2.3 Performance and Payment Bonds

Performance and payment bonds are common in construction and are intended to protect the owner of a construction project (i.e. the State) from contractor failure to complete the contracted work scope. A performance bond provides security on the contractor fulfilling his contracted duties and includes promises to perform the construction within the agreed-upon scope and schedule. A payment bond protects the project's workers, suppliers of materials brought to or used by the contractor, and subcontractors from nonpayment by the contractor.

Variability in performance and payment bonds is much smaller than the percentage ranges experienced by most of the other indirect cost categories, typically 2.5 percent to 3.5 percent of the total direct cost. These bonds are required for virtually all publicly-financed construction or demolition work, and all contractors with operations large enough to pursue a mine closure would have an extensive history of bond coverage for their work. The range of construction bonding costs is primarily driven by proven Contractor experience and past performance on similarly complicated project work. A contractor that regularly does earthwork or revegetation/stabilization work at operating mines would have a lesser cost for the issuance of bonds for R&C work compared to a contractor with little to no experience.

1.2.4 Liability Insurance

Liability insurance is another common aspect of heavy construction costing. This indirect cost category provides an allowance for a contractor to pay the premium for commonly required liability insurance. The insurance premium amount is often calculated by multiplying the total labor cost by a standard percentage, generally 1.5 percent.

The variability in the cost of liability insurance is relatively small, driven by the contractor's historical experience with regard to worker injuries, while completing past construction or demolition project work. As with the performance and payment bond category, this cost is not very diverse, and the use of 1.5 percent times project labor costs is representative for most sites and construction firms.

1.2.5 Contract Administration

Contract administration refers to the costs required for the State (and cooperating federal agency, if applicable) to administer the R&C work, including the costs to find, hire, and manage the

efforts of the contractor. Contractor administration includes any State (or federal) field workers necessary to provide oversight of the closure and reclamation work.

The range of contract administration cost is typically from five percent to nine percent of the total direct cost, and can be impacted by the location, nature, and duration of R&C work, and whether specialized mine features or site circumstances are involved. Interviews with personnel from the federal agencies indicated that this indirect cost has recently been higher, more expensive, and more extensive than in the past. Typical of heavy construction and demolition projects, close or frequent inspections may be necessary to assure delivery of a sufficient level of quality in the final product.

1.2.6 Engineering Redesign

Engineering redesign is one of the more complex, specialized and variable indirect cost categories. This involves altering or updating the mine's Plan of Operations (POO) or R&C Plan to:

- Add enough detail and description for a contractor to comfortably bid on the full scope of the R&C work package;
- Confirm that the tasks and activities described in the R&C Plan are in fact appropriate, viable, and sufficient to achieve the R&C goals; and
- Prepare engineering plans and technical specifications necessary to depict what work is needed to properly and fully complete the R&C project.

The engineering design work would typically be conducted by an independent engineer prior to engaging an R&C contractor.

Variation in the cost of engineering redesign is an unavoidable by-product of the difference in quality and completeness of POOs for different mines including how they reflect changes and refinements to closure planning documents over the entire mine life. Typically after five to 10 or more years of operation, the mine's POO and R&C plan will be significantly more developed and complete because of the operator's experience with concurrent reclamation.

Engineering redesign costs range as a percentage of total direct costs from approximately three percent to seven percent of total direct cost. Factors influencing cost variability include size and

complexity of the R&C project, access, climate, total R&C program costs, the presence of acid rock drainage and metal leaching (ARD/ML), the need for long term water treatment, and remaining mine life.

1.2.7 Contingency (Scope and Bid)

An R&C project's contingency costs are divided into two essential aspects: scope contingency and bid contingency. Their definitions are similar, but these items deal with different aspects of the unknown variability of how a project will fare, and what unforeseen costs will arise during the execution of the R&C work. Scope contingency is a direct reflection of uncertainty in contract bid items or the completeness of detail in the R&C plan upon which the contractor has based their bid. Bid contingency deals with the cost uncertainty inherent in proposing, designing, and executing the construction work needed to implement an R&C plan.

The range of variability for contingency costs is distinctly larger than any of the other indirect cost categories proposed in ADNR's Guidelines. The range of percentages of total direct costs for scope contingency is approximately six percent to 11 percent and four percent to nine percent for bid contingency.

2.0 ASSESSMENT OF BASIS OF VARIOUS U.S. INDIRECT COST SYSTEMS

DOWL reviewed literature available from BLM, Office of Surface Mining (OSM[1]) and USFS supplemented with interviews of personnel from the mining and construction industries, as well as State and federal regulators as a way to gather information on the variability of indirect costs. The interviews were also used to determine how, from a practical standpoint, those costs are considered in developing estimates for R&C. The results of these conversations are reflected in the subsequent discussions although specific references have not been included.

2.1 Applicable Reclamation Cost Estimate Assumptions and Conditions

One fundamental aspect of Alaska's R&C cost estimation approach is the assumption that a mine operator would not be available to implement their own R&C plan, nor would their equipment be available to the State or its assignee (the contractor). This circumstance substantially increases the cost of implementing a mine's R&C program in the case of a default rather than under the anticipated normal course of events.

[1] The OSM Manual was used simply as a reference source for indirect costs. The manual is not discussed in detail since the coal program is managed separately from the other large mine projects in Alaska and not directly tied to this analysis.

The key assumptions placed into policy and regulation by the federal government, and observed by Alaska, are expressed in the following statements: (drawn from page 7 & 8 of Appendix A: ADNR/ADEC Guidelines)

- The cost estimate includes the cost of decommissioning facilities, reclamation, care and maintenance, long-term care and maintenance, and long-term post-closure costs, including water treatment.

- Closure and reclamation activities are being performed by a third party contractor hired by the State of Alaska. Third-party contractor rates are used to estimate equipment, material, and labor.

- Costs are based on rental equipment rates and the cost estimate must include mobilization and demobilization of equipment and equipment idle rates (*Report note: under Direct Costs*). It is assumed that no owner or mine operator equipment is physically and/or legally available at the time of mine closure.

- Costs are based on the mine site conditions anticipated to represent the point of maximum closure costs during the current five-year permit period. Costs calculated in this manner support financial assurance, ensuring that adequate funds are available regardless of the timing of bond forfeiture. For most large hard rock mines, this period will correspond to the point of maximum surface disturbance, which may occur at the end of the current permit term.

- Costs are based on a reasonable and probable mine closure scenario of the maximum disturbance during the five-year permit term and any long-term care costs associated with that disturbance.

- The cost estimate is based on the mine operator adhering to the approved R&C plan, and Waste Management Permit performance standards.

- To account for inflation and thus "interest-proof" a bond, add five years of compounded interest based on the average value over the last five years of Anchorage's consumer price index (CPI) values.

Table 1 presents a summary of cost percentage ranges across the indirect cost factors as suggested by various state and federal agencies.

2.2 Bureau of Land Management

The BLM's Surface Management Handbook (H-3809-1), released in September 2012, describes how BLM authorizes, permits and manages mining operations on the United States (U.S.) public lands they oversee. This document can be accessed at the BLM website. The BLM has permitted mining claims and dealt with R&C matters for almost 70 years, since its creation in 1946. The 3809 handbook details the BLM's guidance about R&C cost estimation and what BLM accepts as generally appropriate indirect cost factors. The indirect cost ranges cited in the 3809 Handbook for each of their cost categories are shown in Table 1, along with comparisons to other agency guidelines for indirect costs.

Table 1: Indirect Cost Category Percentage Ranges by Agency

Reclamation & Closure Work: Indirect Costs	BLM (H-3809-1,9/2012)	BLM (AKGuide 9/2014)	USFS Guide (2004)	OSM Handbook (4/2000)	SRCE (NV)	AK DNR Guidelines (2014 draft)
Contractor Profit	10%	10%	15 - 35%	15 - 30%	10%	10 - 20%
Contractor Overhead	---	---			---	5 - 10%
Perform./Payment Bonds	3%	3%			3%	3%
Liability Insurance	1.5% labor	1.5% labor			1.5% labor	1.5% labor
Contract Administration	6 - 10%	6 - 10%	2 - 7%	2 - 7%	6 - 10%	2 - 7%
Engineering Redesign	4 - 8%	4 - 8%	2 - 10%	2.5 - 6%	4 - 8%	3 - 6%
Contingency: Scope	4 - 10%	15%	4 - 30%	3 - 5%	4 - 10%	6-20%
Contingency: Bid			10 - 20%			10-20%
Indirect Costs (BLM)	21% of Contract Admin	21% of Contract Admin	---	---	21% of Contract Admin	---
Mobilization & Demob.	---	---	1 - 10%	10%	---	---
Agency Administration	---	---	2 - 7%	---	---	---
Inflation	---	---	5 - 20%	---	---	---
Indirect Category Percentage Totals (Overall Ranges)	**29-43.5%**	**41 - 49%**	**36-80+%**	**32.5-58%**	**29-43.5%**	**39.5 - 87%**

Overall, the indirect cost ranges established by the BLM have proven to be serviceable, with few changes until recently. Interviews with agency and industry personnel indicated the profit, bond,

insurance, and engineering redesign values are well-balanced and workable, without much undue variability. BLM does not have a specific category that accounts for contractor overhead, which means that their cost approach does not coincide with the State's Guidelines that includes this category. The contract administration range is relatively high, particularly when one considers BLM's approach adds 21 percent to the contract administration cost (by including the "indirect" costs category), meaning the indirect costs attributed to contract administration has a resulting range of values – just for BLM's expenditures – of approximately 7.3 percent to 12.1 percent total direct costs (121 percent of the six percent to 10 percent range). DOWL was unable to ascertain whether the BLM is expending this level of funding to administer mine closures. Given the cost impact of a group of these closure/cleanups, BLM's span of percentages for contract administration may currently be an appropriate and nationally realistic range. Lastly, the two contingency items (scope and bid) have been combined into one entry, four percent to 10 percent, whose upper end value may not always be sufficient to deal with modern problems and contingencies.

An indicator that the contingency range for BLM should be higher is provided in the next column of Table 1, where the percentage ranges for a recently published, Alaska-specific BLM bonding manual are shown (see Appendix B, BLM Alaska Mining Reclamation Bonding Guide, September 2014). DOWL confirmed that this Alaskan bonding guide is officially in effect, and points out that it generally advises use of the same assumptions and practices as the earlier 3809 Handbook, except for the shift in contingency to a single, increased value of 15 percent.

The result of the points cited above culminate in the general comment that it is unlikely that the BLM's indirect cost percentage ranges (in the Alaska Bonding Guide, page 10) will cause undue complications when future Large Mine Permitting Team (LMPT) personnel interact with mine operators operating on BLM lands, such as Nixon Fork mine.

2.3 United States Forest Service

The USFS manages its dealings with permits and mineral plans of operation, under their 2004 policy guide entitled: *Training Guide for Reclamation Bond Estimation and Administration* (Training Guide). In its bond guidance publication, the USFS provides instruction on how to incorporate direct and indirect costs in the preparation of R&C project costs. The USFS has a different set of authorizing legislation so its list of indirect cost categories does not entirely

match that of the BLM. The USFS uses a single cost range for all contractor's costs, which specifically includes four of ADNR's seven indirect costs, i.e. profit + overhead + bonding + liability insurance. The 15 percent to 35 percent range for this group of costs is higher than suggested in other documents, although the 35 percent value only applies to projects with less than $100,000 in direct costs. That threshold would not be applicable to large mines in Alaska. The graph shown in the Training Guide indicates a recommended percentage of 22 percent for this indirect item for a $1 million mine R&C project, and 15 percent for R&C work anywhere from $10 million to $100 million.

Similar to the BLM discussion, the contract administration category is buttressed by the item at the bottom of the page, agency administration, which covers the work performed by USFS personnel – field time (site inspection, monitoring and sampling) and administrative work. A percentage value of two percent is rather low for this category based on one of our phone interviews with USFS. That conversation revealed that USFS mine experience in the lower 48 has shown this item been time-consuming and has induced USFS agency management to press their personnel to plan on budgeting at least seven percent of total direct costs for this work item. This value would be higher than those currently in place at existing USFS sites in Alaska (Greens Creek and Kensington).

The USFS range for engineering redesign, two percent to 10 percent is relatively wide, but the higher end of the range seems to seldom be selected. Needing 10 percent of the total direct costs for redesign would imply significant revisions to an existing plan. Similar to this point, the scope contingency values include very high values, up to 30 percent, which the guide indicates is selected only for small mines and very rudimentary costs estimates, labeled as "Order of Magnitude" estimates. The USFS Training Guide suggests a more conservative range, six percent to 10 percent for scope contingency for the development of "definitive" cost estimates, and four percent to seven percent for "detailed" cost estimates. It is these last two percentage ranges that the USFS would normally apply to the State's large mines. The USFS bid contingency range is also substantial, at 10 percent to 20 percent. It should be noted that the bid contingency values selected recently for the Greens Creek and Kensington mines are just 6.5 percent and four percent, respectively (Discussed in Table 2 in Section 3.0).

The last item of concern or complication for the USFS indirect cost system is their insertion of a mobilization and demobilization item into their indirect cost categories. This is inconsistent with all of the other agencies' indirect cost arrays. The mobilization and demobilization costs can generally be accurately planned and cost estimated, and are directly related to specific project activities, justifying their inclusion as a direct cost.

The USFS is (reportedly) undertaking an effort to update their Training Guide to account for lessons learned since its original development. This is anticipated to include additions specific to bonding and potential long-term liabilities like water treatment, and may be published and put into use as early as late 2015.

2.4 State of Nevada – Standardized Reclamation Cost Estimator System

The State of Nevada wanted to standardize and simplify their annual mine bonding process, so the Nevada Department of Environmental Protection (NDEP) worked with the U.S. Department of the Interior, the BLM, the Nevada Mining Association, SRK Consulting, and the Nevada mining industry to develop a R&C cost estimation software with cross-referenced cost database spreadsheets. Standardized cost database spreadsheets are updated by the NDEP Bureau of Mining Regulation and Reclamation (BMRR) on an annual basis. This involves the incorporation of source data obtained from contractor quotes, region-specific Davis-Bacon Labor Rates and applicable fuel and equipment rental rates, and RSMeans, among others.

The Standardized Reclamation Cost Estimator (SRCE) model provides its users with a set of established, standardized procedures, guidelines and tools to develop a complete R&C cost estimate. SRCE estimates are readily reviewable and have a built-in consistency because the labor, equipment, and materials costs are standardized (predetermined) and loaded into the program by the State of Nevada. It should be noted that the SRCE model was not developed or envisioned for ready use on Alaska projects; therefore, Alaska mine estimators would need to supplement the annual, basic SRCE program with additional, Alaska-specific information to yield viable cost totals from the software system.

Appendix C presents four pdf-output SRCE files to provide examples showing the array of work items included in the various R&C work categories, listing both direct and indirect items, a detail sheet on the "locked down" SRCE indirect cost percentages, a mobilization/demobilization labor

and equipment spreadsheet, and a set of pages that the pre-loaded wage rates assumed for the many categories of workers performing R&C work on mine sites.

The SRCE software developed for Nevada has been quite successful in simplifying and expediting review of mine closure R&C estimates, allowing improved confidence that each of the necessary closure work items have been accounted for. Since the mining industry contributed to the development of SRCE, mine operators are willing to input quantity estimates and trust the cost figures generated in the work category sub-total cells.

With regard to its indirect cost items, the locked-down SRCE program is, in DOWL's opinion, not conservative enough to meet the needs of Alaska, though it is well-assembled and thorough. It is likely that a modified version of the SRCE, with some carefully conceived software edits (discussed below) could serve Alaska just as well as the Nevada SRCE has served them. The adoption and use of Nevada's SRCE program has enabled them to update their mining surety bond amounts every year, for a wide array of NV mines.

The SRCE's contractor profit category is "fixed" at 10 percent for all operations (see Table 1 and Appendix C), which is a reasonable single value, but having the availability to select from a range would allow more flexibility in managing large Alaskan mine operators. SRCE does not include a contractor overhead indirect cost item, which means that those indirect expenses are rolled into the mine's direct costs. This would need some attention to be consistent with the Alaska Guidelines approach. The next two conventional indirect items are fine, with performance and payment bonds at a fixed three percent of total direct costs, and liability insurance at 1.5 percent of the direct labor costs total. Contract administration is set at six percent to 10 percent of total direct costs, and supplemented by the inclusion of an Indirect Costs item (drawn from the BLM indirect cost system), which covers Nevada's governmental miscellaneous labor and costs. This cost item is specified to be estimated at 21 percent of the contract administration item's costs, the same policy treatment as for the BLM 3809 package.

The engineering redesign category mirrors that of the BLM guidance, four percent to eight percent of total direct costs, with the SRCE paperwork imposing a restriction requiring the application of a six percent value for all mine total closure cost totals from $100,000 to $25 million. The contingency cost category does not split out bid and scope pieces, using a single percentage value instead. An eight percent indirect cost percentage is applied/levied on all mines

with closure cost totals from five million to $50 million, and a four percent total contingency is applied for projects that are forecast to cost more than $50 million. DOWL believes that these contingency values would not be sufficient for the risk that may be encountered with Alaska's challenging circumstances including remoteness and seasonal access.

2.5 State of Alaska – Department of Natural Resources Draft R&C Guidelines

The State of Alaska has vested responsibility for "all matters affecting exploration, development, and mining of the mineral resources of the state" with the ADNR. (See Alaska Statute [AS] 27.05.010 (a)) The ADNR's draft Guidelines describe how R&C cost estimates are to be prepared using a non-"locked down" SRCE software package, if one is available to the mine operator or their closure consultant. The requirements of full R&C are detailed in Alaska's statutes and regulations, and are available on ADNR's Mining, Land, and Water website (**http://dnr.alaska.gov/mlw/mining/index.cfm)** (see Appendix D for a partial booklet).

Similarly, and as cited in the regulations and the Guidelines, the R&C cost estimate must incorporate the State's wage rates, which are thoroughly described in the State of Alaska's Pamphlet 600 - Laborer's and Mechanics' Minimum Rates of Pay (see Appendix E). The pamphlet has up-to-date information on prevailing wages, accommodation provisions, per diem, fringe benefits, and special rates.

The Guidelines (see Appendix A), on pages 24 to 26, describe the percentage ranges proposed and/or adopted in 2009 by ADNR/ADEC for each of the seven indirect cost categories. Section 6.0 - Recommendations for Changes to Indirect Cost Ranges, within this report, details DOWL's suggestions regarding the current percentage ranges, and the updates that appear to be useful for simplifying the periodic mine closure cost estimation process, for Alaska's large mines.

2.6 Inflation – Calculated Factor Applied to Sum of Direct Costs + Indirect Costs

The inclusion of additional anticipated project costs due to general economic inflation is sometimes adopted when determining the total estimated R&C cost for a mine's future closure program, usually because the closure execution is imagined to be several years off. These additive costs can be estimated by determining the average rate of inflation over a recent period of years (Alaska uses a five-year period, which matches their five-year permit renewal), and then calculating how much that annual percentage rate, compounded over the years until the

envisioned default closure would occur escalates the amount needed to complete the closure. The inflation percentage value, multiplied by the sum of direct costs plus indirect costs yields a cost which is added to that subtotal, increasing the total closure cost. As a brief representation of this calculation here is a simple formula which demonstrates the essential mathematical thesis:

Five years of Municipality of Anchorage Consumer Price Index data (MOA CPI-Urban) shows: 2010: +1.8 percent, 2011: +3.2 percent, 2012: +2.2 percent, 2013: +3.1 percent, 2014: +1.6 percent; thus the average inflation rate for Anchorage over the 5-year period is (Sum of 11.9 percent / five years) = +2.4 percent / year average.

Presume that this average inflation rate is to be applied for a five-year period, when (example only) the highest closure cost circumstances are envisioned to be in effect, over the upcoming five-year permit period.

(1.024 * 1.024 * 1.024 * 1.024* 1.024) = 1.1259 is the computed inflation multiplier.

If the R&C direct costs + indirect costs subtotal were $1 million, the amount added for inflation would be $112,590; resulting in a financial assurance total closure cost of: $1.13 million.

(see also: Example of AK mine R&C cost calculation, last page of the Guidelines, Appendix A.)

3.0 INDIRECT COSTS ASSOCIATED WITH RECENT ALASKAN MINE PERMIT RENEWAL REVIEWS

Alaska currently has seven large mines in operation: Red Dog, Greens Creek, Fort Knox, Pogo, Kensington, Nixon Fork (which is currently in "Care & Maintenance" status) and Usibelli. The Usibelli Coal mine company has been in operation in the Healy and Lignite Creek valleys since 1943 and operates under the Alaska Surface Coal Mining Control and Reclamation Act regulations; therefore, it has not been included in the concept of lode mines for which the Guidelines were drafted. The Rock Creek mine (near Nome) was substantially closed by its operator, Nova Gold, in 2012 and has been included in the table and discussion of estimated mine closure cost examples since it is a recent example of a mine that has gone through interim closure, and is looking at permanent R&C in the near term.

Table 2 (below) summarizes the indirect cost percentages selected and costs computed to provide the future R&C funds anticipated or calculated to be necessary for successful, complete mine

R&C during various LMPT sessions, as part of the most recent periodic (five-year interval) mine permit renewals.

Table 2: Direct/Indirect Costs & Percentages for Recent AK Mining Projects (percent)

Reclamation & Closure Costs	Red Dog	Greens Creek	Ft Knox	Pogo	Kensington	Rock Creek	Nixon Fork
Direct Costs ($MM)	**$35.19**	**$68.43**	**$68.56**	**$29.83**	**$16.00**	**$9.95**	**$4.00**
Indirect Costs ($MM)	**15.80**	**28.23**	**27.61**	**13.45**	**7.60**	**3.46**	**1.88**
TOTAL R&C Costs ($MM)	**$50.99**	**$96.66**	**$96.17**	**$43.28**	**$23.60**	**$13.41**	**$5.88**
Cost estimate done	5/2009	6/2014	11/2013	9/2010	4/2013	2012	11/2011
Sum of Indirect %	**44.9%**	**41.3%**	**40.3%**	**45.1%**	**47.5%**	**34.7%**	**46.8%**
1st Mine operation	1989	1989	1996	2006	2010	2008	1995
Contractor Profit	10.4%	15%	15%	7.5%	10%	14.1%	10%
Contractor Overhead	2.2%			7.5%	5%		4%
Perf. & Payment Bonds	3.1%	3%	3%	3.5%	3%	3.4%	3.4%
Liability Insurance	0.3%	0.5%	0.3%	1.7%	1.5%	0.4%	0.5%
Contract Administration	12.3%	7%	8%	4.8%	7%	1.2%	10.9%
Engineering Redesign	4%	2.75%	4%	2%	5%	3.3%	6%
Contingency: Scope	12.6%	6.5%	10%	9%	12%	12.2%	6%
Contingency: Bid		6.5%		9%	4%		6%

Notes: Some of the mines' Total Cost figures do not account for Net Present Value of long-term costs and, therefore may differ from financial assurance amounts approved by the State.

When one of the mine's Total R&C Cost agreement involved Agency Administration costs (USFS) or indirect costs (BLM), or State Agency Oversight costs (AK), those costs were merged into the Contract Administration category, for consistency of comparison. In two instances (Pogo & Red Dog), the mobilization & demobilization costs estimated for the closure program were removed from the indirect costs and added to the direct cost total; then the percent of indirect cost percentages were adjusted accordingly.

The Red Dog indirect cost factor percentages shown represent the costs estimated to perform only the basic mine reclamation & closure program, totaling approximately $51 MM, but do not include the cost of permanent, perpetual site water treatment which has been estimated to require additional bonding of $254 MM (NPV). The Indirect cost percentages shown do not apply to the significant Long Term Water Treatment program, for which no indirect costs values were presented in the 2009 report.

Several aspects of the Alaska large mine data depicted in Table 2 are worth discussion. One interesting detail is that the "**Sum of Indirect Cost Percent**" row indicates all of these mines, except for Rock Creek, total to a small range of multiplier percentages, i.e. from 40.3 percent to 47.5 percent. This is despite the major difference in periods of operation (ranging from Greens Creek at 26 years to Pogo at nine years) and overall scale of R&C costs (Greens Creek at $97MM to Nixon Fork at $5.9 MM). The indirect cost multiplier sum for all these Alaskan mines is in the same general range – being only a few percentage points apart (less than a 20 percent variance). Given the disparity in the individual environment, scale, age, and other circumstances at these mines, and the important factors discussed later in this report, it is useful to remember that the closure cost estimation process does not seem to result in significant variability.

The data presented in Table 2 reflects a notable increase in total R&C costs for large mining projects in Alaska, as compared to the prior R&C estimates (i.e. the array of total cost estimates developed during the previous five year permit renewal period). An informational ADNR e-mail in September 2010 indicated that (at that time) the sum of bonded amounts for the seven Alaska large mines shown in Table 2 was $417.1 million. The total financial assurance amount in place for the Red Dog mine was $305 million, which is still the case today. Thus the sum of bonding required for the other six mines in 2010 totaled to $112.1 million. In late 2014, just over four years later, the total sum of bond amounts required for those same six mines was $279.1 million, which is about 2.5 times the amount required previously. Based on discussions with agency and industry personnel, DOWL attributes this substantial rise to several causes, including: substantially increased mine footprints, the impact of U.S. economic complications on the mining industry, and increased attention to the future costs of long-term water treatment, before and after closure. It also appears that Alaska's large mine operators are using more modern and thorough R&C estimation practices, which have made the process of mine closure planning more integrated, complete, and realistic.

It is reassuring to note that neither the BLM or the USFS, nor the State personnel who review and comment on the permit renewal packages, which determine the indirect cost percentage values, are required to always remain within the suggested "range" of percentage multipliers for each of the categories. A few instances of category percent values below the suggested federal ranges are present in Table 2. There are times (which was discussed with state and federal

personnel during our phone interviews) when one selected indirect cost category percentage value is somewhat high and another somewhat low, but it remains true that the overall sum of the indirect cost percentage total is appropriate for the mine-specific conditions under consideration.

4.0 DESCRIPTION AND DISCUSSION OF GENERAL VARIABLES THAT AFFECT INDIRECT COSTS

Many individual factors and variables affect the total cost of a mine's R&C program. Each mine faces an array of specific, familiar costs in order to remain in operation, and most mines nationwide are similar with regard to how their daily, ongoing expenditures are prioritized and justified. However, a few mine-specific circumstances strongly affect a mine's overall operations budget and fiscal success. The four variables that clearly deserve discussion because of their importance to a mine's viability, regardless of its location, are as follows: 1) the scale and complexity of the operation; 2) the applicable mining law and regulatory oversight; 3) the relative presence or absence of ARD/ML; and 4) the type of operation: surface or underground mine operations. Each of these variables is described below followed by a discussion of how these variables influence each indirect cost factor.

4.1 Scale/Complexity

Scale refers to the physical size/acreage and cost magnitude of the operating mine, and its detailed R&C program. Complexity, in this instance, refers to the degree of specialization and complications faced in executing the operation of the entire mine process. The significant differences in approach when facing critical decisions for a large (and/or complex) mine compared to a small mine (say Red Dog versus Nixon Fork) are obvious and the mechanics of planning and funding the same tasks would be much more expensive and time-consuming for the large, often (but not always) more complex mine. The level of involvement and attention from a management perspective would not involve the same number of personnel at the small (or simply operated) mine, and the effort to develop a reclamation plan would differ in response to the need to respond properly to the higher expectations of size and complexity. The ramifications and impacts of design errors or missteps would have different magnitudes, yet the large/complex mine program would have the benefit of reducing the overall impact of such errors as a percentage of the total program cost.

The aspect of Complexity is evidenced when a mine has entirely separate processes present to accomplish their work safely and under full environmental control. Complexity pertains when a mine is facing unusual or unique conditions, which then lead to specialized, expensive R&C techniques that increase direct and indirect costs.

4.2 Applicable Mining Law and Regulatory Oversight

Nationally, there are a number of governmental entities and agencies responsible for administration of mining permits and working through the R&C process. Federally, both BLM and USFS coordinate closely with the mine operator's personnel operating on their lands, as well as the Environmental Protection Agency (EPA), which deals with Superfund sites. Many states manage the mine operations within their boundaries, and their laws vary from state to state. Alaska's mining regulations are rigorous and actively enforced.

4.3 Presence of Acid Rock Drainage/Metal Leaching

The presence or absence of ARD/ML, results in major differences between site to site costs for permanent mine closure. If a mine site must deal with moderate or strong ARD/ML conditions, the long-term costs to operate water treatment facilities can be substantial. Long-term monitoring and treatment for ARD/ML likely means that expenditures at the mine property would continue beyond the common 30-year timeline for post-closure monitoring at both ARD and non-ARD mine sites. (typically testing at 1, 2, 5, 10, 15, 20, and 30 years after closure is completed; implementing the language of 18 Alaska Administrative Code (AAC) 60.490(c). For reactive ARD/ML materials, such as at Red Dog, the period of water treatment can stretch to perpetuity) Similarly, the choice of installing "wet" or "dry" tailing disposal facilities because of the reactivity of the site's geological conditions will alter many aspects of the R&C process. The cost ramifications of these infrastructure decisions will impact the mine to and beyond closure.

4.4 Surface vs Underground Mine Operations

Although not as dramatic a difference as for some other variables, the mining methods and nuances of surface mines are distinctly different than those executed at underground mine operations. The heavy equipment used, the ore transport means, volume and grade of material being transported and processed, means of reclamation and training/experience of the mine labor force are all similar but also different in specific ways. Some aspects of each class of mine work are more difficult than the other, while others are simpler and readily safer.

It will be useful when evaluating the direct and indirect cost factors of a mine to keep in mind the effects of this variable, and weighing the operational impacts properly.

4.5 Summary of Effect on Indirect Cost Factors

Table 3 describes the effect of scale/complexity of the operation, the applicable mining law and regulatory oversight, presence of acid rock drainage and/or metal leaching, and surface/underground operations on each of the indirect cost variables.

Table 3: Effects of Independent Variables on Indirect Cost Factors

Contractor Profit	
Scale/Complexity	Larger scale could cause contractor profit to trend within the lower end of the percentage range to a point, due to likely long-term project consistency and opportunities for profit. Large projects, without undue complexity, tend to provide time for the contractor to identify cost-saving methods in order to accomplish the work at hand. Greater complexity of the mine's overall processes will cause contractor profit to trend toward the higher end of the percentage range, because accomplishing the R&C tasks required to reach closure will involve more specialized and challenging tasks. Thus these two aspects of a mine's position within the realm of possible examples can be supplemental (trending to top or bottom of percentage value range), or countervailing (bringing percentage to middle of percentage value range).
Applicable Mining Law and Regulatory Oversight	Uniformity and widely known, well-publicized content of Alaska's mining regulations should enable third-party contractors to work with modest profit goals.
Presence of Acid Rock Drainage/Metal Leaching (ARD/ML)	The presence of ARD/ML makes each aspect of the heavy construction work, water treatment, tailings storage work, and other closure measures more challenging, and difficult. The contractor profit cost percentage chosen to assure contractor will be protected despite high cost of missteps will trend to the higher end of this percentage range.
Surface/Underground Operations	Contractors view R&C of surface mines to be analogous to normal heavy construction work, and thus adopt normal, conservative cost percentage values for familiar work. Alternatively, underground R&C requires UG-qualified operators and specialized equipment, thus work is more challenging and profit percentage requirements will generally trend to upper portion of range.
Contractor Overhead	
Scale/Complexity	Larger scale projects will tend to influence contractor overhead to trend the lower end of the percentage range, since many overhead costs are relatively fixed. Mines that are more complex which require specialized R&C work will trend to the middle or higher end of the percentage range, depending on how much specialization is needed, so that the overhead attributes of the additional work is proportionately larger than typical closure efforts.

Applicable Mining Law and Regulatory Oversight	The regulatory requirements of mine closure require well organized construction work processes, and attention to detail. Usually not unduly expensive as regards overhead costs, so remaining within the percentage range is viable.
Presence of Acid Rock Drainage/Metal Leaching	The presence of reactive base materials and resulting ARD/ML will expand the costs of project work, and make more complicated, carefully designed and implemented features/solutions necessary. Overhead is likely to be on the higher end of this percentage range, because of the increase in specialized equipment, cover materials, and knowledgeable labor forces that lead to more detailed documentation.
Surface/Underground Operations	The differential R&C practices caused by execution of closure work at surface vs underground work are not likely to cause contractor overhead costs, as a factor of direct costs, to automatically swing up or down. Absent other factors this variable should leave the percentage value selected to be in the middle of the range.
Performance/ Payment Bonds	
Scale/Complexity	When evaluating the scale of a closure, this percentage value is not likely to see variation, since bond premium is linear with direct costs. If the R&C work involves a distinctly complex mine closure, this indirect cost percentage will probably trend to high end of the narrow range
Applicable Mining Law and Regulatory Oversight	No effect is likely because work demands for Alaskan mine closure are similar to other heavy construction projects.
Presence of Acid Rock Drainage/Metal Leaching	The risk of failing while performing this work is higher than typical for generic mine R&C work. Indirect cost percentage will generally trend to high end of the narrow range.
Surface/Underground Operations	No effect is likely because the work demands for Alaskan mine closures, particularly for surface operations, are similar to other heavy construction projects. For underground mine closures, where qualified workers are harder to find, the premium is still likely to be linear with those direct costs.
Liability Insurance	
Scale/Complexity	Likely no variation due to either scale or complexity, since the insurance premium cost is linear with labor costs.
Applicable Mining Law and Regulatory Oversight	No effect is likely because the work demands are familiar and liability insurance costs for Alaskan heavy construction and demolition work are within normal bounds.
Presence of Acid Rock Drainage/Metal Leaching	Likely no variation due to either scale or complexity, since the insurance premium cost is linear with labor costs.
Surface/Underground Operations	Likely no variation due to either scale or complexity, since the insurance premium cost is linear with labor costs.

Contract Administration	
Scale/Complexity	Larger scale closures could shift costs to lower end of percentage range, as inspection and testing, along with other oversight activities, would be more uniform and efficient. Alternatively, the R&C efforts at more complex mine operations with increased specialization can push costs to upper end of percentage range, in order to provide diverse inspection personnel, heightened attention and man-hour needs to assure that more unusual tasks are successfully completed.
Applicable Mining Law and Regulatory Oversight	The expectations of regulatory regime for proper inspections and consistent closure process control in Alaska shouldn't be higher than the cost range shown.
Presence of Acid Rock Drainage/Metal Leaching	Would probably remain in middle of indicated cost percentage range, because required inspection and testing and other oversight activities would be frequent, well-defined, efficient and predictable.
Surface/Underground Operations	Oversight and contract administration for both surface and underground operations are common enough to remain within the cost percentage range shown.
Engineering Redesign	
Scale/Complexity	R&C design costs for larger scale mines could trend to the lower end of the percentage range, since (theoretically) management would actively plan out closure, and do extensive amount of detailed design work during the period of mine operation – which is available even in default situation. Highly complex operations will need more extensive closure plan sets and specification guidance to inform and compel contractor and administration team, thus pushing redesign expenditures to the higher end of the percentage range.
Applicable Mining Law and Regulatory Oversight	The State's regulations clearly require thorough Reclamation plans, and modern solutions for site stabilization and revegetation. Completing the reclamation, closure and post-closure work takes knowledgeable design effort, which should generally remain within the percentage range indicated.
Presence of Acid Rock Drainage/Metal Leaching	These indirect (redesign) costs are likely to be at higher end of cost item's percentage range, because conclusively determining which materials are ARD, where they are located, and what will stop contaminant release takes close attention, beyond merely accepting the operator's test results. Substantial engineering, for design aspects such as cover design, blanket material and installation techniques will be needed to protect the environment when ARD/ML has been identified. This will consistently push the redesign cost percentage values to the upper end of range.
Surface/Underground Operations	Neither surface nor underground mines are unduly difficult to provide closure designs for, given reasonable attention to ongoing planning and R&C design during ongoing operation. This variable should not cause the costs of redesign to shift beyond the percentage range indicated.

Contingency	
Scale/Complexity	Contingency costs could trend either way after due consideration of both of these mine aspects, as with variables other than Scale/Complexity. Would probably shift to lower end of percentage range for Bid Contingency with increased Scale, because the funds available for closure would draw out process efficiencies over time, as ongoing "continuous" reclamation progresses. Increased Complexity will lead to more uncertainty about best, most assured course of closure action, pushing percentage selection for both Bid and Scope Contingency to upper portion of indicated ranges.
Applicable Mining Law and Regulatory Oversight	The uncertainty of accurately identifying specific direct and indirect mine site costs is lessened when the applicable reclamation requirements are consistent and well known. This indirect cost should generally run in middle of percentage range.
Presence of Acid Rock Drainage/Metal Leaching	These indirect costs are likely to be at higher end of percentage range, for both Scale and Complexity circumstances, since the bid contingency risk is heightened for either of these factors, and the scope contingency risk is also increased – surprises discovered during closure work will or can require some amendments to the original scope of project work. "Economies of Scale" would make the cost for these two aspects of contingency trend to the lower end of the percentage range, for large mines, but the limited availability of contractors capable and willing to face the uncertainty and risk of ARD/ML will push the percentage value upward toward the high end of the range.
Surface/Underground Operations	As with most of the other variables, both surface and underground operations are familiar to the construction industry, though UG work requires the services of a smaller cadre of qualified personnel. It is anticipated that the surface closures would trend to the lower half of this percentage range, while the underground work would trend to the upper half of the percentage range, all else being equal.

5.0 DESCRIPTION AND DISCUSSION OF ALASKA-SPECIFIC VARIABLES THAT AFFECT INDIRECT COSTS

Part of the development of indirect cost information presented within this report involved facilitating telephone calls to a number of regulators and industry representatives. These included personnel from ADNR, ADEC, Alaska Department of Revenue, BLM, USFS, EPA, heavy construction contractors, and closure-knowledgeable mining industry consultants (see Appendix F, for telephone interviewee listing). Based on those conversations and the information gleaned from reviewing relevant literature, DOWL suggests that the following Alaska-specific variables induce effects on the R&C indirect costs, which are particularly important because of their ramifications for mining operations. We recognize that these variables affect the operation and closure of mines outside of Alaska too, but propose that they are particularly powerful and expensive when not available (access) or relatively extreme (climate) – which is often the case for most of our large Alaskan mines.

5.1 Access to Minesite

Only two of the seven large mines in Alaska are serviced by an all-weather highway: Fort Knox and Usibelli's Healy Coal mine. In addition to having access to the state highway network, the Alaska Railroad passes within 20 miles of Fort Knox, and runs along the edge of the Usibelli mine's western border so that the mine tipple can load railcars directly from their coal stockpile. The year-around access to these two mines facilitates the cost-effective transport of mine workers, heavy equipment, fuel, parts, and supplies. The Pogo mine is also accessible by gravel road, but that gravel-surfaced industrial-use road runs almost 50 miles from the Richardson Highway to mine site. Access from the coastline docks to the Greens Creek and Kensington mines is more reliable than access to either of the remote Red Dog and Nixon Fork mines.

Alaska Mine Access
Fort Knox – Road
Usibelli – Road
Pogo – Road + Airstrip
Greens Creek – Marine + Floatplane + Helicopter
Kensington – Marine + Helicopter
Red Dog – Marine (limited season) + Road + Airstrip
Nixon Fork – Riverine (limited season) + Airstrip

Each of these mines has a degree of air access, primarily for safety and emergency egress reasons. Many of the active exploration projects in Alaska are also quite remote, like Arctic, Bornite, and Donlin, which are supported primarily by aircraft (See Appendix G, Alaska Mining Regions map, modeled from DNR's annual Alaska Minerals Industry report)

The mobilization and demobilization of personnel and shipment of equipment, supplies, and other goods to or from a mine in order to complete its R&C should be calculated and logged as direct costs, since they are directly related to the execution of R&C activities at the site. However, the complications of having limited load capacity or difficult and interrupted site access affects the indirect cost categories by leading to uncertainty in the normal estimation of many closure activities, which can cause changes in the indirect percentages. Closure planners in Alaska need to recognize the importance of developing rational, efficient, and workable task estimates in determining direct costs at remote sites to reduce the uncertainty that can increase indirect cost factors. At the same time, the development and selection of a few of the indirect cost percentages should incorporate an assessment of the potential failure modes that can affect rural, remote work. The intent is to consider the risks associated with remote construction without imposing the same costs twice, as part of the direct cost decisions and then again with

indirect cost escalation. Instead, the risk and contingency accommodations should only be applied once, with each of the indirect cost category choices.

5.2 Climate Extremes

Alaska is known for its extreme weather – low temperatures, high snow loads, annual rainfall, steady or very high winds and either continuous daylight or no daylight. (see Appendix H, Alaska Climate areas map) All of these can affect the productivity and suitability of accomplishing heavy construction and demolition work. The far north has limited or no daylight in the winter (when it is possible to get permitted to travel, because the ground is frozen and protected by snow or ice). In some cases, the cold or lack of light may make some R&C activities too expensive or difficult to do properly; in other cases it may be more practical to conduct construction work when the ground is frozen and "strong". These environmental factors also have high variability so that one can complete a cost estimate on the basis of known average statistical information, and hope that average weather ensues during the period of closure project work. Risk should be evaluated and costs assigned (such as with the Contingency factor), but it is also recognized as not appropriate, by instructions within the federal guidance documents, to attempt to cover the costs of the "worst possible event".

5.3 Maturity of Mine Operations

The longer a mine has been in operation, the more iterations of mine permit renewals will have occurred and the more detailed, comprehensive, and viable the R&C plan will have become. The time period of mine operations has been referred to by some state personnel as a mine's "maturity" level, where site-specific uncertainty is dramatically reduced from the experience gained during operation. The observation was made by ADEC that as this maturity grows the confidence of how best to accomplish that mine's closure is improved. This increase in confidence results in a decrease in procedural uncertainty and should be acknowledged with a decrease in several of the indirect cost category percentages. ADEC has proposed that they and ADNR adopt a policy to use the sum of indirect percentages as a yardstick to ensure sufficient caution has been observed in selecting those percentages. Under this approach, when evaluating "young" mines (10 years of operation or less), ADNR and ADEC staff would endeavor to have the sum of indirect percentages at 50 percent or more, while for 10 to 15 year old mines, 45 percent would be appropriate, and if more than 15 years of operation had passed, a total of

40 percent would be acceptable (see Appendix I, AK Historical Table of Indirect Cost Percentage Values – ADEC). Not all ADEC personnel agreed with this approach nor did most of the ADNR personnel who are regularly involved with the LMPT. It was asked that DOWL review and think on this idea, and be ready to discuss it at the Indirect Cost Workshop that will close out this project.

DOWL agrees that the trend of the Alaskan large mines' histories currently available (Table 2) shows some evidence that the sum of indirect percentages is a crude indicator of whether the total indirect cost is being set sufficiently high to meet its R&C requirements. However, as a policy, the many individual and special circumstances at these large mines makes this measure no better than a mere trend indicator, not an accurate decision parameter. It would be very difficult to defend this maturity concept, with the limited and mixed mine data available, and the irregular array of LMPT agency teams that have discussed and then settled on the percentage values now recorded as indirect cost history. Experience in the use of SRCE programs by our Alaska mines is developing, but is not currently in a steady, predictable place.

Although the total years of operation, reflecting a mine's maturity, is not a definitive marker, it is a useful factor with regard to the mine's indirect cost percentages being selected and will often affect those choices.

5.4 Summary of Effect on Indirect Cost Factors

Table 4 describes the effect of three "Alaska-specific" variables; mine site access, climate extremes, and maturity of mine operations on each of the seven indirect cost factors.

Table 4: Effects of Alaska-specific Variables on Indirect Cost Factors

Contractor Profit	
Access to Mine Site	It is common that a contractor working very remotely, hundreds of miles off the road system in Alaska, will plan on earning higher profit percentage values, in order to assure that inevitable field surprises don't result in losses while executing the project. This would mean that such a project would trend upward into the higher portion of the cost percentage range.
Climate Extremes	Extreme climate can have a large effect on the total cost of completing the necessary R&C operations. So mine sites known for difficult climate conditions will be assigned higher cost percentage values. But despite this appreciation regarding the effects of periodic problems, enough climate data has been recorded, published and widely known so that unless an area is clearly known to experience regular weather extremes, it will not be automatically inferred. For many Alaskan mine sites this indirect cost category's percentage will trend upward from the middle values.
Maturity of Mine Operations	An older, "mature" mine (> 15 years in operation) will have experimented with different techniques and determined with some conviction what works when pursuing concurrent reclamation. Documentation of the experimentation will be available for the third-party contractor and consultant re-design engineers as well. These sites' contractor profit cost percentage values will generally trend from average down to lesser values for mature mines, with solid Reclamation & Closure Plans in place.
Contractor Overhead	
Access to Mine Site	Similar to the contractor profit discussion, the fixed costs for normal overhead activities and payments on difficult-to-access sites will be higher than the average of percentage range for this R&C work.
Climate Extremes	Weather extremes can seriously affect or stop progress on closure project work, and extend production times. This indirect cost category percentage will trend upward from the middle range values when climate extremes are expected during the period of closure effort.
Maturity of Mine Operations	The "mature" mines in Alaska will have spent more than a decade establishing who can provide needed services, and those well-experienced community businesses will usually be available to be called upon to perform when a default occurs. These mine sites' cost percentage values will trend from average down to the lesser percentage range values.
Performance/ Payment Bonds	
Access to Mine Site	For an experienced Alaskan contractor, the cost of bonds will not increase much just because the work is remote. But it will sometimes shift to the higher end of this narrow cost factor percentage range.

Climate Extremes	Unlikely that the existence of weather extremes will alter the use of a bonding category's normal rates.
Maturity of Mine Operations	For a "mature" mine, the cost of R&C bonding will not change much because, as noted above, the mine operator has often found what technique and service company works best. That information is often readily available for the default contractor to use. Often the lower risk of using aspects of available and extensive area knowledge will shift the bond premium to the lower end of this cost percentage range.
Liability Insurance	
Access to Mine Site	This cost percentage range will generally remain at 1.5% of labor costs, in almost any event since the labor expenditures increase linearly with difficulty.
Climate Extremes	This cost percentage range will generally remain at 1.5% of labor, in almost any event, since the weather extremes will be taken into account.
Maturity of Mine Operations	This cost percentage range will remain at 1.5%, because past successes will be emulated, and the insurance costs change proportionately with both increases and decreases in labor expenditures.
Contract Administration	
Access to Mine Site	The transportation charges necessary for mobilizing inspection and sampling personnel to access remote work is dramatically higher than normal work. The work hours and service periods for remote R&C workers can be appreciably longer than those at readily accessible mine sites. These increased costs will trend toward the top end of this percentage range when access is unusually challenging or costly.
Climate Extremes	Weather extremes can affect project work duration, but can usually be foreseen and the Direct cost accounted for. This cost percentage value will generally remain at middle-range levels.
Maturity of Mine Operations	Longer operation since start-up means a larger number of personnel will have worked at the mine and gained intimate knowledge of the mine's processes, circumstances and issues. Administering the R&C work more readily will tend to make these "mature" site's cost percentage values trend from average down to lower values.
Engineering Redesign	
Access to Mine Site	Given the sparse (and often under-sized) equipment available at Alaska's remote sites, and the presumption that the mine operator's equipment will not be available for R&C work, this is a highly volatile cost. Careful estimation after determining what heavy equipment can be practically brought to the mine site, and when, is crucial, which costs are expected to be thoroughly logged to Direct cost total. But caution and higher than normal percentage indirect cost is often necessary to deal with the redesign of various complications, whose solutions will be expensive.

Climate Extremes	Some R&C design solutions will be impacted or made essential as the engineers take into account unusual challenges, to assure that a site's weather will be handled by the features and materials installed (culverts, drainage, seed types and cover blankets). This indirect cost category percentage will generally trend upward from the middle range values.
Maturity of Mine Operations	The advanced condition of the mine's R&C design paperwork where closure is imminent should enable the redesign effort to be simpler than average, and likelihood of design failure lower. In this instance, the cost percentage values should trend to the lower end of this category's percentage range. If closure is still beyond the 5 year permit renewal period, and the mine's R&C documentation is not highly robust, the cost percentage will remain average in the range cited.
Contingency	
Access to Mine Site	As noted earlier, identifiable risk is dealt with by selecting this indirect cost category percentage carefully. Some remote work is done with long-established access means, and some is unique, untested. This indirect cost category will generally trend to the high end of the percentage range.
Climate Extremes	Depending on the type of weather common for an area, extreme events can be very destructive and expensive to repair. This cost category will regularly trend upward to the higher end of percentage range if extreme events have been shown to be statistically frequent.
Maturity of Mine Operations	If the envisioned closure plans have been relatively complete and well-formed, and the mine operations well-managed, and the diminished closure risks will sometimes require a lower cost percentage for contingency than average. If the default circumstances expose poor planning and past operations, the cost percentage values will trend to the higher end of this category's percentage range.

6.0 RECOMMENDATIONS FOR CHANGES TO INDIRECT COST RANGES

The previous report sections presented historical ranges for indirect costs identified by an assortment of entities, as well as rationale and comments about the variability of those costs. Based on our review of those information sources, DOWL makes the following observations and recommendations about what changes ADNR and ADEC should consider in order to improve the accuracy of the indirect costs portion of the Guidelines.

Contractor Profit: DOWL suggests that the previously proposed range of cost percentages for this indirect cost category, 10 percent to 20 percent, be reduced to **six percent** to **10 percent** of total direct costs, because of the evident acceptance of these values in both the agency percentage-range choices (BLM and SRCE-Nevada), and for the LMPT permit-renewal decision makers who specifically identified a profit percentage value (e.g., Pogo, Kensington, and Nixon Fork) and none of the other Alaska mines' Profit + Overhead percentages appear to suggest the adoption of a Profit percent larger than 10 percent. This range is narrower than the earlier one – only four percentage points instead of 10.

Contractor Overhead: DOWL suggests that the previously proposed range of cost percentages for this indirect cost category, five percent to 10 percent, be reduced to **four percent** to **eight percent** of total direct costs, partly because it would be consistent with the USFS range for this category. This range is also consistent with the currently-approved array of Alaskan mine percentage values, for six of the mines where the Profit + Overhead percentage values have been disclosed. Four percentage points in variability should allow the sum of Profit + Overhead to span from 10 percent to 18 percent.

Performance & Payment Bonds: DOWL suggests that the previously-proposed single cost percentage for this indirect cost category (3 percent) be widened to **2.5 percent** to **3.5 percent** of total direct costs, to allow for some variability depending on the risk associated with individual circumstances. We anticipate that 3 percent will still be the most common result for this cost category.

Liability Insurance: DOWL suggests that the previously-proposed single cost percentage for this indirect cost category, **1.5 percent x Total Direct Labor cost**, be retained, including the use of

the labor cost. The insurance industry is confident and comfortable with evaluating these rates, when labor costs are available.

Contract Administration: DOWL suggests that the previously proposed range of cost percentages for this indirect cost category, two percent to seven percent be narrowed slightly and raised to **five percent** to **nine percent** of total direct costs, because of the difficulties that both BLM and USFS report from mine closures in the lower 48 states. Some of the legacy closures have required highly intensive, and thus expensive, oversight and monitoring. Given the general caution of Alaska's public with regard to mine operations and particularly R&C activities, it is unlikely that the State will be able to manage a contract with less than five percent of direct costs, especially if that percentage includes expenses required by a partnering federal agency. It is probable that the occasional situation will warrant a percentage even higher than nine percent; however, it seems more practical to address the situation as it arises rather than widening this range to five percent to 10 percent, as a standard practice. Reviewing the agencies' published percentage ranges, and considering the current percentages in place for existing large Alaska mines, this is a relatively narrow, but consistent range. The Alaska-specific variables described above are intended to make this range viable.

Engineering Redesign: DOWL suggests that the previously proposed range of cost percentages for this indirect cost category, three percent to six percent, be widened slightly to **three percent** to **seven percent** of total direct costs, because of the breadth of discussion focused on this cost category during our phone interviews. Agreeing on what new design, or redesign, will be needed to deal with in a default situation is complex. A mine in its first permit review, with new and perhaps just a conceptual understanding of how full R&C is to be implemented would not warrant less than seven percent for design costs. Likewise, mature mines that have demonstrably considered R&C work may justify a three percent value for engineering redesign – particularly if supported by the Alaska-specific variables described.

Contingency: DOWL suggests that the previously proposed, rather wide ranges of cost percentage values for this indirect cost category, be reduced to reflect the results derived during virtually all of Alaska's recent permit renewal sessions. The 2009 Guidelines proposed six percent to 20 percent of total direct costs for scope contingency, which DOWL submits can be trimmed to a more typical percentage value range of **six percent** to **11 percent**. Similarly the

previous bid contingency percentage value range of 10 percent to 20 percent can be more readily defended and applied if adopted as a percentage range of **four percent to nine percent**.

The Contingency cost category is probably the most complex and wide-ranging with many elements to drive variability. Splitting the category into its constituent aspects (scope and bid) should simplify and enhance the matter of choosing mine-specific values. Again, thinking through the array of variables described above should help to resolve the cost-altering effects of any mine-specific issues such as access, climate, ARD/ML, mine maturity, and overall scale/complexity of the closure package. Referring to both the current agency ranges (Table 1) and the current mine percentage values for Alaska's large mines (Table 2) indicates that these percentage ranges are consistent with available observations.

Table 5 represents the indirect cost ranges from the various sources and includes a column with DOWL's suggested ranges for indirect costs. Note that the indirect cost category percentage "Overall Ranges", for the sum of all of these seven indirect costs is approximately 31 percent to 58 percent, which is comparable to the array of other agencies. We believe this range offers more flexibility and simplicity in choosing within each of the category values and that each of these percentage ranges will work for Alaska mine projects.

Table 5: Indirect Cost Category Percentage Ranges by Agency

Reclamation & Closure Work: Indirect Costs	BLM (H-3809-1,9/2012)	BLM (AKGuide 9/2014)	USFS Guide (2004)	OSM Handbook (4/2000)	SRCE (NV)	AK DNR Guidelines (2014 draft)	DOWL
Contractor Profit	10%	10%	15 - 35%	15 - 30%	10%	10 - 20%	6 – 10%
Contractor Overhead	---	---			---	5 - 10%	4 – 8%
Perform./Payment Bonds	3%	3%			3%	3%	2.5 – 3.5%
Liability Insurance	1.5% labor	1.5% labor			1.5% labor	1.5% labor	1.5% labor
Contract Administration	6 - 10%	6 - 10%	2 - 7%	2 - 7%	6 - 10%	2 - 7%	5 – 9%
Engineering Redesign	4 - 8%	4 - 8%	2 - 10%	2.5 - 6%	4 - 8%	3 - 6%	3 – 7%
Contingency: Scope	4 - 10%	15%	4 - 30%	3 - 5%	4 - 10%	6-20%	6 – 11%
Contingency: Bid			10 - 20%			10-20%	4 - 9%
Indirect Costs (BLM)	21% of Contract Admin	21% of Contract Admin	---	---	21% of Contract Admin	---	---
Mobilization & Demob.	---	---	1 - 10%	10%	---	---	---
Agency Administration	---	---	2 - 7%	---	---	---	---
Inflation	---	---	5 - 20%	---	---	---	---
Indirect Category Percentage Totals (Overall Ranges)	**29-43.5%**	**41 - 49%**	**36-80+%**	**32.5-58%**	**29-43.5%**	**39.5 - 87%**	**31 – 58%**

7.0 RECOMMENDED NARRATIVES FOR INDIRECT COST CATEGORIES & DISCUSSION

Based on our understanding of the modern mine R&C process currently executed across the western U.S., as well as our familiarity with environmental cleanups and the Alaska construction and mining industries, DOWL proposes the following narratives for the respective indirect cost factors. (Our limited suggestions for changes and edits to the Guidelines, Sections 3 – 5, are shown in Appendix A)

The following are our proposed amendments to the Draft Guidelines, Sections 6 and 7:

- **Edits and insertions** are indicated with **bolded red font**, for ease and clarity.
- Deletions are shown by ~~strikethrough lines~~.

6 Indirect Closure Cost Approach

Indirect costs are added to the direct cost sub-total. These indirect costs are usually expressed as a percentage of the direct cost sub-total. SRCE systems estimate indirect costs either as a percentage of direct costs, or as a variable rate based on the magnitude of the direct costs **sub-total**. **The State of Alaska's envisioned** SRCE system **identifies the indirect cost categories as follows:** ~~**guidance document Indirect Costs Table (page 4-6):**~~

1. **Contractor** Profit
2. **Contractor** Overhead
3. Performance and Payment Bond**s**
4. Liability Insurance
5. Contractor Administration
6. Engineering Redesign
7. Contingency**: Scope and Bid**

~~Indirect costs are added to the direct cost sub-total. These indirect costs are usually expressed as a percentage of the direct cost sub-total.~~

6.1.1 **Contractor** Profit

The State of Alaska will contract with a third party contractor to perform the reclamation **and closure** work. It is therefore necessary to add an amount for contractor's profit and overhead because these costs are not included in the estimate of direct reclamation **and closure** costs. **Contractor profit is broadly defined as the financial benefit to the contractor realized when the amount of revenue gained from a business activity exceeds the expenses, costs and taxes needed to sustain the activity.**

The profit portion of the cost estimate will be calculated based on a percentage of the estimated total direct costs. The State of Alaska assumes that a reasonable profit margin ranges from **as low as six percent** of the total direct costs for large reclamation projects to **10 percent** for small **or medium** reclamation projects. Small R&C projects are those that are expected to have total costs less than $25 million dollars. Medium sized R&C projects should have total costs in the range of $25 to $100 million dollars. Large R&C project costs would exceed the $100 million dollar range.

6.1.2 Contractor Overhead

Contractor overhead refers to all ongoing business expenses not including or related to direct labor, direct materials, or third-party expenses that are billed directly to a project. Contractor overhead costs include: home support staff and services; labor benefits; costs for temporary facilities or company offices; office equipment and utilities; security; storage; insurance; taxes; contractor performance bonding; permits; and company vehicles. Reclamation projects vary in size, remoteness and complexity. Overhead costs will have a significant variance depending on the assets, operating techniques, and business structure of the individual contractor. However, all reclamation contractors will have overhead costs in addition to the costs for equipment, labor and materials that were included in the estimation of the direct reclamation costs. The State of Alaska assumes that reasonable overhead costs range from **as low as four percent** of the total direct costs for large reclamation projects to **eight percent** for small **or medium** reclamation projects.

6.1.3 Performance and Payment Bonds

A performance bond provides security on the contractor fulfilling his contracted duties and includes promises to perform the construction within the time frame provided and at the agreed-upon price. A payment bond protects the project's workers, suppliers of materials

brought to or used by the contractor, and subcontractors from nonpayment by the contractor.

State of Alaska statutes (AS 36.25.010) require both a performance bond and a payment bond for construction of projects administered by the State of Alaska. The cost of each of these bonds is **generally** estimated at from **1.0 percent to** 1.5% of the total direct costs, for a total **for this indirect cost category** of from **2.5 percent to 3.5 percent** of **total** direct costs.

6.1.4 Liability Insurance

An allowance for contractor liability insurance premium should be included at 1.5% of the total estimated labor costs for the project.

6.1.5 Contract Administration

~~This indirect cost is to pay for~~ **Contract administration is intended to cover** the cost of hiring a project management firm to inspect and supervise the work performed by the reclamation contractor and also the costs incurred by the State to forfeit the bond, administer reclamation / construction contracts, verify sampling and analyses, conduct site inspections, and other activities associated with the administration of the **reclamation and** closure project.

These contract administration costs are calculated as a percentage of the total direct costs and may range from **five percent** to **nine percent** of total direct costs. The contract administration amount accepted by the State of Alaska will be based upon the size of the overall bond, the level of complexity of the closure projects, and the anticipated duration of the active reclamation phase of the project closure. In general, large R&C projects will require a lower percentage of contract administration cost, versus small and medium sized R&C projects which will require higher percentages of the total direct cost for contract administration.

6.1.6 Engineering Redesign

The approved reclamation and closure plans may not adequately reflect **actual, challenging** site conditions at the time of bond forfeiture, and the projected quantities and quality of water to be treated may not be accurate or complete. In addition, the existing Reclamation **and Closure** Plan or proposed water treatment may not be sufficiently detailed to serve as **complete and readily bid** contract plans and specifications. Therefore, an updated or more detailed design will likely

need to be developed as part of the reclamation **and closure** process. In some cases the degree of engineering redesign may decrease as a mine matures and as more recent **iterations** of the reclamation and closure plan are more detailed **and workable for a third-party contractor**.

Activities associated with Engineering Redesign may include the following:

Prepare maps and plans to show the extent of the required reclamation.

Survey waste rock dumps and other facilities to determine the amount of material handling requirements.

Characterize waste rock dumps, and other **mine assets or** facilities, to determine if special closure requirements are necessary to minimize ARD / ML.

Evaluate proposed engineering covers for waste rock dumps and other facilities.

Perform column, pilot plant or other engineering studies to evaluate designs and performance of proposed wastewater treatment facilities.

Survey and analyze topsoil and overburden stockpiles to determine the amount of material available and whether special handling **or providing additional material** is required.

Evaluate structures to assess the difficulty **and specific parameters** of demolition and disposal or removal.

Evaluate impoundments to determine any special reclamation requirements or post-closure care and maintenance needs.

Contract for the completion of a hazardous materials survey **of the entire mine site**.

- Prepare reclamation / demolition / construction contract documents.

Engineering redesign costs are calculated as a percentage of the total direct costs and may range from **three percent** to **seven percent** of total direct costs. The engineering redesign "percentage multiplier" accepted by the State of Alaska will be based upon the level of detail in the current Reclamation **and Closure** Plan and detailed closure cost estimate, the number and nature of unknowns or assumptions incorporated into the plans, the complexity of the closure project, **the presence or absence of ARD/ML conditions** and the size of the overall bond.

6.1.7 Contingency: Scope and Bid

The financial assurance for the closure of the project must include a contingency allowance to account for uncertainties in the cost estimation **and contract bidding** process.

Contingency costs are separated into "scope" and "bid" contingencies. Scope contingency addresses the uncertainty inherent in producing a **viable, cost-effective** closure design.

Bid contingency addresses the cost uncertainty inherent in successfully proposing, designing and executing the actual construction or implementation of the reclamation plan or closure plan.

Scope contingency will likely vary over the life of a project. Some of the variables that affect the scope contingency include the amount and quality of engineering and environmental data that is used to support the reclamation plan and/or issuance of an ADEC Waste Management Permit for a new mining project including data associated with ground and surface water characterization, subgrade permeability, waste rock characterization, pit lake water geochemistry, geotechnical factors associated with permafrost, slope stability, etc. Scope contingency can range from 6 percent to 11 percent of total direct costs, depending on these variables. In general terms there is acceptance of the concept that scope contingency may be reduced over the life of mine under the assumption that the reclamation and closure plan cost estimate is supported by more and more detailed site and process information as the mine matures. But this must be demonstrated as iterations of the reclamation and closure cost estimate are prepared and reviewed over the life of the operating mine.

Even during active reclamation, there will always be some uncertainty associated with the project, so some scope contingency will be retained.

Bid contingency accounts for construction costs that are unforeseeable at the time of the bond estimate but that become known as actual reclamation and closure work is conducted. Bid contingency is sometimes referred to as "construction" contingency for this reason. These costs result from changes in site conditions or work required which necessitates the acceptance of additional costs and contract modifications, change orders and/or claims. Bid contingency for closure cost estimation will range from four percent to nine percent of total direct costs depending upon the complexity, scope and overall size of the reclamation project and the amount of accurate, detailed data available for the mine site.

7 Total Mine Closure Financial Assurance

The estimate for the total project closure financial assurance represents the sum of all direct, indirect and other costs such as inflation.

An example cost estimate Summary Table is shown below to illustrate the relationships between direct and various indirect costs.

8.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The State of Alaska has officially permitted and overseen mining activities at several large mines for decades. They have been joined in that oversight and authorization by representatives of the BLM and USFS for mines located wholly or partially on federal lands managed by these agencies. Alaska and the federal staff have coordinated closely in formulating periodic decisions on what each mine's operating permit requirements should include, as well as a forecasted total cost of closure in accordance with applicable regulations. The cost estimation process, by policy, presumes that the mining company would be in default in order to replicate the circumstances under which a third-party R&C contractor would be hired to implement the envisioned R&C project.

DOWL's review of the two federal manuals for mine R&C (and indirect cost percentage data from the third, OSM), which have been adopted to advise and guide BLM and USFS, found that their indirect cost categories are somewhat different than the seven category set of indirect costs proposed by ADNR and ADEC in their draft Guidelines. Relying on the comments and feedback from our mining industry telephone interviews, the underlying intent of each of the indirect cost estimation parameters is reasonable, and the various agency personnel serving on Alaska's LMPTs are fully able to mutually select cost category percentages that fit within the suggested ranges. The guidance documents do not represent the cited percentage ranges as rigid or mandatory values, but rather as workable ranges that occasionally have to be exceeded due to specific mine site circumstances.

Our telephone interviews revealed that BLM recently finalized and distributed a new, updated booklet, the *BLM Alaska Mining Reclamation Bonding Guide* (September 2014), to explain what their regulations authorize and require when creating or accepting a reclamation cost estimate, and how the associated financial assurance documents are to be prepared and reviewed (see Appendix B). In a similar telephone conversation, the USFS noted that they are also working on an update to their 2004 *Training Guide for Reclamation Bond Estimation and Administration*. They hope to revamp and bring up to date their instructions on how R&C cost estimate should be prepared and what must be included under the different direct and indirect cost categories.

With reference to guidance documents for government personnel working on the large mine R&C process, DOWL recognizes that the Alaska Mineral Commission also believes that new Guidelines should be completed and formally adopted. An excerpt from their 2012 Supplement Report stated (see Appendix J, Alaska Mineral Commission Report Supplement, 2012):

> "ADNR and ADEC collaborated in writing, *DRAFT Mine Closure and Reclamation Cost Estimation Guidelines*. The document has not been formally reviewed or adopted. With no official state guidelines for determining reclamation costs, calculation estimates, particularly of indirect costs, are subjective, and at the complete discretion of the state permit writer. Disagreement between the permittee and agencies on these costs is common, with differences in each party's calculations ranging up to 50 percent or more.
>
> Without approved guidelines, it is not possible for mining companies to meaningfully conduct financial planning for an operation until very late in the permitting process. The unpredictability of this significant financial liability is an unnecessary hardship for developing mines and a deterrent to attracting mining companies to invest in Alaska.
>
> The Commission supports the development of standardized guidelines and a standardized calculation model that is generally supported by industry and agencies alike. The ADNR should be tasked as lead on development of a standardized model acceptable to the public, stakeholders, state agencies, federal agencies, and industry. "

Telephone interviews with the LMPT personnel regarding the permit review period, revealed that the final selection of indirect cost percentages has often been the most difficult element of the coordinating-agencies' audit process. During the telephone interviews, both state and federal representatives felt that having narrower recommended percentage ranges for the cost categories would aid/speed their deliberations and assist their decisions. This position informed our review of the draft cost percentages. A potentially helpful practice that was described during the telephone interviews was the memorandum prepared by a state/federal group which met in 2014. The agency group documented, in some detail, their reasoning in weighing the various contributing factors and conditions at the Greens Creek mine that caused their selection of particular indirect cost percentage values. Once the state/federal agency team agreed on the content of their memo-to-the-file, it was passed on to the mine operator and will be reviewed as a useful starting point during the next permit renewal session.

Clearly, one important aspect of the Alaska LMPT's activities is working with the mine operators during the development and review of their five-year permit renewals to establish what the proper total closure cost is for the mine at that particular point in time. DOWL noted above that the increased use of comprehensive spreadsheets and close attention to the methods and costs of long-term monitoring and water treatment has affected recent closure cost values, many of which have more than doubled the computed financial assurance amount when compared with the previous audit's total closure cost result. Although the use of a formalized SRCE cost estimation system has not previously been adopted as state policy, we recommend that the ADNR and ADEC move toward the use of a software package similar to the SRCE-Nevada process. Once a software program has been created or an existing system molded to mesh with Alaska's entire array of closure tasks, the state could identify applicable Alaska-specific labor rates and equipment rental/usage rates for use within the software and have them updated on a regular basis. Having the critical unit costs (labor and equipment costs) correctly loaded and ready for use, as the spreadsheets calculate the hours of work needed to complete each work task, would make the validation of the SRCE-program closure cost subtotals easier because the input parameters would be either "locked down" by the State, or else readily reviewed, and therefore be more assured and reliable.

A follow-on recommendation to the possibility of developing an Alaskan version of the SRCE software, is that it would also be advantageous to maintain a "Lessons Learned" file or topic list which would be updated by the permit renewal team leader during and at the end of each permit review session(s). Documenting problems and successes, and then distributing the information to other personnel on the LMPT would better assure that good practices continue to be refined over time resulting in ever-improving review processes.

DOWL's last two recommendations stem from suggestions made by the ADNR, ADEC, and other state LMPT members that reviewed the draft report:

- One simple request was that we provide a better "definition of terms" which would be included as part of the report. A glossary or definition of key terms is an excellent idea that would be most effectively implemented as an addition to the Guidelines.

- Another comment suggested that the general and Alaska-specific variables described in Sections 4 and 5 should be used to develop a "decision tree" for choosing several of the

more difficult indirect cost factor percentage values. A decision tree could yield some distinct benefits in helping the permit review team to more consistently justify and select appropriate cost percentages. The State should consider such an undertaking after the existing work has been reviewed and vetted within the LMPT R&C review process. The usefulness of developing a decision tree will be a topic of discussion at the Indirect Costs/Guidelines Workshop which will close-out our Indirect Costs project on May 1st.

Finally, it is DOWL's conclusion that the seven indirect cost categories proposed by the ADNR and ADEC are suitable and complete, will not cause problems when coordination with federal agencies is needed, and that the proposed revisions to the Guidelines will better inform regulators and the mine operators about how mine R&C is required to be done in Alaska.

APPENDIX A

Alaska Mine Closure and Reclamation Cost Estimation Guidelines
DOWL's Suggested Edits

State of Alaska
Department of Natural Resources &
Department of Environmental Conservation

Mine Closure and Reclamation Cost Estimation Guidelines

April 2015~~August 2014~~

Disclaimer

These DRAFT Mine Closure and Cost Estimation Guidelines have been developed by technical review staff at the Division of Mining, Land & Water and the Department of Environmental Conservation.

These guidelines have not been adopted as official policy.

We welcome your comments, but will not be able to directly respond to every comment as these guidelines are not currently out for public notice.

Please send comments to:

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State of Alaska
Department of Natural Resources
Office of Project Management and Permitting
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Appendix A: Mine Closure & Reclamation Cost Estimation Guidelines – DOWL's proposed edits

List of Tables

1 Preface

The purpose of these guidelines is to provide a consistent methodology for mining companies to use when estimating the amount of financial assurance required for the closure of a mine and the regulatory agencies to use when reviewing the closure cost estimates. In these guidelines, the terms "bond," "financial assurance" and "proof of financial responsibility" are considered interchangeable and are not meant to suggest the requirement for a specific financial instrument used to satisfy the regulatory requirements. The mention of trade names of commercial equipment products is for illustrative purposes only and does not constitute endorsement or recommendation by the State of Alaska. This is meant to be a broad list of provisions that might apply at mines; all provisions are not meant to apply to all mines.

2 Acknowledgements

The information in these guidelines is derived in part from:

- *The Handbook for Calculation of Reclamation Bond Amounts*, U.S. Department of the Interior, Office of Surface Mining 2000 (USDI-OSM 2000), web link: http://www.osmre.gov/lrg/docs/directive882.pdf
- *The Training Guide for Reclamation Bond Estimation and Administration*, U.S. Department of Agriculture – Forest Service, April, 2004 (USDA-FS 2004), web link: http://www.fs.fed.us/geology/bond_guide_042004.pdf
- *Surface Management Handbook,* U.S. Department of Interior, Bureau of Land Management, September 2012 (H-3809-1 – Surface Management, Release 3-336), web link: http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_handbook.Par.9375.File.dat/3809%20Handbook.pdf
- *Nevada Standardized Reclamation Cost Estimator Model (SRCE)*, Nevada Cost Data File Version 1.4.1 Build 17, August 1, 2012, web link: Standardized Reclamation Cost Estimator - NVbond.org
- *SRCE User Manual, Public Domain Version, 1.12*, prepared with support from Barrick and SRK Consulting, September 2009, web link: http://www.nvbond.org/downloads/SRCE_User_Manual_1_3.pdf
- *Planning for Integrated Mine Closure: Tool Kit, International Council on Mining and Metals, 2008* (ICMM 2008), web link: http://www.icmm.com/document/310
- *BLM Alaska Mining Reclamation Bonding Guide,* U.S. Dept. of the Interior, Bureau of Land Management, Alaska State Office, Branch of Energy and Minerals; Sept. 2014,
- / This new BLM bonding guide should be available on the ADNR's LMPT website /

3 Introduction

3.1 Background and Purpose

Mine closure and reclamation, on all lands in Alaska is regulated by the State of Alaska. The Department of Natural Resources (ADNR) regulates reclamation and the Alaska Department of Environmental Conservation (ADEC) regulates mine facility closure under the State of Alaska Reclamation Act and the Solid Waste and Water Quality Regulations. Federal land management agencies also regulate the reclamation of mines located on federal land.

An important shared goal of the State agencies is to ensure the adequate closure and reclamation of all areas disturbed by mining operations. Mining operations are required to provide financial assurance sufficient for the site to be reclaimed in a stable condition (AS 27.19.020) and to manage and close the mine site in a manner that will control or minimize the risk of the release of unauthorized levels of pollutants from the facility (AS 46.03.100(f)). The financial assurance serves as a guarantee that facility closure and reclamation will be completed, waters will be protected, and in the event of bond forfeiture, that funds will be available for the regulatory agencies to contract for the necessary mine closure work.

The method presented here uses generally accepted engineering cost-estimating procedures to develop site-specific costs for each mine closure activity. Bond estimates calculated in this manner will ~~automatically~~ specifically account for differences in mine site conditions and post-mining land uses. This method should provide a rational and defensible approach to the estimation of total closure costs for the facility that will be acceptable to the State and consistent with state and federal laws.

3.2 Alaska Regulatory Setting

Alaska Statutes (AS) and Alaska Administrative Code (AAC) drive the requirements for financial assurance for mining projects in Alaska. Specifically, AS 27.19 focuses on reclamation, AS 27.21 applies to coal mines, AS 46.03 focuses on waste management, disposal, and discharge and AS 46.17 addresses dam and reservoir safety. Natural resources are addressed under AAC Title 11 ~~addresses~~ while AAC Title 18 covers environmental conservation. The following bullets provide a partial reference to the AS and ACC as they apply to financial assurance; readers seeking more detail are referred to the most current versions of these documents, available through the State of Alaska Legislature's website.

- AS 27.19.020 calls for contemporaneous reclamation as practicable and leaving a site in stable condition
- AS 27.19.030 establishes the requirement for an approved reclamation plan prior to mining
- AS 27.19.040(a) establishes ADNR authority to require financial assurance requirements and states that the assurance amount of $750 per acre does not apply to a lode mine.
- AS 27.21.160 establishes performance bond requirements for conducting coal mining and reclamation operations
- AS27.21.210 discusses environmental performance standards consistency with the Surface Mining Control and Reclamation act of 1977 for coal mines
- AS 37.14.800 establishes a mine reclamation trust fund
- AS 46.03.100(f) Establishes ADEC authority to require financial assurance. Establishes requirement for financial assurance for a mining waste disposal facility, for an operation that chemically processes ores, or has the potential to generate acid.
- 11 AAC 90.083 establishes reclamation plan general requirements for surface coal mines
- 11 AAC 90.201 establishes requirements for bond requirements for surface coal mines

11 AAC 93 establishes assurance for state jurisdictional dams

11 AAC 97.200 establishes land reclamation performance standards

11 AAC Article 4 (97.400) – Reclamation bonding

18 AAC 15.090 enables the State to attach terms and conditions to a permit or approval including operating, monitoring, sampling and reporting and posting of a performance (or surety) bond.

18 AAC 60.265 requires proof of financial responsibility for closing a landfill under the solid waste program

3.3 Terminology and Definitions

Terminology used in reclamation and closure can be inconsistent and open to interpretation based on the source and context (e.g. the term reclamation, an activity that is a subset of the mine closure process, is sometimes used interchangeably with the term closure).These guidelines use the following terminology and definitions developed from a variety of sources including AS 46.03.100 (f), AS 27.19:

- Closure– A process that extends over the mine life cycle and that typically culminates in site relinquishment once all legal closure obligations are completed. The level of detail of a closure plan will evolve for a mine site from conceptual design during permitting, to actual design and as-built specifications during operations, to when closure execution is ~~e~~imminent. The term closure alone is sometimes used to indicate the point at which operations cease, infrastructure is removed and management of the site is largely limited to monitoring.
- Closure and Reclamation Plan – for the purposes of this guideline, a closure and reclamation Plan refers to the plan(s) to close and reclaim the mine site. While AS 27.19.030 establishes the requirement for an approved reclamation plan prior to mining, a mine must have a plan covering both closure (overseen by ADEC) and reclamation (overseen by ADNR) to provide the basis of the closure cost estimate and subsequent financial assurance. A closure plan and a reclamation plan may be prepared separately, however, it is frequently preferable for a mine to submit a combined closure and reclamation Plan for agency approval to provide the basis of the cost estimate that includes all aspects of the mine closure period including (but not limited to) the following:
  - Holding Period Care and Maintenance – The State of Alaska refers to a holding period, which is a minimum 2-year interim care and maintenance period following the cessation of mine operations. Costs for the holding period are estimated to allow for the scenario where the state is required to obtain control of property from the mine operator (due to default by the mining company). The length of the holding period would allow time for the State of Alaska to complete legal proceedings and finalize closure plans and cost estimates.
  - Decommissioning – The process that begins near or at the cessation of mineral production and ends with the removal of all unwanted infrastructure and services.
  - Reclamation- The process of returning disturbed land to a stable and productive condition including regrading, recontouring, cover, and revegetation of mine waste stockpiles.
  - Care and maintenance – Activities required to maintain the site facilities necessary during closure execution and/or post-closure including long-term water treatment, maintenance of access (e.g. roads, airstrips) required for long-term care,

maintenance or monitoring, ditch or settling basin sediment removal and repair excessive damage from erosion and settlement.

  - Post-closure monitoring – A mine is considered to enter the post-closure monitoring period when all physical reclamation is complete, reclamation performance standards are achieved, active water treatment is no longer required, and any water released from the facility consistently meets all State Water Quality Standards. If the approved closure and reclamation plan requires passive water treatment (such as constructed wetland), the post-closure monitoring period starts after the use of passive water treatment has been demonstrated to be successful in achieving State Water Quality Standards at the point of discharge from the passive treatment system for two consecutive years. Post-closure monitoring may include such activities as water monitoring, vegetation monitoring, tailings and waste pile stability monitoring, subsidence monitoring, dam safety inspections and monitoring and cover performance monitoring.

- Closure and Reclamation Cost – The amount reasonably necessary to ensure performance of the approved closure and reclamation plan, including all of the aspects described in the definition of "closure" above. A basic premise of the closure and reclamation cost estimate for the purpose of this guideline is that the operator is not available to complete the closure work and the applicable government agency would need to perform the closure work through the services of a construction contractor. The closure cost is based upon the details of the work outlined in the approved closure and reclamation plan with updates based on site conditions at closure. The closure cost is an estimate of both the direct and indirect costs to reclaim the mineral operation described as the following:
  - Direct costs – costs estimates of materials, labor and expenses related to the execution of the closure and reclamation plan.
  - Indirect Costs – costs related to fees and charges over and above the direct closure costs. Such costs may be related to the planning, design, contracting, administration or actual performance of reclamation work. Either the overseeing agency or its contractor incurs these costs.

- Financial Assurance – Financial assurance for mine closure is based on the closure cost calculation tied to the approved closure and reclamation plan. The State of Alaska requires financial assurance for mine operations according to AS 46.03.100 (f)): " A person who applies for an authorization to operate a solid waste disposal facility that accepts hazardous waste or a mining waste disposal facility for an operation that chemically processes ores or has the potential to generate acid shall furnish to the department proof of financial responsibility to manage and close the facility in a manner that the department finds will control or minimize the risk of the release of unauthorized levels of pollutants from the facility to waters." The State of Alaska also requires financial assurance for reclamation under AS 27.19.040(b): "The commissioner shall require an individual financial assurance in an amount not to exceed an amount reasonably necessary to ensure the faithful performance of the requirements of the approved reclamation plan. The commissioner shall establish the amount of the financial assurance to reflect the reasonable and probable costs of reclamation. The assurance amount may not exceed $750 for each acre of mined area, except that the $750 an acre limitation does not apply to the assurance amount required for a lode mine." Financial assurance in the State of Alaska is referenced in other statutes and regulations, including those noted above in Section 3.2.

3.4 Closure and Reclamation Cost Assumptions

Fundamental assumptions inherent in calculating the mine closure and reclamation cost include:

- The cost estimate includes cost of decommissioning of facilities, reclamation, care and maintenance, long-term care and maintenance, and long-term post-closure costs.
- Closure and reclamation activities are being performed by a third-party contractor hired by the State of Alaska. Third-party contractor rates are used to estimate equipment, material and labor.
- Costs are based on rental equipment rates and the cost estimate must include mobilization and demobilization of equipment. It is assumed that no owner or mine operator heavy equipment is available at the time of mine closure.
- Costs are based on the mine site conditions anticipated to represent the point of maximum closure costs for the current 5-year permit term. Costs calculated in this manner support financial assurance ensuring that adequate funds are available regardless of the timing of bond forfeiture. For most large hard rock mines, this period will correspond to the point of maximum surface disturbance, which may occur at the end of the current permit term.
- Costs are based on a reasonable and probable mine closure scenario (not worst case) of the maximum disturbance during the 5-year permit term and any long-term care costs associated with that disturbance.
- Costs are based on generally acceptable industry cost-estimating procedures for determining earthmoving, construction, demolition, monitoring, storm water management and erosion / sediment control, water treatment, and other closure costs for the site-specific mine operation.
- The permit applicant or mine operator, is responsible for providing all information necessary to validate and support the closure cost estimates.
- The regulatory agencies may utilize other sources of information to validate cost estimates provided by the applicant.
- The cost estimate is based on the mine operator adhering to the approved closure and reclamation plan, and Waste Management Permit performance standards.
- Salvage values are not considered as a credit in closure cost estimates.
- To interest-proof a bond, add 5 years of compounded interest based on the average over the last 5 years of Anchorage's CPI.
- All material costs should be regular consumer price, i.e. assume no discounts and must include associated costs for shipment to the site.

3.5 List of Acceptable Sources of Information

References and data sources used in the estimation of the closure cost estimate should be specifically cited in the appropriate section of the closure cost estimate. Acceptable sources for the mine closure cost estimate typically include, but are not limited to, the most current editions of the guidelines listed in Section 2 Acknowledgements and the following:

- The ADNR-approved Plan of Operations, ADNR-approved reclamation plan, ADEC – approved closure plan, and the ADEC – approved Waste Management Permit, and "as-built" surveys. The closure and reclamation plan and the Waste Management Permit contain essential information to determine details on facility demolition and disposal, earthmoving, construction of engineered covers, collection and treatment of

process and contact water, monitoring, and other closure requirements. Once the mine is developed, "as-built" surveys provide essential data with respect to material relocation costs.

- Commercial equipment manufacturer handbooks and computer software for the estimation of equipment productivity. Most equipment manufacturers publish handbooks that contain performance and cost data for their equipment lines such as:
  - Caterpillar Performance Handbook, the "Caterpillar Performance Handbook" is one of the most complete handbooks. In addition to containing data on the types of equipment typically used on reclamation projects, it also contains other useful information such as methods for estimating site-specific equipment production rates and cost estimates, web link: http://www.wheelercat.com/resources/cat-performance-handbook-44;
  - Dataquest Cost Reference Guide for Construction Equipment, "InfoMine - Mine and Mill Equipment Costs," or "Equipment Watch Cost Reference Guide" for hourly operating costs for equipment, web link: http://www.equipmentwatch.com/marketing/product/413/cost-reference-guide;
  - The "R.S. Means Building, Mechanical, and Heavy Construction Cost Data" handbooks for estimation of construction and demolition costs. This reference is updated on an annual basis and can be useful for estimating material acquisition and structure demolition costs. Care must be taken when using this type of guidebook to ensure that profit and overhead are not incorporated into the costs, as these will be considered under indirect costs, web link: http://rsmeans.reedconstructiondata.com/
- State of Alaska, Department of Labor and Workforce Development, Wage & Hour Administration – Laborers' & Mechanics' Minimum Rates of Pay for estimation of labor rates. Labor rates for equipment operators should be obtained from the most current issue of "Pamphlet No. 600 Laborers' and Mechanics' Minimum Rates of Pay" published twice per year by State of Alaska, Department of Labor and Workforce Development – Wage and Hour Administration (Pamphlet 600). These labor rates should be compared to 'industry standard wage rates' and the higher rate should be utilized in the reclamation cost estimate. Web link: http://labor.alaska.gov/lss/pamp600.htm
- United States Department of Interior, Bureau of Land Management, Washington D.C., Guidelines for Reviewing Reclamation Cost Estimates. http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/im_attachments/2006.Par.8378.File.dat/im2006-135attach1.pdf
- CostMine, a branch of the commercial site InfoMine that provides industry standard estimation models for costs including equipment, labor, mine development, and supplies.Web link: http://costs.infomine.com/
- Project specific vendor and third-party contractor quotes for equipment, fuel, labor, materials, and/or services

Table 3-1 below provides additional information on closure cost estimating information sources.

Table 3-1 Data Needs and Sources

Data Need Note: all costs must be based on third-party contractor performing the work	Data Source
Material handling requirements (volumes, cross-sections, material handling plans, swell factor, material properties, handle factor, and other requirements specific to project)	Plan of Operations, Reclamation Plan, Waste Management Permit and then "as-built" surveys
Site-specific physical information (haul distance, grades, etc…)	Plan of Operations, Reclamation Plan, Waste Management Permit and then "as-built" surveys
Disturbed acreage and acreage to be reclaimed	Plan of Operations, Reclamation Plan, Waste Management Permit and then "as-built" surveys
Description of post mining use and list of facilities to be removed or left on site	Plan of Operations, Reclamation Plan and Waste Management Permit
Typical costs for structure demolition or removal	Plan of Operations, Reclamation Plan, R.S. Means Building, Mechanical, and Heavy Construction Cost Data Handbooks, and site specific demolition contractor quotes. [1]
Revegetation requirements	Reclamation Plan
Equipment types and production capabilities for activities such as regrading slopes or hauling topsoil	Manufacturer equipment productivity handbooks
Equipment ownership and operating costs	Manufacturer equipment productivity handbooks and Dataquest Cost Reference Guide for Construction Equipment [2]
Labor rates	Pamphlet 600 "Laborers' and Mechanics' Minimum Rates of Pay" – State of Alaska, Department of Labor and Workforce Development – Wage and Hour Administration or 'industry standard wage rates' [3]
Fuel and materials	Project specific vendor quotes
Logistical support costs	Camp and worker transportation costs for remote sites are not considered typical contractor overhead costs and should be estimated on a site-specific basis [4]
Monitoring costs, closure of any monitoring wells, and post closure water treatment and monitoring	Reclamation Plan and Waste Management Permit [5]

[1] Demolition costs are highly variable depending not only upon the size of the structure but also the type of construction. Simple estimates that are based only upon the size of the building may significantly underestimate the costs for building demolition. Care must be taken to include the "other costs" associated with structure removal, such as: costs for recycling material or equipment; snow removal; electrical power supply; and the draining, removing, cleaning and disposal of all fluids, lubricants, fuel, chemicals, minerals, and hazardous materials from all equipment, vessels, tanks and piping. It is recommended that operators obtain site-specific quotes for the demolition of structures from a contractor that has mine / mill demolition experience in the arctic and sub-arctic.

[2] Hourly operating costs are based on average fuel, lubrication and wear items, and maintenance costs. These costs must be adjusted to account for higher costs in Alaska and particularly at remote sites. Fuel costs should be inclusive of all costs associated with the handling and shipment of the fuel from the point of purchase to the final point of use.

[3] Labor estimates for remote sites should include an appropriate adjustment for anticipated overtime charges based upon the anticipated work schedules.

[4] Logistical Support Costs: where transportation may require the maintenance of off-site access roads, airstrips, or ports, these costs also

Table 3-1 Data Needs and Sources

Data Need Note: all costs must be based on third-party contractor performing the work	Data Source

must be included in the total closure cost estimate for the duration of the time period where they will be required for active site reclamation and post-closure active water treatment. The use of historic 'long-term' contract costs that the mining company has with camp support contractors may not be appropriate for a smaller workforce and / or shorter duration project typical of mine reclamation.

[5] At sites where long-term water treatment is not anticipated, post-closure monitoring is typically required in years 1,2,5,10,15,20, and 30 over a 30-year period. Monitoring, analysis, and well closure costs must be adjusted for inflation over the 30-year period. At sites where long-term water treatment or other remediation is required for more than 30 years, post-closure monitoring would be postponed accordingly.

4 Closure Cost Estimation Methodology

4.1 Standardized Reclamation Cost Estimator

The Standardized Reclamation Cost Estimator (SRCE) software is available as a public resource on the web at http://www.nvbond.org/. SRCE was developed during the implementation of the Nevada Standardized Unit Cost Project, a cooperative effort between the Nevada Division of Environmental Protection, Bureau of Mining Regulation and Reclamation (NDEP), the U.S. Department of Interior, Bureau of Land Management (BLM) and the Nevada Mining Association to facilitate accuracy, completeness and consistency in the calculation of costs for mine site reclamation.

The SRCE model provides a set of established, standardized procedures, guidelines and tools. The State of Alaska encourages the use of the SRCE model with the intention of improving the accuracy and consistency of mine closure cost estimating. The SRCE model was not developed specifically for Alaska projects and Alaska mines will need to supplement SRCE with additional information and spreadsheets to support the reclamation and closure cost estimate.

4.2 Cross-Referenced Spreadsheets

Direct reclamation cost estimate spreadsheets should be developed for reclamation activities at each mine facility. For example, for cost estimation procedures, the mill, water treatment plants, open pit, waste rock stockpiles, tailing impoundment, roads, heap leach pads, etc. should each be considered a separate facility. The spreadsheet should include each closure task associated with the specific facility. All spreadsheets should be linked to additional spreadsheets that include equipment productivity estimates and the material handling requirements for each facility and to the base case assumptions regarding fuel, labor, and material costs. If spreadsheets are properly linked, any changes made in the equipment productivity labor, equipment ownership and operation, fuel, or other supplies and materials will automatically update the estimated costs for each reclamation task for every facility and the overall total closure cost summary. All assumptions used in every spreadsheet should be clearly identified; i.e. using inserted comments or another easily referenced manner.

The SRCE model provides a set of cross-referenced spreadsheets and is therefore encouraged by the State of Alaska, while not strictly required.

4.3 Basis of Estimate Report

The mine operator will provide a narrative Basis of Estimate Report that ~~that~~ demonstrates a clear understanding of what is included in the closure and reclamation cost. The Basis of Estimate Report should provide agencies with a 'bridge' between the reclamation and closure plan and the cost estimate spreadsheets and explains how the cost estimate model was developed. The Basis of Estimate Report explains all the costs including the minimum 2-year site holding period, closure costs during the period of active closure plan execution (including reclamation), and any post-closure costs associated with term water treatment, dam monitoring and maintenance, and site management and monitoring requirements. The Basis of Estimate Report is intended to expedite agency review of the closure cost estimate. Basis of Estimate Report should include (but not be limited to) the following:

- Scope of the estimate
  - Estimate structure (see Section 4.2 Cross Referenced Spreadsheets)
  - Mine area reclamation activities
  - Tailings area reclamation activities
  - Water treatment activities
  - Infrastructure demolition and reclamation Activities
- Quantities
- Unit costs
  - Equipment rates
  - Fuel
  - Labor rates
  - Material costs
- Relocation costs
- Camp costs
- Shipping costs
- Task unit rates
- Mobilization & demobilization costs
- Indirect costs

4.4 Closure Cost Estimate Units of Measure

To assure consistency and assist ~~in~~ the State of Alaska in ~~the~~ its timely review of closure plans and closure cost estimates, closure cost estimates should be based on consistent, standard units of measure that are clearly documented. The units of measure of the closure cost estimate must be clearly tied to all relevant documents (e.g. approved mine plan of operations, approved Closure and Reclamation Plan, Waste Management Plan, annual reports, closure cost Basis of Estimate documents).

Factors used for converting mass and volume (e.g., tons, cubic yards) will be provided as needed to audit the closure cost estimate. The following units of measure should be used for all closure cost estimate calculations:

- Imperial standard units (non- metric) (e.g. tons = short tons/2000 lbs., cubic yards, cubic feet per second, gallons) (SRCE allows the use of either metric or imperial units; the State of Alaska requires imperial units)
- United States Dollars (USD)

4.5 Maximum Closure Cost Requirements

In order to set the backdrop for the closure cost estimate, the first step in the estimation process is to define the boundary, scope, and conditions at the mine site during which the likely closure costs (including decommissioning, reclamation and post-closure costs) will be at their highest during the 5-year permit period. This is one of the most critical steps in the cost estimation procedure. Typically, the greatest estimated closure costs will happen when mine closure and reclamation occurs simultaneously with one or more of the following conditions:

- The greatest surface area is disturbed that requires recontouring, topsoil replacement and revegetation;
- The largest volume of material must be graded to establish suitable post-mining land use;
- The longest haul distance between material handling areas and the location of final placement;
- The greatest amount of material that must be handled to cover waste disposal sites;
- The need for special long-term / post-closure activities, such as handling of ARD / ML, handling of topsoil, closure of underground openings, long-term water treatment; or
- Working with difficult topographic conditions.

Typically, for large open-pit hard rock mines with a long mine life, the maximum reclamation requirements will occur at the close of the current permit term (5 years). However, a site specific evaluation will need to be done based on the envisioned 5-year permit for each mine.

5 Direct Closure Cost Approach

Closure cost estimates are to be based on the current approved closure and reclamation plan, and ADEC Waste Management Permit.

The SRCE model provides a generally accepted standardized approach for estimating direct closure costs. As previously stated, the State of Alaska strongly recommends use of the SRCE resources. The publically available model includes guidelines for developing specific direct costs for common mine facilities and closure activities. The SRCE process has been standardized to the extent possible. However, the model also allows flexibility for site specific needs.

Land reclamation cost estimates should be based upon the type of disturbance and the proposed post-mine land use. Standard practices used in the construction and mining industries should be used when estimating the costs of earth moving related activities, demolition of constructed mine facilities and water management / treatment. Any assumptions

used in the cost estimation should be clearly identified. Sources of equipment rates, labor rates, and material costs should be identified.

The following sections discuss typical approaches to estimating closure costs for selected common facilities and closure aspects and are not intended to be all inclusive. Additional information on developing direct costs to close mine facilities ~~in~~ are included in the SRCE guidance and other resources listed in Section 2 Acknowledgements.

5.1 Holding Period Care and Maintenance Costs

To assure an appropriate level of conservatism in the closure cost estimate, the costs for a minimum 2-year holding period ~~is~~ are included in the closure cost estimate. In the case where a mine defaults at the time of closure there would generally be a delay between the time the State of Alaska assumes responsibility for a site and the time when actual site closure can begin. This delay may be due to litigation, disputes regarding ownership of equipment and facilities, additional data gathering or engineering studies and design, and/or seasonal climatic restrictions. During this holding period, the State of Alaska may need to contract for the continued active water treatment, care and maintenance, and monitoring of the site. Costs associated with this holding period must be included in the closure cost estimate.

5.2 Closure and Reclamation Plan Execution Period Care and Maintenance Costs

Costs to perform continued site management, care and maintenance, active water treatment, and monitoring of the site, during the time that active closure is occurring are included in the closure cost estimate as a direct cost. The active closure execution period begins at the end of the minimum 2-year holding period and continues until the start of the post-closure period (e.g. after active water treatment is no longer necessary, as discussed in Section 5.~~17~~9 Other Direct Costs).

5.3 Monitoring During Holding Period and Closure Execution

Water, soil and vegetation monitoring are typical closure requirements. Additional monitoring may be required, such as land subsidence monitoring at some underground operations. Costs associated with monitoring required by agencies during the holding period and closure execution period must be included in the closure cost estimate. Monitoring through these phases of the closure process may be similar to the monitoring required while the mine site was in operation, with adjustment for closure execution activities. Consideration will need to be given to workforce presence and site accessibility, which will change as the closure plan is executed. Post-closure monitoring is discussed in Section 5.9, Other Direct Costs.

5.4 Equipment Operating Costs

Equipment hourly operating costs are based on average fuel, lubrication and wear items, and normal maintenance costs. These costs must be adjusted to account for higher costs in Alaska and particularly at remote sites. Fuel costs should be inclusive of all costs associated with the handling and shipment of the fuel from the point of purchase to the final point of use.

The SRCE cost estimating software contains an equipment cost reference sheet, titled Equipment Costs, where applicable Alaska specific equipment rates may be identified for use within the cost estimates. A source for Alaskan heavy equipment rental rates is NC Machinery (www.ncmachinery.com).

5.5 Mobilization / Demobilization

In the event of a default on reclamation obligations the State of Alaska assumes that none of the equipment on-site will be available for closure activities; this is likely due to liens, equipment ownership, and other bankruptcy issues. This cost ~~is~~ includes an allowance for the cost of renting and mobilizing equipment to the site for reclamation and also demobilizing equipment from the site after the closure activities have been completed.

State considers mobilization / demobilization to be a direct cost of the mine closure. When estimating the mobilization and demobilization costs, consider whether a single mobilization / demobilization will allow for the accomplishment of all closure activities or whether multiple / seasonal mobilization / demobilization may be required.

Mobilization / demobilization costs are influenced by the type and quantity of the equipment used in reclamation, site access, duration of reclamation, and the sequencing of reclamation tasks. Unusual time constraints, seasonal shutdowns, a need for special equipment, or a remote location should be considered in this aspect of the cost estimate.

5.6 Logistical Support Costs

Transportation of work crews to the mine site must be included in the cost estimate. Where transportation requires the maintenance of off-site access roads, airstrips, or ports, these costs also must be included in the total cost estimate for the duration of the time period where they will be required (including the holding period, closure execution period, active site reclamation, active water treatment and post-closure period). The use of historic 'long-term' contract costs that the mining company has with camp support contractors during mine operations may not be appropriate for a smaller workforce and/or shorter duration project period typical of mine closure and reclamation phase due to economies of scale. For contractors in remote locations, any camp operations supported through a third-party vendor should have a quote submitted based upon the expected number of contract workers available for the different tasks and seasons.

5.7 Labor and Wage Estimation

Labor is an integral component of, and contributes a significant portion to most of the direct cost categories. Labor also factors into indirect costs in the form of overhead (i.e. benefits) and liability insurance. The cost estimate should incorporate guidelines provided in current the State of Alaska Pamphlet 600-Laborer's and Mechanics' Minimum Rates of Pay including information on wages, accommodation provisions, per diem, fringe benefits, and special rates.

Attention should be given to labor estimates for remote sites that must include an appropriate adjustment for anticipated overtime charges based upon the anticipated work schedules that tend to be longer than those at sites closer to established towns.

The SRCE cost estimating software contains a labor cost reference sheet, titled Labor Rates, where applicable Alaska specific labor wages may be identified for use within the cost estimates. Individual worksheets for the various direct cost components include a labor component which is linked to the Labor Rate worksheet.

5.8 Direct Closure Aspects for Typical Mine Facilities

Direct closure aspects effecting closure cost estimates for typical, selected facilities are discussed in the following sections.

5.8.1 Waste Rock Dumps

Waste rock dump closure costs may include: storm water-erosion-sediment control best management practices (BMPs), recontouring to final reclaimed grade; construction of an engineered cover if necessary; replacement of topsoil; seedbed preparation, seeding, fertilization, mulching, and weed control. Dependent upon the geochemistry of the waste dump material, closure costs also may include the costs for the cover placement, collection, treatment, and disposal of runoff and seepage from the waste rock facility, and long-term monitoring as discussed under Section 5.9; Other Direct Costs.

The SRCE cost estimating software contains an estimating sub-task, titled Waste Rock Dumps. The sub-task generates the estimated labor, equipment and material cost associated with grading, cover ~~re~~placement, topsoil replacement, ripping / scarifying, and revegetation costs of applicable waste rock dump facilities.

5.8.2 Tailings Impoundments

Cost for the closure of tailings impoundments are estimated in a manner similar to waste rock dumps, however additional costs may be incurred for: dewatering; water treatment and disposal; filling; and spillway construction. If the tailings facility will be maintained in a manner that impounds water to the extent that the tailings dam represents a "jurisdictional dam" per state law, long-term dam operating, monitoring and maintenance costs should be included in the closure cost estimate as discussed under Section 5.9 Other Direct Costs. An allowance for tailings long term consolidation should be considered, which affects the time before a cover can be effectively placed on the tailings surface and any post-closure regrading.

The SRCE cost estimating software contains an estimating sub-task, titled Tailings that generates the estimated labor, equipment and material cost associated with embankment regarding, tailings surface grading, cover replacement, topsoil replacement, ripping / scarifying, and revegetation costs of applicable tailings impoundments.

5.8.3 Material Sites or Borrow Areas

Reclamation costs must be estimated for reclaiming any material sites associated with the mining operation and any material sites developed to produce capping materials used during reclamation of the mine site.

The SRCE cost estimating software contains an estimating sub-task, titled Quarries & Borrow Pits that generates the estimated labor, equipment and material cost associated with grading, cover replacement, topsoil replacement, ripping / scarifying, safety berm construction and revegetation costs of applicable borrow areas.

5.8.4 Open Pits

The reclamation costs for open pits are controlled by the requirements of the closure plan. Costs may include: post-mining stability analysis; stabilization of pit high walls; pit dewatering; pit water treatment; bench and pit floor reclamation; partial or complete backfilling; and the construction of warning berms or fencing and signage near the pit high walls. If pit backfilling is necessary to protect ground and surface waters, the closure cost assumption is that the pit is abandoned at the maximum build-out during the permit period. If long-term water treatment is required, the cost must be estimated as discussed under Section 5.9 Other Direct Costs.

The SRCE cost estimating software contains an estimating sub-task, titled Pits that generates the estimated labor, equipment and material cost associated with safety berm construction and revegetation costs of applicable pit areas.

5.8.5 Underground Development

Adits and shafts shall be plugged per the terms of the approved closure plan. The costs for the collection and treatment of mine seepage, and disposal of underground waste permitted in the Waste Management Permit is included. If long-term water treatment is required, the cost must be estimated as discussed under Section 5.9 Other Direct Costs.

The SRCE cost estimating software contains an estimating sub-task, titled Underground Openings that generates the estimated labor, equipment and material cost associated with the reclamation of adits, portals, declines, shaft backfill/cover, and shaft capping costs of applicable underground development areas.

5.8.6 Support Facilities

Mine support facilities include: roads; airstrips; fresh-water reservoirs; buildings; power lines; monitoring wells; permanent diversions or drainage channels; and equipment. The disposition of all of these must be included in the closure cost estimate unless specifically approved for post-mining land use. Hauling and/or disposal costs for materials to be removed from the site need to be included in the closure cost estimate.

The SRCE cost estimating software contains estimating sub-tasks, titled Roads, Sediment & Drainage Control, Process Ponds, and Misc. Costs that generates the estimated labor, equipment and material cost associated with support facility reclamation activities.

5.8.7 Reclamation: Recontouring, Regrading, Engineered Covers, and Topsoil Placement

All costs associated with creating a sustainable, stable land form protective of the environment must be included as a direct cost. The State Reclamation Act sets the minimum standards for reclamation of mining operations in Alaska regardless of the land status. The reclamation objectives and the proposed post-mining land use for mining operations located on private lands require approval from the underlying landowner. Nothing in the Reclamation Act prevents private landowners from requiring closure standards that exceed the requirements of the Act.

Recontouring and regrading serves to establish an acceptable post-mining topography in the mined area ensure a stable surface for topsoil replacement and revegetation. Closure cost

estimation should consider these steps usually involve the handling of large amounts of material and other earthworks to regrade mine waste dumps from of an "angle-of-repose" to the desired reclaimed grade, establishing erosion control features and re-establish drainage features. Standard equipment performance and cost-estimating guidebooks and contractor estimates should be used to estimate and document material handling costs.

The following aspects of reclamation should be considered in the cost estimate:

- Regrading waste rock dumps from "angle-of-repose" to a more stable slope (typically 2.5 – 3.0H: 1V) must be included in cost estimate. The cost of regrading is affected by the angle of repose, the grade of the final reclaimed slope, the underlying slope of the original topography, and the bench height.
- The swell factor is defined as the percentage increase in volume of material from the "bank" state to the "loose" state. Swell factors must be considered appropriately when estimating equipment productivity and estimating the closure cost.
- Haul Distance Estimates: The haul distance is one of the primary factors affecting the efficiency and cost of material handling and therefore, must be determined for each area where recontouring, construction of engineered covers, or topsoil replacement will occur. The haul distances can be determined initially from the mine Plan of Operations and Reclamation Plan; however, once the mine is constructed, haul routes and distances should be determined from as-built surveys. The approximate centroid of each source and destination should be identified so that the centroid-to-centroid haul distance can be determined. Note that the centroid-to-centroid haul distance can be significantly greater than the straight-line distance between centroids when viewed on a plan map. In some instances, additional haul roads may need to be constructed to increase the efficiency of the reclamation activities.
- Grade Estimates: The grade of the haul road segments must be evaluated to allow for equipment selection and to estimate the equipment's productivity.
- Rolling Resistance Estimates: The surface conditions of the haul road must be evaluated to determine rolling resistance for each haul-route segment in order to estimate the equipment's productivity.
- Equipment Selection: Care should be exercised to not base earthmoving costs on specialized pieces of mine equipment, such as large mine haul trucks, which may not be available for the reclamation of the site due to litigation associated with bankruptcy and bond forfeiture. The initial selection of equipment type is based primarily on the reclamation plan, equipment manufacturer performance handbooks and experience. Final selection for the size and type of equipment will be based upon the information developed in the Materials Handling Plan and possibly site access restrictions. Equipment selection for sites that are air-access only, may be limited air freight size and weight limits.
- Final Grading: The final grading task prepares the disturbed areas for receiving topsoil and involves the final shaping of the ground surface to allow for proper drainage. Typically, the final graded surface should be left slightly rough to assist in the bonding between the recontoured fill and the topsoil. In some cases, ripping may be required to eliminate compaction; however, in other cases where there is the desire to minimize infiltration of precipitation, ripping should be avoided if possible.
- Construction of Engineered Covers: Where the geochemistry of the recontoured material is such that ARD / ML is a concern, there may be the need for construction of an engineered cover between the recontoured waste material and the topsoil layer. These must be specifically designed for site conditions and climate at the mine site,

may require the construction of "pilot-plant scale" covers for evaluation, and may add significantly to the cost of reclamation.

- Topsoil Handling: The cost of topsoil handling procedures must be included in the estimate of overall direct reclamation costs. Equipment selection should consider the haul distance and the volume of material to be moved. Spreading topsoil generally requires more operator proficiency than standard recontouring operations and you should anticipate lower dozer productivity when spreading topsoil. The State requires that dozer rehandle of topsoil material be considered in the closure and reclamation cost estimate.

The appropriate methods for estimating equipment productivity (and costs) should be selected based upon site conditions and the recommendations found in the equipment manufacturer's performance handbooks. Generally, the productivity of a piece of equipment is expressed in cubic yards per hour. Factors that affect equipment productivity include capacity, cycle time, site conditions, material characteristics, and operator proficiency. For each piece of equipment identified in the Materials Handling Plan, the method used to estimate productivity should be identified for each facility. The same piece of equipment may have different productivity for different facilities at the mine site, even when performing similar functions, due to differing material characteristics or topography. Job condition correction factors should be appropriately applied to each piece of equipment for each individual job function at each specific facility. Typical job condition correction factors that should be considered include: operator proficiency, material characteristics, visibility, job efficiency, grade resistance / assistance, and rolling resistance. The SRCE cost estimating sub-tasks incorporate recontouring, regrading, engineered covers, and topsoil placement within each individual activity. The SRCE software summarizes the total estimated costs for these activities on a summary sheet, titled Reclamation Quantities.

5.8.8 Revegetation

Revegetation tasks generally consist of seedbed preparation, seeding, planting, and fertilization. Costs for revegetation should be based on the approved closure and reclamation plan with consideration of details including (but not limited to) depth of topsoil replacement, use of bonded fiber matrix on steep slopes, seed type and application rates, and fertilizer application rate.

The SRCE cost estimating sub-tasks incorporate revegetation activities within each individual activity. The SRCE software summarizes the total estimated costs for revegetation on a summary sheet, titled Reclamation Quantities.

5.8.9 Decommissioning / Structure Demolition and Removal

This reclamation activity includes the demolition and removal or disposal of buildings, crushers, tanks, storage bunkers, conveyor systems, foundations, and other similar structures that are identified for removal in the approved closure plan. The R.S. Means Building, Mechanical, and Heavy Construction Cost Data handbooks are a valuable resource that can be used to estimate building demolition costs.

Miscellaneous structures, such as bridges, conveyors, power lines, and equipment and material "bone-yards" must be removed unless part of an approved post-mining land use. Removal and/or demolition and disposal costs for these miscellaneous structures must be incorporated into the overall estimate of direct reclamation costs. The previously referenced construction cost handbooks may be used to estimate the costs for reclaiming these miscellaneous structures; however, care must be taken to modify these cost guidelines

appropriately for conditions found in Alaska (i.e., short construction season, lower efficiency for winter work, etc.).

In order to estimate the demolition costs, data describing the physical characteristics of all structures present at the project site must be obtained. The types of building material, the size of the structure, and the type of foundation, primarily affect the cost of demolition; site access and whether or not the debris can be disposed of on-site also must be considered. When using the R.S. Means reference handbook, the estimator should not include overhead and profit. These are included in Indirect Costs.

Demolition costs are highly variable. Estimates that are based solely upon the size of the building may significantly underestimate the costs for building demolition. Care must be taken to include costs for removing material or equipment; snow removal; electrical power supply; and the draining, removing, cleaning and disposal of all fluids, lubricants, fuel, chemicals, minerals, and hazardous materials from all equipment, vessels, tanks and piping. It is recommended that operators obtain site-specific quotes for the demolition of structures from a contractor that has construction and demolition experience in cold regions.

The SRCE cost estimating software contains an estimating sub-task, titled Foundations & Buildings, that generates the estimated labor, equipment and material cost associated with decommissioning and/or structure demolition and removal costs of applicable facilities.

5.8.10 Decommissioning / Road and Ditch Removal

Paved road surfaces may have to be separated from the road sub-base and removed. Ripping with a dozer and loading with a front-end loader for trucking and disposal typically accomplish this activity. Non-contaminated loose road surfacing can be mixed with the sub-base or fill without any special disposal measures. In this circumstance, the road surface will be simply ripped to promote revegetation. All culverts will need to be removed and channels created for run-off. In some circumstances where side-cuts exist in steep topography, the "fill" may be required to be placed in the "cut" using an excavator. The estimated costs for removing road-surfacing materials can be found in the referenced cost-estimation handbooks. The Caterpillar Performance Handbook can be used to estimate the ripping capacity of dozers.

The SRCE cost estimating software contains an estimating sub-task, titled Roads, that generates the estimated labor, equipment and material cost associated with support facility reclamation activities.

5.8.11 Water Management

Water management such as process solution management and short-term water treatment may add significantly to short-term closure costs (long-term water treatment is discussed in a separate section below). Water management costs estimates must be developed and include all capital and operating costs for the defined closure period.

The SRCE cost estimating software contains a module for water (solution) management that provides options for calculating costs for selected activities. Options include tables and guidelines for calculating and documenting pumping, forced evaporation and decontamination. Costs associated with highly site specific activities such as water treatment, draindown times, water management labor and water balance management are developed externally and are then added into the overall SRCE module for inclusion in the total closure cost.

All approved reclamation and closure plans include requirements to conduct final engineering during the 2-year holding term and before the actual work begins. The cost of performing the engineering by a third-party contractor must be included in the closure cost estimate.

The SRCE software contains a Closure Planning module for including costs for studies, reports, engineering and permitting for final closure. The closure planning costs are entered as lump sums based on quotes from contractors or other relevant information.

5.8.12 Waste Disposal and Landfill Closure

Direct costs associated with disposal of wastes during closure must be included in the closure cost estimate. Typical wastes encountered during closure include demolition debris, excess explosives, processing chemicals, and welding supplies.

The SRCE software includes a module titled Landfills that provides a method for calculating the cost of reclaiming landfills associated with non-hazardous solid waste disposal, including construction debris. The module titled Yards can be used to calculate the cost of disturbed areas such as hydrocarbon contaminated soil treatment areas, as well as ready lines, laydown yards and parking areas.

The SRCE software also includes a Waste Disposal module for calculating the cost of disposal of solid waste, hazardous waste and hydrocarbon contaminated soils. Solid waste disposal costs can be calculated either for on-site disposal in landfills or disposal at off-site facilities. Any waste that requires special handling, transportation, or disposal is considered hazardous waste for the purposes of the SRCE module. Hazardous waste disposal costs are calculated with the assumption that they are removed from the site and thus include both off-site haulage and disposal costs. Methods for disposal of hydrocarbon contaminated soils could include either on-site or off-site disposal as defined in the approved closure and reclamation plan.

5.9 Other Direct Costs / Long-term Costs

Other direct costs include long-term costs. These costs require special attention due to the sometimes extensive period of time over which they are forecasted and incurred. Long-term costs, which may be perpetual care costs in some cases, are typically expressed in terms of an annual cost and then translated to a Net Present Value using a reasonable real rate of return. Inflation estimates are used to account for inflationary increases in costs and to "inflation proof" the required reclamation bond

The SRCE cost estimating software contains an estimating sub-task, titled Monitoring that generates the estimated labor, equipment and material cost associated with long-term reclamation activities, including water treatment, jurisdictional dam monitoring and maintenance, and reclamation maintenance.

5.9.1 Long-term Water Treatment

For projects where long-term water treatment is part of the approved reclamation and closure plan or the Waste Management Permit, the cost estimate for long-term water capture, treatment, and monitoring should include the following:

- Capital costs for construction and replacement of water diversion, collection, and treatment facilities assuming existing water treatment facility is at end of its useful life at cessation of mine operations. Capital costs for construction and replacement of facilities should include appropriate indirect costs :

  - Contractor Profit
  - Contractor Overhead
  - Performance and Payment Bond
  - Insurance (On-Site Liability)
  - Contract Administration
  - Engineering Redesign
  - Scope Contingency
  - Bid Contingency

- Operating costs for water treatment and maintenance on an annualized basis, including
  - Labor
  - Power
  - Reagents
  - Sludge handling and disposal
  - Monitoring and analysis
  - Administrative costs
  - Camp costs
  - Transportation costs (Note: where transportation may require the maintenance of off-site access roads, airstrips, or ports, these costs also must be included in the long-term water treatment cost estimate.)
  - Profit (Assuming that the operation and maintenance of the facilities is conducted by a corporation other than the mining company.)
  - Overhead (Assuming that the operation and maintenance of the facilities is conducted by a corporation other than the mining company.)
  - Construction Management - if this is not included in labor costs
  - Agency Administration
  - Scope Contingency
  - Bid Contingency

SRCE does not have an effective place to identify/quantify long-term water treatment costs

5.9.2 Long-term Dam Monitoring and Maintenance

The cost estimate must include the inspection, operating and maintenance costs for all jurisdictional dams for as long as the dams will remain jurisdictional. The ADNR document entitled Guidelines for Cooperation with the Alaska Dam Safety Program provides information on the closure of both jurisdictional water dams and tailings dams that should be considered in the closure design and cost estimate preparation (see http://dnr.alaska.gov/mlw/water/dams/AK_Dam_Safety_Guidelines062005.pdf).

5.9.3 Reclamation Maintenance

The closure cost estimate must include costs associated with performing maintenance on the closed and reclaimed facilities that may be required after active closure is complete and before the post-closure monitoring period begins. The duration of reclamation maintenance period will be very site specific and could include such things as regrading and revegetation due to settling or erosion.

The SRCE Monitoring module contains a reclamation maintenance section that assists in calculating cost by providing information on total surface area and topsoil volumes and cost of placement (based on previous input from other modules). The user inputs the percent of surface area and topsoil that is estimated to require maintenance and the model calculates the estimated reclamation maintenance cost.

5.9.4 Post-Closure Monitoring

The duration and scope of long-term, post-closure monitoring must be carefully evaluated on a case by case basis. All costs for post- closure monitoring should be included in the closure cost estimate including 3rd party contractor field work, site access costs, laboratory costs, data validation and reporting to agencies.

A mine is considered to enter the post-closure monitoring period when all physical reclamation is complete, revegetation performance standards are achieved, active water treatment is no longer required, and any water released from the facility consistently meets all State Water Quality Standards. The post-closure monitoring period starts after the use of passive water treatment; such as constructed wetlands; has been demonstrated to be successful in achieving State Water Quality Standards at the point of discharge from the passive treatment system for two consecutive years.

Post-closure monitoring is typically required for a 30-year period. Post-closure monitoring requirements will be specified in the approved monitoring plan that is incorporated into both the ADNR - Reclamation Plan Approval and/or the ADEC – Waste Management Permit. Typically post-closure water quality monitoring events occur in years 1, 2, 5, 10, 15, 20, and 30 after closure.

Monitoring wells must be closed, per Alaska Department of Environmental Conservation requirements, upon completion of post-closure monitoring. The costs for this closure must be adjusted for inflation.

The SRCE cost estimating software contains an estimating sub-task, titled Monitoring and Well Abandonment, that generates the estimated labor, equipment and material cost associated with post-closure and well abandonment activities.

The changes suggested by DOWL for Section 6 of the Mine Closure Guidelines; i.e. “Indirect Closure Cost Approach”, are provided in section 7 of the DOWL report, regarding Indirect Cost Categories.

6 Indirect Closure Cost Approach

Indirect costs are added to the direct cost sub-total. These indirect costs are usually expressed as a percentage of the direct cost sub-total. SRCE estimates indirect costs either as a percentage of direct costs, or as a variable rate based on the magnitude of the direct costs **sub-total. The State of Alaska's envisioned** SRCE system **identifies the indirect cost categories as follows:** ~~See SRCE guidance document Indirect Costs Table (page 4-6):~~

1. **Contractor** Profit
2. **Contractor** Overhead
3. Performance and Payment Bond**s**
4. Liability Insurance
5. Contractor Administration
6. Engineering Redesign
7. Contingency**: Scope and Bid**

~~Indirect costs are added to the direct cost sub-total. These indirect costs are usually expressed as a percentage of the direct cost sub-total.~~

6.1.1 Contractor Profit

The State of Alaska will contract with a third party contractor to perform the reclamation **and closure** work. It is therefore necessary to add an amount for contractor's profit and overhead because these costs are not included in the estimate of direct reclamation **and closure** costs. **Contractor profit is broadly defined as the financial benefit to the contractor realized when the amount of revenue gained from a business activity exceeds the expenses, costs and taxes needed to sustain the activity.**

The profit portion of the cost estimate will be calculated based on a percentage of the estimated total direct costs. The State of Alaska assumes that a reasonable profit margin ranges from **as low as 6%** of the total direct costs for large reclamation projects to **10%** for small **or medium** reclamation projects. Small R&C projects are those that are expected to have total costs less than $25 million dollars. Medium sized R&C projects should have total costs in the range of $25 to $100 million dollars. Large R&C project costs would exceed the $100 million dollar range.

6.1.2 Contractor Overhead

Contractor overhead refers to all ongoing business expenses not including or related to direct labor, direct materials, or third-party expenses that are billed directly to a project. Contractor overhead costs include: home support staff and services; labor benefits; costs for temporary facilities or company offices; office equipment and utilities; security;

storage; insurance; taxes; contractor performance bonding; permits; and company vehicles. Reclamation projects vary in size, remoteness and complexity. Overhead costs will have a significant variance depending on the assets, operating techniques, and business structure of the individual contractor. However, all reclamation contractors will have overhead costs in addition to the costs for equipment, labor and materials that were included in the estimation of the direct reclamation costs. The State of Alaska assumes that reasonable overhead costs range from **as low as 4%** of the total direct costs for large reclamation projects to **8%** for small **or medium** reclamation projects.

6.1.3 Performance and Payment Bond

A performance bond provides security on the contractor's fulfilling his contracted duties and includes promises to perform the construction within the time frame provided and at the agreed-upon price. A payment bond protects the project's workers, suppliers of materials brought to or used by the contractor, and subcontractors from nonpayment by the contractor.

State of Alaska statutes (AS 36.25.010) require both a performance bond and a payment bond for construction of projects administered by the State of Alaska. The cost of each of these bonds is **generally** estimated at from **1.0% to** 1.5% of the total direct costs, for a total **for this indirect cost category** of from **2.5% to 3.5%** of **total** direct costs.

6.1.4 Liability Insurance

An allowance for contractor liability insurance premium should be included at 1.5% of the total estimated labor costs for the project.

6.1.5 Contract Administration

~~This indirect cost is to pay for~~ **Contract administration is intended to cover** the cost of hiring a project management firm to inspect and supervise the work performed by the reclamation contractor and also the costs incurred by the State to forfeit the bond, administer reclamation / construction contracts, verify sampling and analyses, conduct site inspections, and other activities associated with the administration of the **reclamation and** closure project.

These contract administration costs are calculated as a percentage of the total direct costs and may range from **5%** to **9%** of total direct costs. The contract administration amount accepted by the State of Alaska will be based upon the size of the overall bond, the level of complexity of the closure projects, and the anticipated duration of the active reclamation phase of the project closure. In general, large R&C projects will require a lower percentage of contract administration cost, versus small and medium sized R&C projects which will require higher percentages of the total direct cost for contract administration.

6.1.6 Engineering Redesign

The approved reclamation and closure plans may not adequately reflect **actual, challenging** site conditions at the time of bond forfeiture, and the projected quantities and quality of water to be treated may not be accurate or complete. In addition, the existing Reclamation **and Closure** Plan or proposed water treatment may not be sufficiently detailed to serve as **complete and readily bid** contract plans and specifications. Therefore, an updated or more detailed design will likely need to be developed as part of the reclamation **and closure** process. In some cases the degree of engineering redesign may decrease as a mine matures

and as more recent **iterations** of the reclamation and closure plan are more detailed **and workable for a third-party contractor**.

Activities associated with Engineering Redesign may include the following:

Prepare maps and plans to show the extent of the required reclamation.

Survey waste rock dumps and other facilities to determine the amount of material handling requirements.

Characterize waste rock dumps, and other **mine assets or** facilities, to determine if special closure requirements are necessary to minimize ARD / ML.

Evaluate proposed engineering covers for waste rock dumps and other facilities.

Perform column, pilot plant or other engineering studies to evaluate designs and performance of proposed wastewater treatment facilities.

Survey and analyze topsoil and overburden stockpiles to determine the amount of material available and whether special handling **or providing additional material** is required.

Evaluate structures to assess the difficulty **and specific parameters** of demolition and disposal or removal.

Evaluate impoundments to determine any special reclamation requirements or post-closure care and maintenance needs.

Contract for the completion of a hazardous materials survey **of the entire mine site**.

- Prepare reclamation / demolition / construction contract documents.

Engineering redesign costs are calculated as a percentage of the total direct costs and may range from 3% to **7%** of total direct costs. The engineering redesign "percentage multiplier" accepted by the State of Alaska will be based upon the level of detail in the current Reclamation **and Closure** Plan and detailed closure cost estimate, the number and nature of unknowns or assumptions incorporated into the plans, the complexity of the closure project, **the presence or absence of ARD/ML conditions** and the size of the overall bond.

6.1.7 Contingency Scope and Bid

The financial assurance for the closure of the project must include a contingency allowance to account for uncertainties in the cost estimation **and contract bidding** process.

Contingency costs are separated into "scope" and "bid" contingencies. Scope contingency addresses the uncertainty inherent in producing a **viable, cost-effective** closure design.

Bid contingency addresses the cost uncertainty inherent in **successfully proposing, designing and executing the** actual construction or implementation of the reclamation plan or closure plan.

Scope contingency will likely vary over the life of a project. Some of the variables that affect the scope contingency include the amount and quality of engineering and environmental data that is used to support the reclamation plan and/or issuance of an ADEC Waste Management

Permit for a new mining project including data associated with ground and surface water characterization, **subgrade permeability**, waste rock characterization, pit lake water geochemistry, geotechnical factors associated with permafrost, slope stability, etc. Scope contingency can range from 6**%** to **11%** of **total** direct costs, depending on these variables. In general terms there is acceptance of the concept that scope contingency ~~could~~ **may** be reduce**d** over the life of mine under the assumption that the reclamation and closure plan cost estimate is supported by more and more detailed **site and process** information as the mine matures. But this must be demonstrated as iterations of the **reclamation and closure** cost estimate are **prepared and** reviewed over the life of **the operating** mine.

Even during active reclamation, there will always be some uncertainty associated with the project, so some scope contingency will be retained.

Bid contingency accounts for construction costs that are unforeseeable at the time of the bond estimate but that become known as actual reclamation and closure work is conducted. Bid contingency is sometimes referred to as "construction" contingency for this reason. These costs result from changes in site conditions or work required which necessitate**s the acceptance of** additional costs and contract modifications, change orders and/or claims. Bid contingency for closure cost estimation will range from **4%** to **9%** of **total** direct costs depending upon the complexity, scope and overall size of the reclamation project and the amount of **accurate, detailed** data available for the **mine** site.

7 Total Mine Closure Financial Assurance

The estimate for the total project closure financial assurance represents the sum of all direct, indirect and other costs **such as inflation**.

An example cost estimate Summary Table is shown below to illustrate the relationships between direct and various indirect costs.

Summary of Estimated Reclamation & Closure (R&C) Costs

Non-ARD/ML Mine Example

		2-Year Holding Cost	Initial Reclamation & Demolition	Active Water Treatment	Reclamation & Demolition After Termination of Active Water Treatment	Post-Closure Monitoring & Maintenance	Total Costs
Direct Costs		$1,500,000	$10,000,000	$6,000,000	$2,300,000	$320,000	$20,120,000
Site Management Costs		550,000	1,300,000	1,800,000	850,000	55,000	$4,555,000
Mobilization/Demob.		65,000	280,000	35,000	200,000	15,000	$595,000
SubTotal - All Direct Costs		$2,115,000	$11,580,000	$7,835,000	$3,350,000	$390,000	$25,270,000
Indirect Costs:	% of Direct Cost Subtotal						
Contractor Profit	10%	$211,500	$1,158,000	$783,500	$335,000	$39,000	$2,527,000
Contractor Overhead	7%	148,050	810,600	548,450	234,500	27,300	1,768,900
Perf. & Payment Bonds	3%	63,450	347,400	235,050	100,500	11,700	758,100
Liability Insurance	0.8%	16,920	92,640	62,680	26,800	3,120	202,160
Contract Administration	7%	148,050	810,600	548,450	234,500	27,300	1,768,900
Engineering Redesign	4%	84,600	463,200	313,400	134,000	15,600	1,010,800
Contingency: Scope	8%	169,200	926,400	626,800	268,000	31,200	2,021,600
Contingency: Bid	5%	105,750	579,000	391,750	167,500	19,500	1,263,500
SubTotal - Indirect Costs	**44.8%**	$947,520	$5,187,840	$3,510,080	$1,500,800	$174,720	$11,320,960
Total Closure Costs (prior to Inflation)		$3,062,520	$16,767,840	$11,345,080	$4,850,800	$564,720	$36,590,960
	INFLATION (Applying Anchorage CPI average over previous 5-years, namely 2.4%, compounded over the next 5 years)					0.1259	$4,606,802
				Total Mine Closure Costs			**$41,197,762**

APPENDIX B

BLM Alaska Mining Reclamation Bonding Guide

BLM

BLM Alaska Mining Reclamation Bonding Guide

Alaska

BLM Alaska
Mining Reclamation
Bonding Guide

Prepared by

U.S. Department of the Interior
Bureau of Land Management
Alaska State Office
Branch of Energy and Minerals

September
2014

BLM - Alaska Bonding Guidelines for Notices and Plans of Operations Authorized Under 43 CFR 3809

A. General

1. **Notices and Plans of Operations**. In accordance with the 43 CFR 3809 regulations, reclamation bonds are required for both Plans of Operations and Notices. Notice level operations include only exploration activities in which five or fewer acres of disturbance are proposed. Plans of Operations include all mining and processing activities (regardless of the size of proposed disturbance), plus all other activities exceeding five acres of proposed public land disturbance. A Plan of Operations is also needed for any bulk sampling in which 1,000 tons or more of presumed ore for testing is proposed for removal.

   If a notice was submitted to the Bureau of Land Management (BLM) prior to January 20, 2001, and includes mining and/or processing activities, that Notice may continue as proposed, provided the Notice has been extended without a significant modification.

2. **Reclamation Cost Estimates (RCE).** After submitting a Notice to a BLM Field Office, either by using the State of Alaska's Application for Permits to Mine in Alaska (APMA) or some other application, you may be requested by the BLM to submit a detailed Reclamation Cost Estimate (RCE) according to BLM Regulations. In the case of a Plan of Operations an applicant may be required to submit an RCE after their plan has received an environmental review so the RCE can then incorporate any stipulations or reclamation standards.

   Reclamation Cost Estimates under 43 CFR 3809.552 for both Notices and Plan of Operations must be sufficient to cover 100% of the cost of reclaiming the proposed disturbance. All reclamation costs are to be calculated as if third party contractors were performing the reclamation after the site has been vacated by the operator.

   The approved reclamation plan should be broken down into individual tasks and the cost to complete each task should be further broken into Labor, Equipment, and Materials categories. Labor costs must be based on federally mandated (Davis-Bacon Act) wage rates. Off-site equipment must be used in the estimation of reclamation costs (typically rental and transportation costs). The source of costs such as vendor quotes for materials, rental company rates, and local equipment hauling costs should accompany any submitted RCE.

   The Reclamation Cost Estimation Summary Sheet may be used to show how reclamation costs were calculated - see Attachment 1. The summary sheet also lists the administrative costs that would occur should a third party contract be issued to reclaim a site. The administrative cost calculations must be included when estimating total reclamation costs.

3. **BLM Field Office Review.** The BLM reviews the Reclamation Cost Estimate and determines the bond amount needed for each submitted Notice or Plan. The Field Manager notifies the operator of the needed bond amount. For Alaska, bond instruments (other than Bond Pool) along with the appropriate bond form are

submitted to the Alaska State Office (Branch of Energy and Minerals, AK-932) in Anchorage for adjudication and acceptance (see Attachment 2 for Surety Bonds and Attachment 3 for Personal Bonds). The bonds are held and maintained by the BLM Alaska State Office.

4. **Periodic Review.** The BLM must provide a periodic review of reclamation cost estimates and financial guarantees for ongoing operations (see Instruction Memorandum No. WO-2009-153, (June 19, 2009)). The BLM authorizing officer has the authority to require a more frequent review of the Reclamation Cost Estimate and financial guarantee.

5. **Plan or Notice Modification:** Where a Notice or Plan of Operations is modified, a review must be conducted **at the time of modification**. The reclamation cost estimate and financial guarantee review must be for the entire operation, not just the modification (See 43 CFR 3809.580 for bond increases and filing a request for bond decrease.)

6. **Part of the Operations:** Where the financial guarantee is for a part or phase of each operation, as provided under 43 CFR 3809.553, BLM must review the amount and terms of the financial guarantee **annually** (For Phased Bonding guidelines, see section E. of this document).

   Where the BLM identifies any deficiency in the amount of the required financial guarantee, the Field Office must immediately issue a decision requiring the operator provide the BLM with the revised amount.

7. **Bond Forms.** Form 3809-1 (Attachment 2), is the required form for a bond which is underwritten by a surety company. Form 3809-2 (Attachment 3) is the required form for a bond which is pledged by a guaranteed remittance, a time deposit, a letter of credit, or a U.S. Treasury security. Form 3809-4 (Attachment 6) is required when the bond is supplied by an entity other than the operator.

8. **State Requirements.** Through a cooperative agreement with Alaska Department of Natural Resources (ADNR), BLM allows the use of the State of Alaska - Mining Reclamation Bonding Pool as an acceptable financial guarantee, for eligible operations. The cooperative agreement places restrictions on the use of the bond-pool but the BLM, at its sole discretion, may limit or prohibit the use of the statewide pool if the bond pool would not be a sufficient guarantee of reclamation. Although an operator can request an exception, the BLM **may** commonly require an RCE, completed according to 43 CFR 552 and 554, for the following situations:
   - Operations proposing mining (other than suction dredging) or within 100 feet of a perennial stream channel,
   - Operations on uplands with slopes greater than 33% or with the potential for significant slope failure related to mining activities,
   - Operations at a site where demobilization can only be completed by air or during frozen conditions (winter months),

- Operators with greater than 25 acres of unreclaimed disturbance, or
- Operations that have an unresolved enforcement order at the time of bond payment or operators that have a history of noncompliance with BLM regulations.

For operations outside the statewide bond pool the BLM – Alaska and ADNR may enter into a Cooperative Agreement for joint reclamation cost determinations and the submittal of one bond by an operator to satisfy the reclamation bond requirement of both agencies.

B. Financial Guarantee Instructions

BLM Alaska accepts the following instruments as financial guarantees for reclamation bonds:

1. **Surety Bond.** Surety bonds are accepted from companies authorized to do business with the United States and listed in the U.S. Treasury Department's Circular 570. A current list of authorized companies is available by calling 202-874-6850 or through the Internet at http://www.fms.treas.gov/c570/c570.html. *Attachment 2 (Form 3809-1)* is the required bond form for a surety bond.

2. **Personal Bond.** Must be secured by one of the financial instruments listed in "a" through "d" below. *Attachment 3 (Form 3809-2)* is the personal bond form, which is required in addition to the financial instrument.

    a. Guaranteed Remittance ("Cash bond") (Cashier's check, certified check, or official bank draft, cash, US postal money order, wire transfer) – Drawn on a U.S. bank in an amount equal to the required dollar amount of the financial guarantee, to be deposited and maintained in a Federal depository account of the U.S. Treasury by the BLM. Checks bearing a 9-digit American Banking Association (ABA) routing number will pass timely through BLM's regular depository. However, if the remittance is drawn on a **foreign bank** (i.e., no 9- digit ABA routing number), or if it is a **personal check** (which includes a company check), or otherwise not guaranteed funds, there will be a delay in processing the bond by as much as 30-45 days. This time period is required for the BLM to be notified by its bank that the personal or foreign check has been returned as not payable. The BLM is required to send checks without a 9-digit ABA routing number to Citibank, Wilmington, DE, for processing, which may take 45 days or more. The bond cannot be adjudicated, nor can a refund be authorized, before the check processing occurs.

        If the BLM receives another instrument which is in accordance with the requirements for a "cash bond," a refund of the original payment will be authorized by the BLM after the processing time (30-45 days), as long as, the original payment was not returned as not payable by the U.S. Treasury. The BLM can authorize a refund of a foreign/personal check only after 30-45 days.

    b. Irrevocable Letter of Credit – Obtained through a bank or financial institution

located in the United States. See Attachment 4 for further information.

c. Certificates of Deposit (Time Deposits) - Obtained from a bank whose deposits are insured by the Federal Deposit Insurance Corporation (FDIC), or a bank that is a Federal Reserve Branch Bank, and the deposit is not in excess of the maximum insurable amount, which is currently $250,000. The time deposit must be pledged to the BLM. See Attachment 4 for further information.

d. Negotiable Securities of the United States (U.S. Treasury bill, note, or bond) – Having a par value at the time of purchase of not less than the dollar amount required for bonding. See *Attachment 5* for further information.

e. Investment-Grade Rated Securities - having a Standard and Poor's rating of AAA or AA or an equivalent rating from a nationally recognized securities rating service**.**

The BLM in Alaska will not accept corporate guarantees as financial guarantee of reclamation.

f. Insurance - when its form and function is such that the funding or enforceable pledges of funding are used to guarantee performance of regulatory obligations in the event of default on such obligations. Insurance must have an A.M. Best rating of "superior" or an equivalent rating from a nationally recognized insurance rating service**.**

3. **State of Alaska Mining Reclamation Bond Pool** – when applied for through an APMA, approved by a BLM Field Office and the ADNR, and maintained through payment of annual fees.

4. **Surface Management Bond Rider.** BLM Alaska will accept a personal or surety bond from a third party, that is, a party other than the operator, with the use of the appropriate bond and bond rider form; *Form 3809-4* is the Third-Party Rider form (Attachment 6). The BLM in Alaska will also accept a personal bond from the operator which is secured by a time deposit, letter of credit, or U.S. Treasury security from a third party with the use of a Personal Bond Rider, *Form 3809-4a* (Attachment 7). Other changes to a personal bond, such as an increase or decrease of the amount, a change to the bond coverage (individual, statewide, nationwide), the addition of a coprincipal(s) under the bond, etc. may be made also using *Form 3809-4a* (Attachment 7).

C. Statewide and Nationwide Bonds

The surface management regulations at 43 CFR 3809 provide for statewide and nationwide bonds. These bonds can be used to cover all of an operator's Notices and Plans of Operations in one state (statewide bond) or in all states in which the BLM administers lands that are open to the General Mining Laws (nationwide bond).

When Notices and Plans of Operations are to be covered by a statewide or nationwide bond, an operator must submit the surety bond or personal bond and financial instrument to the BLM for

processing and acceptance. In Alaska, the BLM Alaska State Office (AK-932) will receive, adjudicate and maintain statewide bonds as well as nationwide bonds it receives. The BLM State Office to which a nationwide bond is submitted will be the maintenance office of that nationwide bond for the BLM.

D. Phased or Incremental Bonding

Upon request by the operator, BLM Alaska may allow phased or incremental bonding for plans of operations. Some plans may be designed so that operations will occur in discrete "blocks" or operational phases. Bond coverage will be established to cover each phase of an operation as it progresses. In all cases, bond coverage will be required prior to disturbance.

Likewise, reclamation may be designed to occur in discrete blocks or phases. An entire site may be reclaimed in phases or an operation may be designed so that reclamation is completed in one area, while new disturbance is beginning elsewhere in the same operation. In the latter case, a fixed amount of bond coverage may be "rolled over" from one part of the operation to another with approval by the appropriate BLM field office.

E. Financial Guarantee Reduction and Release

The 43 CFR 3809 regulations require that all Plans and Notices submitted after January 20, 2001 be covered by a financial guarantee before conducting operations. The financial guarantee must be sufficient to cover 100% of the cost to stabilize and reclaim the site, including the cost of any action needed to prevent unnecessary or undue degradation of the Federal lands should premature cessation or abandonment of the operation occur. The following guidelines provide for the reduction and final release of financial guarantees held for Plan of Operations and Notice-level activities:

1. Up to 60% of the total financial guarantee for an operational area within a designated project area, or an entire project area, may be released when all contouring, water run-off and slope stabilization is complete(see 43 CFR 3809.591(b)). Requirements include: drill hole plugging; backfilling; recontouring; grading; establishment of surface and subsurface drainage controls; and stabilization of process/settling ponds and other similar facilities.

2. The remaining portion (at least 40%) of the financial guarantee may be released when all structures and other facilities have been removed and the area has been revegetated to establish a diverse, effective and permanent vegetative cover, all monitoring and maintenance requirements have been met, and when discharged effluent has met, without violations and without the necessity for additional treatment, applicable effluent limitations and water quality standards for at least one full year (see 43 CFR 3809.591(c)).

   For operations where a portion of the surface disturbance has been fully reclaimed, meeting both the 60 and 40 percent criteria above, the operator may request and may

receive credit for 100 percent reduction of the financial guarantee for that portion of the operation.

3. Use of the Bond Pool is incompatible with partial financial guarantee release. Following 43 CFR 3809.591(b), any acre covered by the Bond Pool must be fully reclaimed before the refundable portion is released to the operator – release of any funds for partial reclamation is prohibited.

4. For those operations that may require long-term (more than five years) post-closure monitoring and maintenance activities, operators may choose to acquire separate financial instruments to address and cover those identified long-term post-closure obligations. This would allow for release of the original financial guarantee upon completion of all reclamation and closure activities. [See 43 CFR 3809.552(c)].

Each Notice and Plan of Operations must include a section addressing site-specific financial guarantee release criteria which includes requirements in the approved BLM authorization.

Annual or interim adjustments (increases and decreases) to a financial guarantee covered by the Bond Pool may be requested using the following year's Bond Pool submittal form following review by the field office of appropriate jurisdiction. Requests for final release of financial guarantees covering operations on public lands must be made in writing to the appropriate BLM field office. Also, for all Plans of Operations, final release of a financial guarantee cannot be completed until BLM posts the final release proposal in the appropriate BLM Field Office or publishes a notice of the proposed final release in a local newspaper of general circulation and accepts public comments for 30 calendar days. Such a notification is not required for the final release of a financial guarantee held for Notice-level operations.

G. Transfer or Change of Operator

Any change of operator must be promptly reported to the appropriate BLM field office. In the event of a change of operator involving an existing Notice or approved Plan of Operations, the BLM will not transfer reclamation responsibility to the new operator until it is assured that the new operator or the subject operation has satisfied the requirements of the 43 CFR 3809 regulations as they relate to bonding. Reclamation responsibility remains with the existing bond until satisfactory replacement bonding is accepted for the operation. To expedite approval of operator transfer or change, *Form 3809-5 (Attachment 9)* or an acceptable transfer form from ADNR may be submitted to DNR with concurrence with the appropriate BLM field office (ADNR Transfer of Responsibility for Bonding and Reclamation Form: http://dnr.alaska.gov/mlw/forms/14apma/amend/bondpool_xfer.pdf)

ATTACHMENT 1

Reclamation Cost Estimation Summary Sheet
and Reclamation Cost Checklist

Reclamation Cost Estimation Summary Sheet

This cost estimation summary sheet is provided to assist the operator and BLM in calculating and reviewing the reclamation cost estimate. The summary sheet is designed to accompany the Reclamation Cost Checklist. The summary sheet is not all inclusive nor is it required.

Notice [ ] Plan of Operations [ ] BLM Case-File No.: AK- _____

Project Name: _____

Enter those values in the cost estimate that are appropriate to this project. All reclamation costs are to be calculated as third party contracts. This summary sheet is to be accompanied by a worksheet describing how each itemized cost was calculated.

Earthwork/Recontouring Uplands	Labor[1]	Equipment	Materials	Totals
Roads				
Drill Site(s)				
Pits/Adits/Trenches				
Settling Ponds				
Dumps				
Structure & Building Areas				
Storage & Equipment Areas				
Drainage Control				
Mobilization/Demobilization				
Miscellaneous[2]				
Uplands Earthwork Total				
Revegetation/ Stabilization				
Roads				
Drill Sites				
Pits/Adits/Trenches				
Settling Ponds				
Dumps				
Tailings				
Structure and Building Areas				
Storage and Equipment Areas				
Drainage Control				
Mobilization/Demobilization				
Miscellaneous[2]				
Revegetation Total				
Subtotal				

Reclamation Cost Estimation Summary Sheet

	Labor[1]	Equipment	Materials	Totals
Riparian Reclamation				
Contouring				
Placement of Erosion Controls				
Vegetation Placement				
Seeding				
Miscellaneous[2]				
Riparian Reclamation Total				
Stream/Bank Reclamation				
Contouring				
In-stream Structures				
Vegetation Placement				
Surveying				
Miscellaneous[2]				
Stream/Bank Reclamation Total				
Disposal of Wastes				
Monitoring				
Mobilization/Demobilization				
Solid Waste Removal				
Hazardous Materials Removal				
Miscellaneous[2]				
Disposal of Wastes Total				
Indirect Costs				
Engineering, Design, and Planning[4]				
Contingency[5]				
Insurance[6] (On Site Liability)				
Bond[7] (Performance and Payment)				
Contractor Profit[8]				
BLM Contract Administration[9]				
BLM Indirect Costs[10]				
Administrative Total				
TOTAL FROM PREVIOUS PAGE				
TOTAL				

Attach sources/information used in cost estimate (examples: Caterpillar Performance Handbook values, contractor's estimates, vendor quotes, etc.).

Reclamation Cost Estimation Summary Sheet Endnotes

[1] Federal construction contracts require Davis-Bacon wage rates for contracts over $2,000. Wage rate estimates may include base pay, Federal Insurance Corporation of America (FICA) and other required workforce coverage and benefits, overhead and profit. To avoid double counting of any of the identified administrative costs the operator must itemize the components of their labor cost estimates or provide BLM with a signed statement, under penalty of USC 1001, that identifies what specific administrative costs are included in the quoted hourly rate.

[2] Miscellaneous items should be itemized on accompanying worksheets.

[3] Handling of hazardous materials and chemicals/other reagents includes the cost of decontaminating, neutralizing, disposing, treating and/or isolating all hazardous materials/chemicals/reagents used, produced, or stored on the site.

[4] **For Mining and Processing Projects Only**. Engineering, design and construction (ED&C) plans are often necessary to provide details on the reclamation needed to contract for the required work. To estimate the cost to develop an ED&C plan use 4-8% of the O&M cost (Line E). Calculate the ED&C cost as a percentage of the O&M cost as follows: up to and including $1 million, use 8%; over $1 million to $25 million, use 6%; and over $25 million, use 4%. Itemized ED&C costs should be applied when appropriate such as for stream restoration tasks.

[5] A contingency cost is included in the reclamation cost estimation to cover unforeseen cost elements. Calculate the contingency cost as 15 percent of the O&M cost (Line E).
As with the ED&C cost, inclusion of a contingency cost may not be necessary for small operations, such as road-accessible Notice-level exploration.

[6] Insurance premiums are calculated at 1.5% of the total labor costs. Enter the premium amount if liability insurance is not included in the itemized unit costs.

[7] Federal construction contracts exceeding $100,000 require both a performance and a payment bond (Miller Act, 40 USC 270 *et seq.*). Calculate the total performance bond and the payment bond premiums at 3% of the O&M cost (Line E). Each bond premium is figured at 1.5% of the O&M cost.

[8] For Federal construction contracts, use 10% of estimated O&M cost (Line E) for the contractor's profit.

[9] Calculate the contract administration cost as a percentage of the O&M cost as follows: up to and including $1 million, use 10%; over $1 million to $25 million, use 8%; and greater than $25 million use 6%.

[10] Estimate BLM's indirect cost rate at 21% of the contract administration costs (Line F6). This cost requirement may vary year to year so for larger projects request the current year's rate from the BLM's State Budget Office.

Reclamation Check List

This checklist is provided to assist the operator and BLM in calculating the engineering and environmental costs required to properly stabilize and reclaim the area disturbed by mineral exploration and/or mining operations. The checklist is designed to accompany the Reclamation Cost Estimation Summary Sheet. It is not all inclusive nor is it required, but is intended to serve as a reminder of issues that should be considered.

Access Roads and Drill Pads

1. Mobilization and demobilization.
2. Recontouring or regrading to approximate the original topography as closely as possible.
3. Removal of culverts.
4. Ripping or scarifying the surface.
5. Water diversion construction.
6. Restoration or stabilization of drainage areas or stream beds.
7. Revegetation.

Drill Hole and Well Abandonment

1. Mobilization and demobilization.
2. Drill hole and well (water, monitoring and piezometer) abandonment must meet all applicable Federal and State standards.
3. Drill holes that will be “mined through” within six months of drilling completion by the proposed mining operation do not have to be considered for bonding.

Trenches, Pits, Shafts, and Adits

1. Mobilization and demobilization.
2. Recontouring or regrading to approximate the original topography as closely as possible.
3. Revegetation.

Waste Dumps, Overburden, and Interburden Storage Areas

1. Encapsulation, mixing or other engineered placement methods.

Reclamation Check List

2. Recontouring and regrading to approximate the surrounding topography as closely as possible to enhance stability, reduce susceptibility to erosion, and facilitate efforts to establish vegetation.
3. Diversion of run-on.
4. Covering with rock, clay, topsoil, other growth medium or other cover material.
5. Revegetation.

Dams for Settling Ponds

1. Covering with rock, clay, topsoil, other growth medium or other cover material.
2. Revegetation.
3. Rendering the dam incapable of storing any mobile fluid in a quantity which could pose a threat to the stability of the dam, or to public safety.

Impoundment for Tailings

1. Regrading to promote run-off and reduce infiltration.
2. Covering with waste rock, clay, topsoil, other growth medium or other cover material.
3. Revegetation.
4. Diversion of run-on.
5. Temporary containment basins and water treatment facilities for leakage or outflow of effluent.

Reclamation Check List

Settling Ponds, and Other Non-Tailings Impoundments

1. Backfilling and grading as approved in the Notice or Plan of Operations.
2. Restoration of the pre-disturbance surface water regime, if appropriate.

Building Foundations, Facilities, Structures and Other Equipment

1. Demolition and burial costs of the demolition debris on site, in conformance with applicable solid waste and hazmat disposal requirements.
2. Off-site disposal costs of "1" above, in conformance with applicable solid waste disposal and hazmat requirements.
3. Equipment, miscellaneous facility (pipelines, power lines, etc.), trash and scrap removal.
4. Costs of continued use in a manner that is consistent with the proposed post mining land use.
5. No provision for salvage value or credit is to be considered.

Underground Mines

1. Sealing shafts, adits, portals, and tunnels to prevent access.
2. Construction and maintenance of berms, fences, or other means of restricting access.

Revegetation

1. Mobilization/demobilization of equipment.
2. Application of top soil or other growth medium.
3. Seed bed preparation.
4. Selection of appropriate species of seeds or plants (consult BLM staff specialist).
5. Addition of soil amendments such as fertilizers, mulches, or other compounds to assist in plant growth. Consult the BLM Field Office Staff to discuss options for seeding, planting, and fertilizing.
6. Planting or seeding (equipment, personnel, cost of seeds/plants).

Site Maintenance, Monitoring, and Evaluation

1. Any site monitoring costs as required by the BLM.
2. Evaluation to determine whether the revegetation and slope stability meet the criteria established for bond release or project closeout if work is done by BLM

ATTACHMENT 2

Form 3809-1, Surface Management Surety Bond

A fillable PDF of this form is available on the BLM National Operations Center eForms webpage: http://www.blm.gov/noc/st/en/business/eForms/mc.html

Form 3809-1
(July 2014)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0194
Expires: August 31, 2016

Surety Bond Number

SURFACE MANAGEMENT SURETY BOND

Act of May 10, 1872, as amended (30 U.S.C. 22-54)
Act of December 29, 1916, as amended (39 Stat. 862)
Act of October 21, 1976, as amended (43 U.S.C.1732-35, 1782)
Act of September, 13, 1982 (31 U.S.C. 9301 et seq.)
Act of September 27, 1988 (102 Stat. 1776)
Act of April 16, 1993 (43 U.S.C. 299)

Individual _____ ; or Statewide _____ ; or Nationwide _____
(Enter BLM Serial No.) (Enter Name of State, if applicable) (Enter "Yes," if applicable)

KNOW ALL BY THESE PRESENTS, THAT: _____
(name)

of _____
(address)

as principal; and _____ of _____
(name) *(address)*

_____ as surety; are held firmly bound unto the United States of America in the

sum of _____

_____ U.S. dollars ($ _____),

lawful money of the United States, which may be increased or decreased by a rider hereto executed in the same manner as this bond, for the payment of which sum the principal and surety bind themselves successors, and assigns, jointly and severally, by these presents.

The principal/surety will apply this bond for the faithful performance of any and all of the conditions and stipulations as set forth in this bond, the plan of operations/notice cited above, and the regulations cited at CFR 3802 and 43 CFR 3809. In the case of any default in the performance of the conditions and stipulations of such undertaking, it is agreed that the surety/principal will apply the bond or any portion thereof, to the satisfaction of any damages, reclamation, assessments, penalties, or deficiencies arising by reason of such default.

BOND CONDITIONS

1. WHEREAS, the principal has an interest in a mining claim(s), mill site(s), or tunnel site(s) and/or responsibility for operations on those mining claim(s), mill site(s), tunnel site(s) or public lands under the Acts cited in this bond; and
2. WHEREAS, the principal has filed an acceptable notice with the United States Department of the Interior, Bureau of Land Management (BLM) and/or received approval from the BLM of the plan of operations cited above, and said plan of operations/notice contains certain stipulations and conditions; and
3. WHEREAS, the principal has promised to deliver to the United States a bond substantially in the form hereof upon the approval and/or acceptance of the above referenced plan of operations and/or notice by the BLM to secure the performance of the terms and conditions contained in said plan of operations/notice and/or associated reclamation plan.
4. WHEREAS, the principal and surety agree that, with notice to the surety, the coverage of this bond, in addition to the present holdings of and/or authorization(s) granted to the principal, shall extend to and include:
   a. Any transfer of operating rights under the plan of operations and/or notice hereafter entered into or acquired by the principal affecting mining claim(s), mill site(s), tunnel site(s), or public lands; and
   b. Any activity subsequent hereto of the principal as operator under a plan of operations and/or notice issued pursuant to the Acts cited in this bond;

   Provided, that for Statewide and Nationwide bonds only, the surety may elect to terminate the additional coverage authorized under this paragraph. Such termination will become effective 30 days after the BLM receives notice of the election to terminate. After the termination becomes effective, the additional interests identified in this paragraph will not be covered by this bond; and
5. WHEREAS, the principal and surety agree that with notice to the surety this bond shall remain in full force and effect notwithstanding: Any assignment(s) of an undivided interest in any part or all of the mining claim(s) mill site(s), tunnel site(s), or public lands covered by the plan of operations/notice in which event the assignee(s) shall be considered to be coprincipal(s) on this bond as fully and to the same extent as though their duly authenticated signatures appeared thereon; and
6. WHEREAS, the principal/surety hereby waives any right to notice of, and agrees that this bond will remain in full force and effect notwithstanding:
   a. Any transfer(s) in whole or in part, of any or all of the land covered by the plan of operations and/or notice and further agrees to remain bound under this bond as to the interests in the plan of operations and/or notice retained by the principal; and
   b. Any modification of the plan of operations/notice or obligations thereunder as provided in paragraph 4 herein; and
7. WHEREAS, the principal and surety hereby agree that notwithstanding the nullity, relinquishment, abandonment or forfeiture of any mining claim(s), mill site(s), or tunnel site(s) covered by this plan of operations and/or notice, whether by operation of law or otherwise, the bond will remain in full force and effect as to the terms and conditions of the plan of operations and/or notice and obligations covered by this bond; and

(Continued on page 2)

BOND CONDITIONS (Continued)

8. WHEREAS, should the surety elect to cancel this bond, the surety agrees to give the principal and the BLM 90 days written notice by certified mail, return receipt requested, at their respective addresses as stated herein. The address for service to BLM concerning this bond

   is the BLM _____ State Office located at _____

   _____.

   The surety further agrees that in the event of such cancellation this bond will remain in full force and effect as to all areas within the plan of operations/notice disturbed prior to the effective date of such cancellation, unless and until the principal should file a substitute bond or other acceptable instrument to protect the interests of the BLM and such bond or instrument is accepted by the BLM; and

9. WHEREAS, the principal and surety agree that in the event of any default under the plan of operations and/or notice, the bond may be forfeited and, the United States, through the BLM, may commence and prosecute any claim, suit, or other proceeding against the surety and principal, or either of them, without the necessity of joining the owner(s) of the mining claim(s), mill site(s), or tunnel site(s) covered by the plan of operations and/or notice; and

10. WHEREAS, if the principal fails to comply with the provisions of 43 CFR 3802 and 43 CFR 3809, the principal will be subject to the applicable provisions and penalties of Sections 303 and 305 of the Federal Land Policy and Management Act of 1976, *as amended*, (43 U.S.C. 1733 and 1735). This provision should not be construed to prevent the exercise by the United States of any other legal and equitable remedy, including waiver of the default; and

11. WHEREAS, on the faith of the foregoing promises, representations, and appointments and in consideration of this bond, the United States has received a notice or approved the plan of operations referenced herein.

12. NOW, THEREFORE, the condition of this obligation is that if said principal, heirs, executors, administrators, successors, or assignees will, in all respects, faithfully comply with all of the provisions of the plan of operations and/or notice, and any amendments thereto, and the regulations at 43 CFR 3802 and 43 CFR 3809, then this obligation will be null and void; otherwise it will remain in full force and effect.

Executed this _____ day of _____ , 20 _____:

Principal _____

By _____
(Print Name)

Title _____

Business Address _____

_____

_____
(TIN or SSN, if applicable)

Surety _____

Attorney-in-fact _____

Signature _____

Business Address _____

_____

_____
(TIN)

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212 make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

This bond must bear the seal of the surety company. If this bond is signed by a corporation, it should bear the seal of the corporation, if applicable.

NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) require that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 22 et seq.; 43 U.S.C. 1732(b) and 1782(c); 31 U.S.C. 9301 et seq.; 43 CFR 3802 and 43 CFR 3809.

PRINCIPAL PURPOSE: Information is being used to establish financial responsibility for surface disturbance on public lands.

ROUTINE USES: BLM will only disclose the information according to the regulations at 43 CFR 2.56(d).

EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is necessary to receive or obtain a benefit. Failure to disclose this information may result in BLM's rejection of your application.

The Paperwork Reduction Act of 1995 requires us to inform you that:
BLM collects this information to grant the right to conduct exploration and mining activities on public lands.
Response to this request is required to obtain or retain benefit.
BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to: U.S. Department of the Interior, Bureau of Land Management (1004-0194), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Room 2134LM, Washington, D.C. 20240.

ATTACHMENT 3

Form 3809-2, Surface Management Personal Bond

A fillable PDF of this form is available on the BLM National Operations Center eForms webpage: http://www.blm.gov/noc/st/en/business/eForms/mc.html

Form 3809-2
(August 2014)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SURFACE MANAGEMENT PERSONAL BOND

Act of May 10, 1872, as amended (30 U.S.C. 22-54)
Act of December 29, 1916, as amended (39 Stat. 862)
Act of October 21, 1976, as amended (43 U.S.C.1732-35, 1782)
Act of September, 13, 1982 (31 U.S.C. 9301 et seq.)
Act of September 27, 1988 (102 Stat. 1776)
Act of April 16, 1993 (43 U.S.C. 299)

FORM APPROVED
OMB NO. 1004-0194
Expires: August 31, 2016

Individual _____ ; or Statewide _____ ; or Nationwide _____
(Enter Bureau of Land Management (BLM) Serial No.) (Enter Name of State, if applicable) ("Yes", if applicable)

KNOW ALL MEN BY THESE PRESENTS, THAT _____
(name)

of _____
(address)

as principal; is held firmly bound unto the United States of America in the sum of _____

_____ U.S. dollars ($ _____
lawful money of the United States, which may be increased or decreased by a rider hereto executed in the same manner as this bond.

The principal, pursuant to the authority conferred by Section 1 of the Act of September 13, 1982 (31 U.S.C. 9303), does hereby constitute and appoint the Secretary of the Interior to act as his attorney-in-fact for the purpose of negotiating the cash, letters of credit, savings accounts, certificates of deposit, or securities. The interest accruing on the United States securities, cash, or other instruments given above, in the absence of any default in the performance of any of the conditions, or stipulations set forth in this bond, the plan of operations/notice, must be paid to the principal. The principal hereby, for any heirs, executors, administrators, successors, and assignees, jointly and severally, ratifies and confirms whatever the Secretary will do by virtue of these presents.

The Secretary will transfer this deposit for the faithful performance of any and all of the conditions and stipulations as set forth in this bond, the plan of operations/notice cited above, and the regulations at 43 CFR 3802 and 43 CFR 3809. In the case of any default in the performace of the conditions and stipulations of such undertaking, it is agreed that the Secretary will have full power to assign, appropriate, apply, or transfer the deposit, or any portion thereof, to the satisfaction of any damages, reclamation, assessments, penalties, or deficiencies arising by reason of such default.

BOND CONDTIONS

1. WHEREAS, the principal has an interest in a mining claim(s), mill site(s), or tunnel site(s) and/or responsibility for operations and/or reclamation on the mining claim(s), mill site(s), or tunnel site(s) or public lands under the Acts cited in this bond; and
2. WHEREAS, the principal has filed an acceptable notice with the United States Department of the Interior, BLM and/or received approval from the BLM of the plan of operations cited above and said plan of operations/notice contains certain stipulations and conditions; and
3. WHEREAS, the principal hereby waives any right to notice of, and agrees that this bond will remain in full force and effect notwithstanding:
   a. Any transfer(s) in while or in part, of any or all of the land covered by the plan of operations/notice further agrees to remain bound under this bond as to the interests in the plan of operations/notice retained by the principal; and
   b. Any modification of the plan of operations/notice retained by the principal; and
4. WHEREAS, the principal hereby agrees that notwithstanding the cancellation or relinquishment of any mining claim(s), mill site(s), or tunnel site(s) covered by this plan of operations/notice, whether by operation of law or otherwise, the bond will remain in full force and effect as to the terms and conditions of the plan of operations/notice, and obligations covered by this bond; and
5. WHEREAS, the principal agrees that in the event of any default under the plan of operations/notice and/or reclamation plan the bond may be forfeited and, the United States, through the BLM, may commence and prosecute any claim, suit, or other proceeding against the principal without the neccessity of joining the owner(s) of the mining claim(s), mill site(s), or tunnel site(s) covered by the plan of operations/notice; and
6. WHEREAS, if the principal fails to comply with the provisions of 43 CFR 3802 and 43 CFR 3809, the principal will also be subject to the applicable provisions and penalties of Sections 303 and 305 of the Federal Land Policy and Management Act of 1976, *as amended* (43 U.S.C. 1733 and 1735). This provision will not be construed to prevent the exercise by the United States of any other legal and equitable remedy, including waiver of the default; and
7. WHEREAS, on the faith of the foregoing promises, representations, and appointments and in consideration of this bond, the United States has accepted the notice or approved the plan of operations referenced herein.
8. NOW, THEREFORE, the condition of this obligation is such that if said principal(s), heirs, executors, administrators, successors, or assignees will, in all respects, faithfully comply with all of the provisions of the plan of operations/notice referenced herein, and any amendments thereto, and the regulations at 43 CFR 3802 or 43 CFR 3809, then this obligation will be null and void; otherwise it will remain in full force and effect.

(Continued on page 2)

Executed this _____ day of _____ , 20_____:

State of _____

Country of _____

Subscribed and sworn to before me this _____ day

of _____ , 20 _____

_____
(Notary Public)

_____
(Date Commission Expires)

Principal _____

By _____
(Print name)

Signature _____

Title _____

Business Address _____

_____

_____
(TIN or SSN No., if applicable)

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212 make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

If this bond is executed by a corporation, it should bear the seal of the corporation, if applicable.

NOTICES

THE PRIVACY ACT OF 1974 and the regulation in 43 CFR 2.48(d) require that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 22 et. seq.; 43 U.S.C. 1732(b) and 1782(c); 31 U.S.C. 9301 et seq.; CFR 3802 and 43 CFR 3809.
PRINCIPAL PURPOSE: Information is being used to establish financial responsibility for surface disturbance on public lands.
ROUTINE USES: BLM will only disclose the information according to the regulations at 43 CFR 2.56(d).
EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is necessary to obtain or retain a benefit. Failure to disclose this information may result in the BLM's rejection of your application.

THE PAPERWORK REDUCTION ACT OF 1995 requires us to inform you that:
The BLM collects this information to grant the right to conduct exploration and mining activities on public lands.
Response to this request is required to obtain or retain a benefit.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average about 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0194), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Room 2134LM, Washington D.C. 20240.

ATTACHMENT 4

Information on Time Deposits and Letters of Credit for Reclamation Bonding of Notices and Plans of Operations

U.S. Department of the Interior
Bureau of Land Management
Alaska State Office

Information on Time Deposits and Letters of Credit For Reclamation Bonding of Plans of Operations

The following information is provided to assist an entity in obtaining a Time Deposit or an Irrevocable Letter of Credit to be used as security for Bureau of Land Management (BLM) surface reclamation bond (Form 3809-2, Attachment 3). It is suggested that you take these guidelines with you to the bank when you go to inquire about obtaining a time deposit or letter of credit. If you, or the financial institution, have questions, please call the BLM Alaska State Office at 907-271-4402, Branch of Minerals Adjudication.

Certificates of Deposit and other Time Deposit Instruments

The Certificate of Deposit or other time deposit (TD) must be issued by a financial institution, the deposits of which are federally insured, explicitly granting the Secretary of the Interior full authority to demand immediate payment in case of default in the performance of the terms and conditions of the 3809 Notice or Plan of Operations. The TD shall explicitly indicate on its face that Secretarial approval is required prior to redemption of the TD by any party.

If the bond is secured by a certificate of deposit or other fixed time deposit, the TD must be presented to the BLM Alaska State Office with the following conditions:

1. The financial institution issuing the TD must be insured by the Federal Deposit Insurance Corporation (FDIC), the Federal Savings and Loan Insurance Corporation (FSLIC), the National Credit Union Association (NCUA), or otherwise federally insured.

2. A TD cannot exceed the insured amount from any one financial institution for any one depositor.

3. The BLM must hold sole right to redeem the TD. Bank records must be provided showing that only the BLM may collect the amount of the TD. The TD should be made in the name of the U.S. Department of the Interior - BLM. If the TD is not directly issued in the name of the Department of the Interior - BLM, then the TD must explicitly state on its face that **"The Secretary of the Interior must approve the redemption of the TD by any party."** Any earned interest will be paid to the obligor, not to BLM.

4. The TD should be provided in the amount required for surface reclamation and include an additional amount sufficient to cover any penalties for early withdrawal. If the TD is submitted for only the amount determined for surface reclamation, any penalties for early redemption will be paid from the obligor's interest earned and not from the principal amount of the TD.

Irrevocable Letters of Credit

An Irrevocable Letter of Credit must be issued by a financial institution organized or authorized to do business in the United States and identify the Department of the Interior, Bureau of Land Management as the sole payee with full authority to demand immediate payment in the case of default in the performance of the terms the notice and/or plan of operations or of default with replacement when required.

A Letter of Credit (LC) must be presented to the BLM Alaska State Office as follows:

1. The LC must be payable to the Department of the Interior - BLM.

2. The initial expiration date must not be less than one year from the effective date of the LC. The LC must contain a provision for automatic renewal for periods of not less than one-year in the absence of notice from the bank to the BLM Alaska State Office at least 90 days prior to the originally stated or any extended expiration date of bank's election not to renew.

3. The LC must contain provisions allowing collection by BLM for failure of the obligor to replace the bond when 90-day notice is given by the bank that the LC will not be renewed and the LC is not replaced by other suitable bond or LC at least 30 days before its expiration date.

4. The LC shall be payable to the BLM upon demand, in part or in full, upon receipt from the authorized officer (BLM Alaska State Office) of a notice of attachment stating the basis therefor, e.g., default in compliance with the notice or plan of operations or the failure to file a replacement for an expiring LC as described in Item 3 above.

5. The LC must be subject to the Uniform Customs and Practice for Documentary Credits. The current version is the 1993 revision, ICC Publication No. 500.

The following page is sample language to be used when securing an Irrevocable Letter of Credit.

Irrevocable Letter of Credit No.: _____ Date Issued: _____

Beneficiary:
DOI, Bureau of Land Management
Alaska State Office
222 W. 7th Avenue #13
Anchorage, AK 99513-7504

Ladies and Gentlemen:

On behalf of (operator or other entity) of (address) , as obligor, we (bank) of (address) hereby establish an Irrevocable Letter of Credit in favor of the U.S. Department of Interior, Bureau of Land Management (BLM) and agree to pay upon demand by BLM, up to an aggregate amount of U.S.$ upon receipt of your sight draft(s) on us and your written notification signed by a purported authorized officer of the BLM to the effect the obligor has been determined to be in default and the amount drawn represents the reasonable amount, as determined by the BLM, of such default.

This Letter of Credit is available with (bank or financial institution) at (address) by sight payment. Partial drawings are permitted.

This Letter of Credit is effective (date) , and will expire at our offices in (address) on (minimum of 1 year from effective date), and shall thereafter be automatically renewed for a one year period upon such date and upon each anniversary of such date, unless at least ninety (90) days prior to the then current expiration date we notify you at the above address by courier service, that we elect not to renew this letter of credit for such additional period.

Upon receipt by the BLM of such a notice from us not to renew this Letter, the BLM may draw on us at sight for up to the amount of the Letter of Credit, prior to the expiration thereof, provided that such a draft is accompanied by a statement signed by a purported authorized officer of the BLM that no satisfactory replacement bond has been provided by the obligor prior to 30 days before this Letter of Credit expires.

It shall not be required for the BLM, in order to draw on this Letter of Credit, to furnish the original Letter; however, it is understood, as a condition of any payment thereunder, that the face amount of the Letter shall automatically be reduced by any payment made by the bank and that the BLM will promptly surrender the original Letter of Credit when and if the bank shall tender to the BLM the full amount of funds represented by this Letter; such surrender to occur as soon as reasonably practical after full payment is made. The original Letter of Credit shall also be surrendered promptly following its expiration.

We promise that the amount of credit herein established will not be reduced for any reason during the effectiveness of this Letter of Credit without the prior written approval of the BLM. *Optional: We are informed that this Letter of Credit is issued per the requirements of Title 43 Code of Federal Regulations, Subpart 3809.*

This credit is subject to the Uniform Customs and Practice for Documentary Credits, 1993 revision, ICC Publication No. 500.

ATTACHMENT 5

Information on Negotiable Securities of the United States

U.S. Department of the Interior
Bureau of Land Management
Alaska State Office

INFORMATION ON NEGOTIABLE SECURITIES OF THE UNITED STATES

General information on pledging U.S. Treasury securities as collateral to the U.S. Government is found at 31 U.S.C. 9303 *et seq*. and U.S. Treasury Circular 154, which was incorporated into the Code of Federal Regulations at 31 CFR 225 (Acceptance of Bonds, Notes, or Other Obligations Issued or Guaranteed by the United States as Security in Lieu of Surety or Sureties on Penal Bonds).

The following is to assist the applicant in obtaining a U.S. Treasury Bill, Note, or Bond to be used as security for bond coverage required by the Bureau of Land Management (BLM), the Department of the Interior. Instead of being transferred to BLM's book-entry account through the Federal Reserve Bank (FRB) as in the past, securities are now held in a Circular 154, U.S. Government Account Number 11, under the depository financial institution's American Bankers Association (ABA) number with the FRB. Once a security is transferred into Circular 154 Account Number 11, neither the obligor nor the bank will be able to access the security without the BLM providing authorization to the FRB to do so.

Therefore, when you contact your bank to purchase a negotiable U.S. Treasury security, you need to send the following to the BLM Alaska State Office as soon as possible:

1. Your name and mailing address. (If this is not the operator according to the plan or notice filed with the BLM, include the operator's name and address.)

2. The BLM serial number of the operations being bonded or a statement that the security is being pledged for a statewide or nationwide bond.

3. The type of Treasury security purchased (bill, bond, or note).

4. The par amount of the security, the interest rate, and the maturity date of the security.

5. The Committee on Uniform Securities Identification Procedures (CUSIP) number of the security.

6. The name and mailing address of your bank, along with the name and telephone number of a contact person at your bank.

7. The bank's nine-digit American Bankers Association number.

8. The name of the FRB or FRB Branch servicing the depository financial institution.

9. A copy of your written authorization to the bank to establish a Treasury security.

Upon receipt of the above information, the BLM will telefax a copy of that information to the BLM Business Center, Accounting Operations Division, Negotiable Securities Manager. The Negotiable Securities Manager will then contact the FRB and the obligor's bank to authorize the transfer of the Treasury security to the Circular 154, Account Number 11.

THE OBLIGOR'S BANK MUST NOT TRANSFER THE SECURITY TO THE CIRCULAR 154, ACCOUNT NUMBER 11 UNTIL AUTHORIZATION IS GIVEN BY THE BLM NEGOTIABLE SECURITIES MANAGER.

When the security is transferred to the Circular 154, Account Number 11, the bank must include the following information in the electronic transfer message: "Security pledged to DOI- BLM Alaska State Office by [name of obligor] for [BLM bond number _____]." The following is an example of an acceptable transfer message: "Security pledged to DOI-BLM, Alaska State Office by (Zephry Mining Company) for BLM Bond Number AK 003489.

The obligor is to provide the following to the BLM office as soon as possible:

1. A fully-completed BLM personal bond form (Form 3809-2). See Attachment 3.

2. A transaction document from your bank to verify the amount that you paid for the security, excluding any commission fee and accrued interest, equals or exceeds the bond amount required by BLM. A discounted value less than the full amount is NOT acceptable. If a Treasury security, purchased at a discount, is submitted for less than the required bond amount, the bonded party must make up the difference (certified check, etc,) otherwise the bond will be returned unaccepted.

Once the security is transferred to the Circular 154, Account Number 11, the FRB will send the Negotiable Securities Manager a confirmation of the transfer, including the date of transfer, titled, "Acknowledgment of Book Entry Deposit, Release of Account Transfer" and/or "Statement of Pledged Activity." The BLM National Business Center will send a copy of the Statement or Acknowledgment will be sent to the BLM office to document the transfer.

Upon receipt of the items from the obligor and the Negotiable Securities Manager, the BLM office will notify the entity by written decision that the personal bond has been accepted, the BLM Bond Number assigned to the bond, and the date bond coverage is effective. A copy of the bond acceptance decision is sent to the Negotiable Securities Manager. The BLM will notify the obligor in its decision that (1) the personal bond has been accepted, (2) the BLM bond number assigned to the bond, and (3) the date the bond coverage is effective.

The BLM Negotiable Securities Manager will notify BLM about a maturing Treasury security about 90 days before the maturity date, and the BLM in turn will notify the obligor by letter that the security is maturing.

If bonding continues to be required and a satisfactory replacement financial instrument has not been accepted by BLM **before** the maturity date of the security, the security will be reinvested automatically upon maturity.

If a satisfactory replacement financial instrument has been accepted by BLM or a determination has been made by the appropriate BLM office(s) that bonding is no longer required, **after** the maturity date of the security, the BLM adjudication will send a memorandum requesting the Business Center to direct the FRB to transfer the security from the Circular 154, Account Number 11 to the obligor's bank.

If the entity is in default with the terms and conditions of the plan of operations or notice for which bonding was required, and collection under the bond is warranted, the BLM office will send the Negotiable Securities Manager a memorandum requesting that at maturity, the cash proceeds be transferred to BLM.

If your bank has any questions about the information provided, a bank representative should contact the servicing FRB. Any questions regarding BLM's procedures may be directed to the BLM National Business Center, Accounting Operations Division, Collections and Billings Branch at P.O. Box 25047, Denver, CO 80225-0047 (telephone number 303-236-6321). For information regarding BLM bond requirements in general, the entity may contact the BLM Alaska State Office at 907-271-4402.

ATTACHMENT 6

Form 3809-4, Bond Rider Extending Coverage of Bond to Assume Liabilities for Operations Conducted by Parties Other Than the Principal (Third-Party Rider)

A fillable PDF of this form is available on the BLM National Operations Center eForms webpage: http://www.blm.gov/noc/st/en/business/eForms/mc.html

Form 3809-4
(August 2014)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0194
Expires: August 31, 2016

BLM Bond Number

Surety Bond Number

Form for Bond Rider Extending Coverage of Bond to Assume Liabilities for Operations Conducted by Parties Other Than the Principal (Consent of Surety) RIDER

The principal and surety (or principal/obligor, if a personal bond) hereby agree to extend the coverage of the bond referenced above to include liabilities for operations conducted by _____ on _____ (Name of Mine/Operation). plan/notice serial number _____ in which the principal holds interest or in the State of _____ (Statewide bond) or Nationwide (Nationwide bond).

Coverage includes the faithful performance of all plan of operations or notice level operations, both past and future, including the responsibility for all surface reclamation, as filed or approved by the Bureau of Land Management (BLM).

This coverage of plan of operations or notice level operations, will continue whether or not the plan(s) and/or notice(s) subsequently expire, terminate, are abandoned, suspended or revoked; provided however, that this rider will not act to increase the actual cumulative or potential liability for the surety above the face amount of the bond (penal sum).

Executed this _____ day of _____, 20_____.

Principal _____	Surety _____
By _____ (Print Name)	By _____ (Print Name)
Signature _____	Attorney-in-fact _____ (Print Name)
Title _____	
Business Address _____	Business Address _____
_____ (TIN or SSN, if applicable)	_____ (TIN or SSN)

This bond must bear the seal of the surety company, if a surety bond. If this bond is signed by a corporation, it should bear the seal of the corporation, if applicable.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212 make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) require that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 22 et seq.; 43 U.S.C. 1732(b) and 1782(c); 31 U.S.C. 9301 et seq.; 43 CFR 3802 and 3809.
PRINCIPAL PURPOSE: Information is being used to establish financial responsibility for surface disturbance on public lands.
ROUTINE USES: BLM will only disclose the information according to the regulations at 43 CFR 2.56(d).
EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is necessary to obtain or retain a benefit. Failure to disclose this information may result in BLM's rejection of your application.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to grant the right to conduct exploration and mining activities on public lands.
Response to this request is required to obtain or retain a benefit.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB Control Number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0194), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Room 2134LM, Washington, D.C. 20240.

ATTACHMENT 7

Form 3809-4a, Surface Management Personal Bond Rider Form

A fillable PDF of this form is available on the BLM National Operations Center eForms webpage: http://www.blm.gov/noc/st/en/business/eForms/mc.html

Form 3809-4a
(August 2014)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0194
Expires: August 31, 2016

SURFACE MANAGEMENT PERSONAL BOND RIDER

In consideration for this rider and the acceptance of this rider by the Bureau of Land Management (BLM) on behalf of the United States of America, this rider attaches to and is part of Surface Management Bond No. _____ issued on behalf of _____

_____

principal, in favor of the United States. The bond provides coverage as shown below:

Individual _____ (Enter BLM Serial No.); Statewide _____ (Enter State Name, if applicable); Nationwide _____ (Enter "Yes", if applicable)

☐ **Increase/Decrease in Dollar Amount of Bond Coverage**

It is understood and agreed that _____, principal, is increasing/decreasing the coverage of this bond to the amount shown below; however, this rider will not act to increase/decrease the actual cumulative or potential liability above the face amount of the bond, to wit: _____

_____ U.S. dollars ($_____).

☐ **Statewide/Nationwide Bond**

The principal hereby agrees to and extends bond coverage to include any and all operations under 43 CFR 3802 and 43 CFR 3809.

Include name of State if coverage is Statewide _____.

☐ **Bond Coverage Extended**

The principal hereby agrees to and extends bond coverage to include notice-level operations pursuant to regulations at 43 CFR 3809.

☐ **Third Party Posting of the Financial Instrument for the Bond**

It is understood and agreed that _____ is pledging the financial instrument to secure the attached bond on behalf of _____, operator and principal on the bond.

☐ **Coprincipal**

It is understood and agreed that _____, principal, is extending the coverage of the bond referenced above to include liabilities for operations conducted by _____ on notice/plan of operations serialized _____.

(Continued on page 2)

NOTE

This coverage of obligations will continue whether or not a notice/plan of operations has subsequently been suspended or terminated. This rider will not act to increase the actual cumulative or potential liability of the principal or bond above the face amount of the bond. Nothing herein contained will vary, alter, or extend any provision or condition of this bond except as herein expressly stated.

Executed this _____ day of _____, 20____:

_____ _____
(Principal) (TIN or SSN, if applicable)

_____
(By)

_____
(Title)

_____
(Business Address)

State of _____ County of _____

Subscribed and sworn to before me this _____

by _____

_____
(Notary Public) (My Commission Expires)

NOTICES

THE PRIVACY ACT OF 1974 and the regulation in 43 CFR 2.48(d) require that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 22 et seq.; 43 U.S.C. 1732(b) and 1782(c); 31 U.S.C. 9301 et seq.; 43 CFR 3802 and 3809.
PRINCIPAL PURPOSE: Information is being used to establish financial responsibility for surface disturbance on public lands.
ROUTINE USES: BLM will only disclose the information according to the regulations at 43 CFR 2.56(d).
EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is necessary to obtain or retain a benefit. Failure to disclose this information may result in BLM's rejection of your application.

THE PAPERWORK REDUCTION ACT OF 1995 requires us to inform you that:
The BLM collects this information to grant the right to conduct exploration and mining activities on public lands.
Response to this request is required to obtain or retain a benefit.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB Control Number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0194), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Room 2134LM,Washington, D.C. 20240.

ATTACHMENT 8

Alaska Department of Natural Resources form for return of state-wide bond pool deposits.

An operator may request a release of bond pool coverage and return of bond pool deposits through the use of DNR forms only **after** receiving approval by the BLM Authorized Officer. The Form is available at the ADNR's website:
http://dnr.alaska.gov/mlw/forms/14apma/amend/bondpool_refund.pdf

APPLICATION FOR RELEASE OF RECLAMATION BOND
OR
REFUND OF RECLAMATION BOND POOL DEPOSIT

APMA NUMBER:_____

Name of Applicant: _____

This form may be used to request release of a reclamation bond or a refund of the refundable portion of the bond pool deposit. **If the bond is for operations on federal claims, reclamation approval is required by the federal land manager before DNR will make the bond deposit refund.** If DNR has not inspected reclamation on state claims, photographs of the completed reclamation work may be required before the bond is released.

I hereby swear or affirm, under oath, that I have examined Alaska Statute 27.19 (Reclamation Act), 11 AAC 97 (Reclamation Regulations) and my approved reclamation plan and believe myself to have completed the reclamation to the required standards and in accordance with my approved reclamation plan. The mining reclamation took place on claims: _____

_____

_____

and consists of a total of _____acres. In accordance with the above referenced Annual Placer Mining Application (APMA) and approved reclamation plan, the number of acres to be mined was _____and a total of _____acres remain to be reclaimed. I request a release of the bonding obligation and a refund of the refundable bond pool deposit for the _____ acres that have been reclaimed. I understand bond monies are refundable only to those individuals or businesses originally submitting such, unless proper documentation is enclosed indicating refunds should be issued otherwise.

Photographs of the completed reclamation work are attached: [ ] Yes [ ] No

I understand if the commissioner determines reclamation was not done in accordance with the approved plan of operations and this sworn statement, I remain liable under AS 27.19 to complete the reclamation.

I certify under penalty of perjury the foregoing is true and accurate.

_____

(Signature of Applicant) **(Date)**

NOTARY:

Subscribed and sworn to before me this

_____day of_____,

at _____.

_____

(Signature of Notary)

My Commission Expires: _____

ATTACHMENT 9

Form 3809-5, Notification of Change of Operator and Assumption of Past Liability

A fillable PDF of this form is available on the BLM National Operations Center eForms webpage: http://www.blm.gov/noc/st/en/business/eForms/mc.html

Form 3809-5
(August 2014)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0194
Expires: August 31, 2016

NOTIFICATION OF CHANGE OF OPERATOR AND ASSUMPTION OF PAST LIABILITY

The mining law surface management regulations at 43 CFR 3809 require that obligations accrued or conditions created under an operation remain with that operator until (1) Bureau of Land Management (BLM) accepts a satisfactory replacement financial guarantee adequate to cover the previously accrued obligations and (2) BLM receives documentation that a transferee accepts responsibility for the transferor's previously accrued obligations. Therefore, the undersigned transferee hereby assumes all liabilities that may be outstanding on the plan of operations or notice shown below, including, but not limited to, the obligation to properly reclaim and restore the land disturbed on said plan or notice within the approved reclamation plan or notice filed with the BLM; provided that the obligation will not act to increase the potential or cumulative liability above the face amount of the replacement bond to which this notification attaches in the amount stated below as required from the transferee.

1. BLM Notice or Plan of Operations Number(s): _____

2. Date BLM Accepted Notice or Approved the Plan of Operations: _____

3. Change of operator on the Notice(s) or Plan(s) shown is proposed on _____ (Date) as follows:

FROM: Current Operator (Transferor) _____

Address _____

Address _____

By _____ (Print Name)

Signature _____

Title _____

Surface Reclamation Bonding Amount Currently Obligated: Sum of _____

_____ U.S. dollars ($ _____).

TO: Proposed Operator (Transferee) _____

Address _____

Address _____

By _____ (Print Name)

Signature _____

Title _____

Surface Reclamation Bond: Sum of _____

_____ U.S. dollars ($ _____).

_____ (TIN or SSN)

Change of Operator Approved Pending Acceptance of Satisfactory Bond:

_____ (Field Manager) (Date)

cc: State Office
Surety, if applicable

(Continued on page 2)

NOTICES

THE PRIVACY ACT OF 1974 and the regulation in 43 CFR 2.48(d) require that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 22 et seq.; 43 U.S.C. 1732(b) and 1782(c); 31 U.S.C. 9301 et seq.; 43 CFR 3802 and 43 CFR 3809.
PRINCIPAL PURPOSE: Information is being used to establish financial responsibility for surface disturbance on public lands.
ROUTINE USES: BLM will only disclose the information according to the regulations at 43 CFR 2.56(d).
EFFECT OF NOT PROVIDING INFORMATION: Disclosure of the information is necessary to obtain or retain a benefit. Failure to disclose this information may result in BLM's rejection of your application.

THE PAPERWORK REDUCTION ACT OF 1995 requires us to inform you that:
The BLM collects this information to grant the right to conduct exploration and mining activities on public lands.
Response to this request is required to obtain or retain a benefit.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0194), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Room 2134LM, Washington, D.C. 20240.

APPENDIX C

Nevada Standard Reclamation Cost Estimate – Summary Pages

Closure Cost Estimate
Cost Summary

Enter Project Name
Enter Submittal Date
Model Version: Version 1.4.1
File Name: SRCE_Version_1_4_1_017_NV.xlsm

A. Earthwork/Recontouring	Labor [1]	Equipment [2]	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$0	$0	$0	$0
Well Abandonment	$0	$0	$0	$0
Pits	$0	$0	N/A	$0
Quarries & Borrow Areas	$0	$0	$0	$0
Underground Openings	$0	$0	$0	$0
Process Ponds	$0	$0	$0	$0
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$0	$0	$0	$0
Landfills	$0	$0	$0	$0
Tailings	$0	$0	$0	$0
Foundation & Buildings Areas	$0	$0	$0	$0
Yards, Etc.	$0	$0	$0	$0
Drainage & Sediment Control	$0	$0	$0	$0
Generic Material Hauling	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal	**$0**	**$0**	**$0**	**$0**
Mob/Demob if included in Other User sheet	$0	$0	$0	$0
Mob/Demob				$0
Subtotal "A"	**$0**	**$0**	**$0**	**$0**

B. Revegetation/Stabilization	Labor [1]	Equipment [2]	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$0	$0	$0	$0
Well Abandonment				N/A
Pits	$0	$0	$0	$0
Quarries & Borrow Areas	$0	$0	$0	$0
Underground Openings				N/A
Process Ponds	$0	$0	$0	$0
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$0	$0	$0	$0
Landfills	$0	$0	$0	$0
Tailings	$0	$0	$0	$0
Foundation & Buildings Areas	$0	$0	$0	$0
Yards, Etc.	$0	$0	$0	$0
Drainage & Sediment Control	$0	$0	$0	$0
Generic Material Hauling	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "B"	**$0**	**$0**	**$0**	**$0**

C. Detoxification/Water Treatment/Disposal of Wastes**	Labor [1]	Equipment [2]	Materials	Total
Process Ponds/Sludge				$0
Heaps				$0
Dumps (Waste & Landfill)				$0
Tailings				$0
Surplus Water Disposal				$0
Monitoring				$0
Miscellaneous				$0
Solid Waste - On Site	$0	$0	N/A	$0
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "C"	**$0**	**$0**	**$0**	**$0**

D. Structure, Equipment and Facility Removal, and Misc.	Labor [1]	Equipment [2]	Materials	Total
Foundation & Buildings Areas	$0	$0	$0	$0
Other Demolition	$0	$0	$0	$0
Equipment Removal	$0	$0	$0	$0
Fence Removal	$0	$0		$0
Fence Installation	$0	$0	$0	$0
Culvert Removal	$0	$0	N/A	$0
Pipe Removal	$0	$0	N/A	$0
Powerline Removal	$0			$0
Transformer Removal	$0			$0
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Misc. Costs	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "D"	**$0**	**$0**	**$0**	**$0**

E. Monitoring	Labor [1]	Equipment [2]	Materials	Total
Reclamation Monitoring and Maintenance	$0	$0	$0	$0
Ground and Surface Water Monitoring	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Subtotal "E"	**$0**	**$0**	**$0**	**$0**

F. Construction Management & Support	Labor	Equipment [2]	Materials	Total
Construction Management	$0	$0	N/A	$0
Construction Support	$0	$0	$0	$0
Road Maintenance	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "F"	**$0**	**$0**	**$0**	**$0**

Subtotal Operational & Maintenance Costs	Labor [1]	Equipment [2]	Materials [3]	Total
Subtotal A through F	**$0**	**$0**	**$0**	**$0**

** Other Operator supplied costs - additional documentation required.

Closure Cost Estimate
Cost Summary

Enter Project Name
Enter Submittal Date
Model Version: Version 1.4.1
File Name: SRCE_Version_1_4_1_017_NV.xlsm

Indirect Costs				Include?	Total
1. Engineering, Design and Construction (ED&C) Plan (7)					$0
2. Contingency (8)					$0
3. Insurance (9)	$0				$0
4. Performance Bond (10)					N/A
5. Contractor Profit (11)					$0
6. Contract Administration (12)					$0
7. Government Indirect Cost (13)					$0
Subtotal Add-On Costs					**$0**
Total Indirect Costs as % of Direct Cost					--
GRAND TOTAL					**$0**

Administrative Cost Rates (%)

	Cost Ranges for Indirect Cost Percentages				
	<=	<=	<=	>	
1. Engineering, Design and Construction (ED&C) Plan (7)	$500,000	$2,500,000	$25,000,000	$25,000,000	Small Plan
Variable Rate	0%	0%		0%	0%
	<=	<=	<=	>	
2. Contingency (8)	$500,000	$5,000,000	$50,000,000	$50,000,000	Small Plan
Variable Rate	0%	0%	0%	0%	0%
3. Insurance (9)	1.5%	of labor costs			
4. Bond (10)	3.0%	of the O&M costs if O&M costs are >$100,000			
5. Contractor Profit (11)	10%	of the O&M costs			
	<=	<=	<=	>	
6. Contract Administration (12)	$1,000,000	$15,000,000	$25,000,000	$25,000,000	
Variable Rate	0%	0%		0%	
0	0%	$0			

RECLAMATION COST ESTIMATION SUMMARY SHEET FOOTNOTES
NOTE :

Nevada Standardized Bond Calculation
Indirect Costs

File Name:	***CostData STD 3.xls***
Date:	***December 1, 2005***
Cost Basis:	***Standardized Data***
Author/Source:	***Nevada Division of Environmental Protection (NDEP) & NV BLM***

Administrative Cost Rates (%)					
	Cost Ranges for Indirect Cost Percentages				
	<=	**<=**	**<=**	**>**	
1. Engineering, Design and Construction (ED&C) Plan (7)	$100,000	$25,000,000		$25,000,000	Small Plan
Variable Rate	8.00%	6.00%		4.00%	
	<=	**<=**	**<=**	**>**	
2. Contingency (8)	$500,000	$5,000,000	$50,000,000	$50,000,000	Small Plan
Variable Rate	10.00%	8.00%	6.00%	4.00%	
3. Insurance (9)	1.50%	of labor costs			
4. Bond (10)	3.00%	of the O&M costs if O&M costs are >$100,000			
5. Contractor Profit (11)	10.00%	of the O&M costs			
	<=	**<=**	**<=**	**>**	
6. Contract Administration (12)	$1,000,000	$25,000,000		$25,000,000	
Variable Rate	10.00%	8.00%		6.00%	
7. BLM Indirect Costs	21.00%	of contract administration			

RECLAMATION COST ESTIMATION SUMMARY SHEET FOOTNOTES

1. Federal construction contracts require Davis-Bacon wage rates for contracts over $2,000. Wage rate estimates may include base pay, payroll loading, overhead and profit. To avoid double counting of any of the identified administrative costs the operator must itemize the components of their labor cost estimates or provide BLM with a signed statement, under penalty of USC 1001, that identifies what specific administrative costs are included in the quoted hourly rate.

2. The reclamation cost estimate must include the estimated plugging cost of at least one drill hole for each active drill rig in the project area. Where the submitted Notice or approved Plan of Operations calls for drill holes to be plugged, but doesn't specifically require the drill holes be plugged before the drill rig has been moved from the drill pad, the reclamation cost estimate must include the plugging cost for those drill holes. For all drill holes and wells scheduled to be left open, the estimated plugging cost must be included in the reclamation cost estimate. Where the approved Plan of Operations proposes immediate mining through an area where the drilling is to occur, and the cost of the post-mining reclamation is included in the reclamation cost estimate, the cost estimate does not need to include the plugging costs for those drill holes.

3. Miscellaneous items should be itemized on accompanying worksheets.

4. Fluid management should be calculated only when mineral processing activities are involved. Fluid management represents the costs of maintaining proper fluid management to prevent overflow of solution ponds through premature cessation or abandonment of operations. Calculate a minimum six month direct cost estimate which includes power, supplies, equipment, labor and maintenance.

5. Handling of hazardous materials includes the cost of decontaminating, neutralizing, disposing, treating and/or isolating all hazardous materials used, produced, or stored on the site.

6. Any mitigation measures required in the Plan of Operations must be included in the reclamation cost estimate. Mitigation may include measures to avoid, minimize, rectify and reduce or eliminate the impact, or compensate for the impact.

7. Engineering, design and construction (ED&C) plans are often necessary to provide details on the reclamation needed to contract for the required work. To estimate the cost to develop an ED&C plan use 4-8% of the O&M cost. Calculate the ED&C cost as a percentage of the O&M cost as follows: up to and including $1 million, use 8%; over $1 million to $25 million, use 6%; and over $25 million, use 4%. Inclusion of a line item for the development of an ED&C plan may not be necessary for small operations, such as notice-level exploration. With small, uncomplicated reclamation efforts contracting may be able to proceed without developing an ED&C plan. [ED&C is automatically eliminated if "Notice" is selected on the Property Information Sheet]

8. A contingency cost is included in the reclamation cost estimation to cover unforeseen cost elements. Calculate the contingency cost as a percentage of the O&M cost as follows: up to and including $500,000, use 10%; over $500,000 to $5 million, use 8%; over $5 million to $50 million, use 6%; and greater than $50 million, use 4%. As with the ED&C cost, inclusion of a contingency cost may not be necessary for small operations, such as notice-level exploration.

9. Insurance premiums are calculated at 1.5% of the total labor costs. Enter the premium amount if liability insurance is not included in the itemized unit costs.

10. Federal construction contracts exceeding $100,000 require both a performance and a payment bond (Miller Act, 40 USC 270et seq.). Each bond premium is figured at 1.5% of the O&M cost. Enter the sum of both premium costs on this line.

11. For Federal construction contracts, use 10% of estimated O&M cost for the contractor's profit.

12. To estimate the contract administration cost, use 6 to 10% of the operational and maintenance (O&M) cost. Calculate the contract administration cost as a percentage of the O&M cost as follows: up to and including $1 million, use 10%; over $1 million to $25 million, use 8%; and greater than $25 million use 6%.

13. BLM's indirect cost rate is 21% of BLM's contract administration costs.

Nevada Standardized Bond Calculation
Labor Rates

File Name:	***srce_cost_data_file_1_12_std_2014.xlsm***
Date:	***August 1, 2014***
Cost Basis:	***User Data***
Author/Source:	***Nevada Division of Environmental Protection (NDEP) & NV BLM***

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Basis 1		Basis 2		Basis 3		Basis 4	
	Northern Nevada		*Southern Nevada*		*N. Nevada Notice Level*		*S. Nevada Notice Level*	
EQUIPMENT OPERATORS - Labor Groups and Base Pay Rate ($/hr) (2)								
Bulldozers								
D6R	Group 8	$48.69	Group 6	$58.62	Group 8	$48.69	Group 6	$58.62
D6R w/ Winch								
D7R	Group 8	$48.69	Group 6	$58.62	Group 8	$48.69	Group 6	$58.62
D8R	Group 8	$48.69	Group 6	$58.62	Group 8	$48.69	Group 6	$58.62
D9R	Group 8	$48.69	Group 6	$58.62	Group 8	$48.69	Group 6	$58.62
D10R	Group 8	$48.69	Group 6	$58.62	Group 8	$48.69	Group 6	$58.62
D11R	Group 8	$48.69	Group 6	$58.62	Group 8	$48.69	Group 6	$58.62
Wheeled Dozers								
824G								
834G								
844								
854G								
Motor Graders								
120H	Group 10A	$49.55	Group 10	$58.85	Group 10A	$49.55	Group 10	$58.85
14G/H	Group 10A	$49.55	Group 10	$58.85	Group 10A	$49.55	Group 10	$58.85
16G/H	Group 10A	$49.55	Group 10	$58.85	Group 10A	$49.55	Group 10	$58.85
24M								
Track Excavators								
312C	Group 11	$49.79	Group 12	$59.02	Group 11	$49.79	Group 12	$59.02
320C	Group 11	$49.79	Group 12	$59.02	Group 11	$49.79	Group 12	$59.02
325C	Group 11	$49.79	Group 12	$59.02	Group 11	$49.79	Group 12	$59.02
330C	Group 11	$49.79	Group 12	$59.02	Group 11	$49.79	Group 12	$59.02
345B	Group 11	$49.79	Group 12	$59.02	Group 11	$49.79	Group 12	$59.02
365BL								
385BL	Group 11	$49.79	Group 12	$59.02	Group 11	$49.79	Group 12	$59.02
Scrapers								
631G	Group 10	$49.36	Group 15	$59.23	Group 10	$49.36	Group 15	$59.23
637G PP	Group 11	$49.79	Group 15	$59.23	Group 11	$49.79	Group 15	$59.23
Wheeled Loaders								
924G	Group 10	$49.36	Group 8	$58.73	Group 10	$49.36	Group 8	$58.73
928G	Group 10	$49.36	Group 8	$58.73	Group 10	$49.36	Group 8	$58.73
950G	Group 10	$49.36	Group 8	$58.73	Group 10	$49.36	Group 8	$58.73
966G	Group 11	$49.79	Group 8	$58.73	Group 11	$49.79	Group 8	$58.73
972G	Group 11	$49.79	Group 8	$58.73	Group 11	$49.79	Group 8	$58.73
980G	Group 11	$49.79	Group 8	$58.73	Group 11	$49.79	Group 8	$58.73
988G	Group 11	$49.79	Group 10	$58.85	Group 11	$49.79	Group 10	$58.85
990								
992G	Group 11A	$51.43	Group 10	$58.85	Group 11A	$51.43	Group 10	$58.85
994D								
L-2350								
Shovels								
KOM PC2000								
KOM PC3000								
KOM PC4000								
KOM PC5500								
KOM PC8000								
Hydrauilc Hammers								
H-120 (fits 325)								
H-160 (fits 345)								
H-180 (fits 365/385)								
Demolition Shears								
S340 (fits 322/325/330)								
S365 (fits 330/345)								
S390 (fits 365/385)								
Demolition Grapples								
G315 (fits 322/325)								
G320 (fits 325/330)								
G330 (fits 345/365)								

Nevada Standardized Bond Calculation
Labor Rates

File Name:	***srce_cost_data_file_1_12_std_2014.xlsm***
Date:	***August 1, 2014***
Cost Basis:	***User Data***
Author/Source:	***Nevada Division of Environmental Protection (NDEP) & NV BLM***

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Basis 1 *Northern Nevada*		Basis 2 *Southern Nevada*		Basis 3 *N. Nevada Notice Level*		Basis 4 *S. Nevada Notice Level*	
Other Equipment								
420D 4WD Backhoe	Group 10A	$49.55	Group 4	$58.40	Group 10A	$49.55	Group 4	$58.40
428D 4WD Backhoe	Group 10A	$49.55	Group 4	$58.40	Group 10A	$49.55	Group 4	$58.40
CS533E Vibratory Roller	Group 6	$47.85	Group 4	$58.40	Group 6	$47.85	Group 4	$58.40
CS663E Vibratory Roller								
CP533E Sheepsfoot Compactor								
CP663E Sheepsfoot Compactor								
Light Truck - 1.5 Ton								
Supervisor's Truck								
Flatbed Truck								
Air Compressor + tools	Group 3	$46.64	Group 1	$55.67	Group 3	$46.64	Group 1	$55.67
Welding Equipment	Group 9	$49.01	Group 6	$58.62	Group 9	$49.01	Group 6	$58.62
Heavy Duty Drill Rig	Group 10	$49.36	Group 2	$56.62	Group 10	$49.36	Group 2	$56.62
Pump (plugging) Drill Rig	Group 10	$49.36	Group 2	$56.62	Group 10	$49.36	Group 2	$56.62
Concrete Pump								
Gas Engine Vibrator	Group 6	$47.85	Group 6	$58.62	Group 6	$47.85	Group 6	$58.62
Generator 5KW								
HDEP Welder (pipe or liner)								
5 Ton Crane	Group 10A	$49.55	Group 8	$58.73	Group 10A	$49.55	Group 8	$58.73
20 Ton Crane	Group 11	$49.79	Group 8	$58.73	Group 11	$49.79	Group 8	$58.73
50 Ton Crane	Group 11	$49.79	Group 8	$58.73	Group 11	$49.79	Group 8	$58.73
120 Ton Crane								
Fringe Benefits								
Equip Op Fringe Benefits ($/hr)		$0.00		$0.00		$0.00		$0.00
Zone and Area Adjustments - Miles and Rates ($hr) (3)								
Equipment Zone 1	< 50 miles	$0.00	< 20 Miles	$0.00	< 50 miles	$0.00	< 20 Miles	$0.00
Equipment Zone 2	50 to 150 miles	$2.00	20 to 40 miles	$2.00	50 to 150 miles	$2.00	20 to 40 miles	$2.00
Equipment Zone 3	151 to 300 miles	$3.00	40 to 60 miles	$3.00	151 to 300 miles	$3.00	40 to 60 miles	$3.00
Equipment Zone 4	> 300 miles	$4.00	> 60 miles	$3.50	> 300 miles	$4.00	> 60 miles	$3.50
Equipment Zone 5								
Equipment Zone 6								
Equipment Zone 7								
NOTES:								
(1) Equipment Type:	Catepillar model or equivalent		Catepillar model or equivalent		Catepillar model or equivalent		Catepillar model or equivalent	
(2) Equipment Operator Source:	D-B NV120038 1/6/2012		D-B NV100064 10/01/2010		D-B NV120038 1/6/2012		D-B NV100064 10/01/2010	
(3) Zone Basis:	From Washoe Co. Courthouse		From Las Vegas City Hall		From Washoe Co. Courthouse		From Las Vegas City Hall	
TRUCK DRIVERS - Labor Groups and Base Pay Rate ($/hr) (4)								
725 (articulated)	Dump Truck Driv	$28.61	Group 4	$46.62	Dump Truck Driv	$28.61	Group 4	$46.62
730 (articulated)	Dump Truck Driv	$28.61	Group 4	$46.62	Dump Truck Driv	$28.61	Group 4	$46.62
735 (articulated)	Dump Truck Driv	$28.61	Group 4	$46.62	Dump Truck Driv	$28.61	Group 4	$46.62
740 (articulated)	Dump Truck Driv	$28.61	Group 4	$46.62	Dump Truck Driv	$28.61	Group 4	$46.62
769D	Dump Truck Driv	$28.61	Group 4	$46.62	Dump Truck Driv	$28.61	Group 4	$46.62
773E								
777D	Dump Truck Driv	$28.61	Group 4	$46.62	Dump Truck Driv	$28.61	Group 4	$46.62
785C								
793C								
797B								
613E (5,000 gal) Water Wagon	Water Truck > 2	$28.61	Group 3	$46.44	Water Truck > 2	$28.61	Group 3	$46.44
621E (8,000 gal) Water Wagon	Water Truck > 2	$28.61	Group 4	$46.62	Water Truck > 2	$28.61	Group 4	$46.62
777D Water Truck								
785C Water Truck								
Dump Truck (10-12 yd3)	Dump Truck Driv	$29.04	Group 2	$46.23	Dump Truck Driv	$29.04	Group 2	$46.23
Fringe Benefits								
Truck Driver Fringe Benefits ($/hr)		$13.64		$0.00		$13.64		$0.00
Zone and Area Adjustments (5)								
Truck Zone 1	< 50 miles	$0.00	< 30 miles	$0.00	< 50 miles	$0.00	< 30 miles	$0.00
Truck Zone 2	50 to 150 miles	$2.00	30-50 miles	$1.50	50 to 150 miles	$2.00	30-50 miles	$1.50
Truck Zone 3	151 to 300 miles	$3.00	50-70 miles	$2.50	151 to 300 miles	$3.00	50-70 miles	$2.50
Truck Zone 4	> 300 miles	$4.00	>70 miles	$3.50	> 300 miles	$4.00	>70 miles	$3.50
Truck Zone 5								
Truck Zone 6								
Truck Zone 7								
NOTES:								
(4) Truck Driver Source:	D-B TEAM0533-002 12/01/2010		D-B NV20100064 10/01/2010		D-B TEAM0533-002 12/01/2010		D-B NV20100064 10/01/2010	

Nevada Standardized Bond Calculation
Labor Rates

File Name:	***srce_cost_data_file_1_12_std_2014.xlsm***
Date:	***August 1, 2014***
Cost Basis:	***User Data***
Author/Source:	***Nevada Division of Environmental Protection (NDEP) & NV BLM***

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Basis 1 *Northern Nevada*		Basis 2 *Southern Nevada*		Basis 3 *N. Nevada Notice Level*		Basis 4 *S. Nevada Notice Level*	
(5) Zone Basis:	From Washoe Co. Courthouse		From Las Vegas City Hall		From Washoe Co. Courthouse		From Las Vegas City Hall	
LABORERS - Labor Groups and Base Pay Rate ($/hr) (6,7)								
General Laborer	Group 1	$30.82	Group 1	$42.94	Group 1	$30.82	Group 1	$42.94
Skilled Laborer	Group 4	$31.32	Group 3	$43.25	Group 4	$31.32	Group 3	$43.25
Driller's Helper	Group 3	$31.07	Group 2	$43.15	Group 3	$31.07	Group 2	$43.15
Rodmen (reinforcing concrete)	Group 2	$30.92	Group 3A	$43.34	Group 2	$30.92	Group 3A	$43.34
Cement finisher	Group 3	$31.07	Group 3A	$43.34	Group 3	$31.07	Group 3A	$43.34
Carpenter		$38.80		$37.76		$38.80		$37.76
Fringe Benefits								
Laborer Fringe Benefits ($/hr)		$0.00		$0.00		$0.00		$0.00
Carpenter Fringe Benefits ($/hr)		$0.00		$13.35		$0.00		$13.35
Zone and Area Adjustments (8)								
Laborer Zone 1	< 50 miles	$0.00	< 30 miles	$0.00	< 50 miles	$0.00	< 30 miles	$0.00
Laborer Zone 2	50 to 150 miles	$2.00	30-50 miles	$1.50	50 to 150 miles	$2.00	30-50 miles	$1.50
Laborer Zone 3	151 to 300 miles	$3.00	50-70 miles	$2.50	151 to 300 miles	$3.00	50-70 miles	$2.50
Laborer Zone 4	> 300 miles	$4.00	>70 miles	$3.50	> 300 miles	$4.00	>70 miles	$3.50
Laborer Zone 5			Laughlin	$2.25			Laughlin	$2.25
Laborer Zone 6								
Laborer Zone 7								
NOTES:								
(6) Laborer Source:	D-B NV120038 1/6/2012		D-B NV100064 10/01/2010		D-B NV120038 1/6/2012		D-B NV100064 10/01/2010	
(7) Carpenter Source:	D-B NV120038 1/6/2012		D-B CARP1780-011 07/01/2011		D-B NV120038 1/6/2012		D-B CARP1780-011 07/01/2011	
(8) Zone Basis:	From Washoe Co. Courthouse		From Las Vegas City Hall		From Washoe Co. Courthouse		From Las Vegas City Hall	
PROJECT MANAGEMENT AND TECHNICAL LABOR - Base Pay Rate ($/hr) (9)								
Project Manager		$66.38		$66.38		$66.38		$66.38
Foreman		$61.88		$61.88		$61.88		$61.88
Field Geologist/Engineer		$96.31		$96.31		$96.31		$96.31
Field Tech/Sampler		$83.75		$83.75		$83.75		$83.75
Range Scientist		$96.31		$96.31		$96.31		$96.31
Senior Planning Engineer								
Project Engineer								
Mechanic/Fitter								
NOTES:								
(9) Project Manager:	R.S.Means 2012 Q2 (01 31		R.S.Means 2012 Q2 (01 31		R.S.Means 2012 Q2 (01 31		R.S.Means 2012 Q2 (01 31	
(9) Foreman Source:	R.S.Means 2012 Q2 (01 31		R.S.Means 2012 Q2 (01 31		R.S.Means 2012 Q2 (01 31		R.S.Means 2012 Q2 (01 31	
(9) Techical Labor Source:	SRK Consulting 2012 (Total		SRK Consulting 2012 (Total		SRK Consulting 2012 (Total		SRK Consulting 2012 (Total	
INDIRECT COSTS								
SOCIAL SECURITY, WORKMAN'S COMP, INSURANCE, ETC.								
Unemployment (%)		3.00%		3.00%		3.00%		3.00%
Retirement/SS/Medicare (%)		7.65%		7.65%		7.65%		7.65%
Workman's Compensation (%)		8.75%		8.75%		8.75%		8.75%
State Payroll Tax (13),(15),(17),(18)								
NOTES:								
(10) Workman's Comp Source:	RS Means R013113-60 NV		RS Means R013113-60 NV		RS Means R013113-60 NV		RS Means R013113-60 NV	
Unemployment Tax	NRS 612.540, NRS 612.606		NRS 612.540, NRS 612.606		NRS 612.540, NRS 612.606		NRS 612.540, NRS 612.606	

2014 MOB/DEMOB using R.S. MEANS and SRCE equipment and DAVIS-BACON wages

blue font is for project specific user input

Miles one way from Washoe County Courthouse

Miles to project, one way

Hours travel time @ 55 MPH 0.00

Equipment	Mobilization $/hour (1)	$ Flat Rate load & unload (2)	$/hour Deadhead (empty return cost (3)	Disassembly and assembly (4)	Permit cost $ (5)	Pilot car costs	# of units	One Way Mob Cost	Total Mob and Demob Cost
Bulldozers									
D6R	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
D7R	$ 122	$ -	$ -	$ -	$ 25	$ -		$ -	$ -
D8R	$ 171	$ -	$ -	$ -	$ 25	$ -		$ -	$ -
D9R	$ 171	$ -	$ -	$ -	$ 25	$ -		$ -	$ -
D10R	$ 171	$ -	$ -	$ 13,900	$ 25	$ -		$ -	$ -
D11R (two transports) (7)	$ 171	$ -	$ -	$ 13,900	$ 25	$ -		$ -	$ -
Motor Graders									
14G/H	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
16G/H	$ 122	$ -	$ -	$ -	$ 25	$ -		$ -	$ -
Track Excavators									
320C	$ 122	$ -	$ -	$ -	$ -	$ -		$ -	$ -
325C	$ 122	$ -	$ -	$ -	$ -	$ -		$ -	$ -
345B	$ 171	$ -	$ -	$ -	$ 25	$ -		$ -	$ -
385BL	$ 171	$ -	$ -	$ 24,200	$ 25	$ -		$ -	$ -
Scrapers									
631G	$ 171	$ -	$ -	$ -	$ 25	$ -		$ -	$ -
637G PP	$ 171	$ -	$ -	$ -	$ 25	$ -		$ -	$ -
Wheeled Loaders									
928G	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
966G	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
972G	$ 122	$ -	$ -	$ -	$ -	$ -		$ -	$ -
988G	$ 122	$ -	$ -	$ -	$ 25	$ -		$ -	$ -
992G (two transports) (7)	$ 171	$ -	$ -	$ 42,300	$ 25	$ -		$ -	$ -
Hydraulic Hammers									
H-120 (fits 325) no charge, mobilize with m	$ -	$ -	$ -	$ -	$ -	$ -		$ -	$ -
H-160 (fits 345) no charge, mobilize with m	$ -	$ -	$ -	$ -	$ -	$ -		$ -	$ -
H-180 (fits 365/385) no charge, mobilize wit	$ -	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Other Equipment									
420D 4WD Backhoe	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
CS563E Vibratory Roller	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Light Truck - 1.5 Ton	$ 70	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Supervisor's Truck	$ 57	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Air Compressor + tools	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Welding Equipment	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Heavy Duty Drill Rig	$ 408	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Pump (plugging) Drill Rig	$ 408	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Concrete Pump	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Gas Engine Vibrator	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Generator 5KW	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
HDEP Welder (pipe or liner)	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
5 Ton Crane Truck	$ 93	$ -	$ -	$ -	$ -	$ -		$ -	$ -
25 Ton Crane	$ 150	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Trucks									
725	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
740	$ 122	$ -	$ -	$ -	$ 25	$ -		$ -	$ -
769D	$ 122	$ -	$ -	$ -	$ 25	$ -		$ -	$ -
777D (two transports) (8)	$ 171	$ -	$ -	$ 44,300	$ 25	$ -		$ -	$ -
613E (5,000 gal) Water Wagon	$ 171	$ -	$ -	$ -	$ -	$ -		$ -	$ -
621E (8,000 gal) Water Wagon	$ 171	$ -	$ -	$ -	$ 25	$ -		$ -	$ -
Dump Truck (10-12 yd^3)	$ 134	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Miscellaneous									
Equipment for dry hole abandonment (420D 4V	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Pilot car (Light Truck)	$ 58	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Truck Tractor + Lowbed Trailer 75 ton	$ 171	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Truck Tractor + Flatbed Trailer 40 ton	$ 122	$ -	$ -	$ -	$ -	$ -		$ -	$ -
Light Truck + Flatbed Trailer 25 ton	$ 86	$ -	$ -	$ -	$ -	$ -		$ -	$ -
							0		$ -

Footnotes and explanations of assumptions

(1) The sum of the cost of equipment from either the SRCE or RSM equipment tab plus Davis-Bacon labor tab

(2) Assumes minimum of 30 minutes load and secure and 30 minutes unsecure and unload machine.

(3) No "Deadhead" (empty) charge for Mob up to 50 miles. More than 50 miles the cost of deadhead same rate as loaded miles.

(4) Only large equipment requires disassembly for transport. Includes cost of mechanic + mechanic's truck + crane operator + crane.

(5) Nevada Dept. of Transportation overdimensional permits are $25 per trip or $60 per year.

(6) Sum of mobilization plus all ancillary costs for one way loaded and return empty.

(7) Two transports are required but the second transport does not need pilot cars or permits or a heavy duty trailer.

(8) Two transports required with both requiring full complement of pilot cars and permits.

(9) Pilot Car costs based on SRCE light truck costs and Davis-Bacon wages

(10) SRCE costs based on July 2014 vendor quotes.

(11) RS Means costs based on R.S. Means Heavy Construction Cost Data, 2014

(12) Davis Bacon wages based on June 14, 2014 determination.

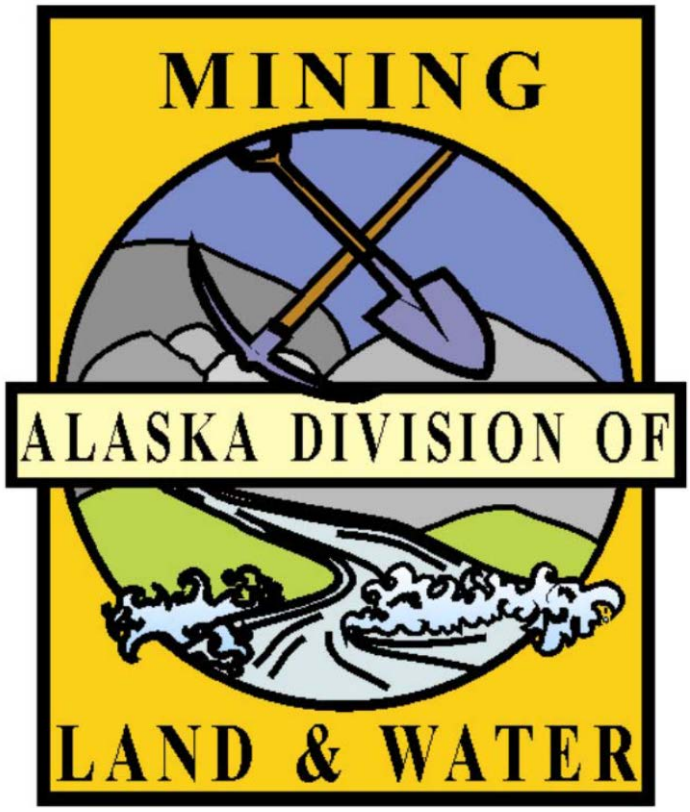
APPENDIX D

Alaska Mining Laws and Regulations – Selected Pages

State of Alaska

MINING

Laws & Regulations



As contained in the Alaska Statutes, Alaska Administrative Code and Article 8 of the Alaska State Constitution

2014

Department of Natural Resources
Division of Mining Land and Water

Revised December 2014

Section IV: Mining Reclamation

Title 27. Mining

Chapter 27.19 RECLAMATION

Sec. 27.19.010. Administration; applicability.

(a) The commissioner of natural resources shall implement this chapter.

(b) This chapter applies to state, federal, municipal, and private land and water subject to mining operations.

(c) Except as provided in AS 27.19.040(b), this chapter does not apply to an activity regulated under AS 27.21.

(d) This chapter does not alter or diminish the authority of another state agency, a state corporation, the University of Alaska, or a municipality under its laws and regulations.

(e) The owner of private land may establish requirements for reclamation in excess of those established by this chapter.

(f) The commissioner may not require a miner to reclaim under this chapter that portion of a previously mined area that was a part of a mining operation activity occurring before October 15, 1991.

Sec. 27.19.020. Reclamation standard.

A mining operation shall be conducted in a manner that prevents unnecessary and undue degradation of land and water resources, and the mining operation shall be reclaimed as contemporaneously as practicable with the mining operation to leave the site in a stable condition.

Sec. 27.19.030. Reclamation plan.

(a) Except as provided in AS 27.19.050, a miner may not engage in a mining operation until the commissioner has approved a reclamation plan for the mining operation.

(b) In reviewing a reclamation plan for state, federal, or municipal land under (a) of this section, the commissioner may consider, after consultation with the commissioners of environmental conservation and fish and game and with the concurrence of the miner and landowner, uses to which the land may be put after mining has been completed, including trails, lakes, recreation sites, fish and wildlife enhancement, commercial, and agriculture uses.

Sec. 27.19.040. Reclamation financial assurance.

(a) The commissioner shall require an individual financial assurance in an amount not to exceed an amount reasonably necessary to ensure the faithful performance of the requirements of the approved reclamation plan. The commissioner shall establish the amount of the financial assurance to reflect the reasonable and probable costs of reclamation. The assurance amount may not exceed $750 for each acre of mined area, except that the $750 an acre limitation does not apply to the assurance amount required for a lode mine.

(b) The commissioner shall establish a statewide bonding pool for mining operations as an alternative to individual financial assurance. The commissioner may determine which mining operations are eligible to participate in the bonding pool based on the projected cost of reclamation in relation to the size of the bonding pool; however, a mining operation may not be allowed to participate in the bonding pool if the mining operation will chemically process ore or has the potential to generate acid. A miner participating in the bonding pool shall contribute an initial deposit not to exceed 15 percent of the financial assurance amount plus an additional nonrefundable annual fee not to exceed five percent of the financial assurance amount. The commissioner shall refund the 15 percent deposit upon satisfactory completion of the approved reclamation plan. If requested by the miner, the commissioner may apply the deposit to a new reclamation plan. In addition to its use for mining operations under this chapter, the commissioner shall allow the bonding pool to be used to meet the requirements of AS 27.21.160. Income and other earnings on the bonding pool shall be added to the bonding pool.

(c) If the commissioner determines that a miner has violated or permitted a violation of the approved reclamation plan and has failed to comply with a lawful order of the commissioner, the commissioner shall forfeit the financial assurance and deposit it in the statewide bonding pool. The commissioner shall use the reclamation and administrative costs recovered under AS 27.19.070(a) to supplement the forfeited financial assurance deposited in the statewide bonding pool for reclamation of the site subject to the forfeiture. If the commissioner is unable to recover the full cost of reclamation under AS 27.19.070(a), the commissioner may use the bonding pool to reclaim the site to the standards of this chapter, except that the commissioner may not use a deposit that is refundable under (b) of this section to fulfill another miner's reclamation obligation.

(d) A miner not required to post a financial assurance may submit a reclamation plan under AS 27.19.030(a) and participate in the bonding pool.

(e) A miner may satisfy the requirement under this section for an individual financial assurance by providing, in a form acceptable to and approved by the commissioner, any of the following:

(1) a surety bond;

(2) a letter of credit;

(3) a certificate of deposit;

(4) a corporate guarantee that meets the financial tests set in regulation by the commissioner;

(5) payments and deposits into the trust fund established in AS 37.14.800; or

(6) any other form of financial assurance that meets the financial test or other conditions set in regulation by the commissioner.

Sec. 27.19.050. Exemption for small operations.

(a) AS 27.19.030(a) and 27.19.040 do not apply to a mining operation

(1) where less than five acres are mined at one location in any year and there is a cumulative unreclaimed mined area of less than five acres at one location; or

(2) where less than five acres and less than 50,000 cubic yards of gravel or other materials are disturbed or removed at one location in any year and there is a cumulative disturbed area of less than five acres at one location.

(b) To obtain an exemption under (a) of this section, a miner shall file a letter of intent notifying the commissioner of the

(1) total acreage and volume of material to be mined;

(2) total acreage to be reclaimed; and

(3) reclamation measures to be used.

(c) A miner exempt under (a) of this section shall file an annual reclamation statement with the commissioner disclosing the total acreage and volume of material mined by the operation in the current year, the total acreage reclaimed, and the specific reclamation measures used to comply with AS 27.19.020. A miner does not qualify for an exemption under (a) of this section for subsequent operations unless the annual reclamation statement for the previous operation has been filed with the commissioner.

(d) A miner exempted from the requirements of AS 27.19.030(a) and 27.19.040 under (a) of this section that fails to reclaim a mining operation to the standards of AS 27.19.020 is required for two consecutive years to conduct each subsequent mining operation, regardless of size, under an approved reclamation plan and to provide an individual financial assurance.

Sec. 27.19.060. Cooperative management agreements.

The commissioner, on a determination that an agreement is in the best interest of the state, may enter into a cooperative management agreement with the federal government or a state agency to implement a requirement of this chapter or a regulation adopted under it.

Sec. 27.19.070. Violations.

(a) A miner who violates or permits a violation of an approved reclamation plan and fails to comply with a lawful order of the commissioner forfeits the financial assurance or a portion of the assurance and is liable to the state in a civil action for the full amount of reclamation and administrative costs incurred by the state related to the action. A miner exempted under AS 27.19.050(a) is subject to civil action for the full amount of reclamation and administrative costs incurred by the state related to the action if the commissioner determines that reclamation was not conducted under AS 27.19.020.

(b) In addition to other remedies available under this chapter, the commissioner may suspend or revoke permits or approvals of operations not being conducted under the approved reclamation plan and deny future mining permits and approvals under this title and AS 38 related to the mining operation for failure to reclaim the mining operation to the standards of this chapter.

(c) A miner who has forfeited a financial assurance or has been held liable in a civil action under (a) of this section may conduct future mining operations only after posting a reclamation risk assessment fee equal to five times the amount of financial assurance established under AS 27.19.040(a) for the proposed mining operation. The reclamation assessment fee shall be refunded after two consecutive years of operation consistent with this chapter.

Sec. 27.19.080. Administrative Procedure Act; regulations.

(a) Except as provided in AS 44.37.011, AS 44.62 (Administrative Procedure Act) applies to this chapter.

(b) The commissioner may adopt regulations to carry out the purposes of this chapter.

Sec. 27.19.100. Definitions. In this chapter,

(1) "**lode mine**" means a mining operation that removes the minerals from consolidated rock rather than from a placer deposit;

(2) "**materials**" means sand, gravel, riprap, rock, limestone, slate, peat, and other substances from the ground that are not locatable or leasable under state law;

(3) "**mined area**"

(A) means an active site of physical extraction, stockpiling, or the disposal of ore, overburden, tailings, or processed materials, stream diversions, bypasses, and settling ponds;

(B) does not include reclaimed areas approved by the commissioner;

(4) "**miner**" means the owner, operator, or leaseholder of a mining operation;

(5) "**mining operation**"

(A) means each function, work, facility, and activity in connection with the development, extraction, and processing of

(i) a locatable or leasable mineral deposit except oil, gas, or coal;

(ii) other materials or of a sand and gravel deposit; and

(iii) each use reasonably incident to the development, extraction, and processing of a locatable or leasable mineral deposit or materials;

(B) includes the construction of facilities, roads, transmission lines, pipelines, and other support facilities;

(6) "**reclamation plan**" means a plan submitted by a miner under regulations adopted by the commissioner for the reclamation of a proposed mining operation;

(7) "**stable condition**" means the rehabilitation, where feasible, of the physical environment of the site to a condition that allows for the reestablishment of renewable resources on the site within a reasonable period of time by natural processes;

(8) "**state land**" includes

(A) the land of the University of Alaska;

(B) the land of state corporations;

(9) "**unnecessary and undue degradation**"

(A) means surface disturbance greater than would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and considering site specific conditions;
(B) includes the failure to initiate and complete reasonable reclamation under the reclamation standard of AS 27.19.020 or an approved reclamation plan under AS 27.19.030(a).

Title 37. Public Finance

Chapter 38.14 SPECIAL FUNDS

Article 10. Mine Reclamation Trust Fund Sec. 37.14.800

Sec. 37.14.800. Mine reclamation trust fund established.
(a) The mine reclamation trust fund is established as a separate trust fund of the state. The principal and earnings of the fund shall be held by the state for the purpose of protecting the public interest in reclaiming mine sites in the state. The fund is composed of the mine reclamation trust fund income account and the mine reclamation trust fund operating account.
(b) The mine reclamation trust fund income account consists of payments and deposits made by miners to satisfy the miners' reclamation bonding or financial assurance obligation under AS 27.19.040 or AS 27.21.160 and earnings on the income account. The mine reclamation trust fund operating account consists of appropriations by the legislature of the annual balance of the mine reclamation trust fund income account and any earnings on those appropriations while in the operating account.
(c) Before payments are accepted into the mine reclamation trust fund income account for a particular mining operation, the commissioner of natural resources and the miner may execute a memorandum of understanding that outlines a schedule of expected payments into the trust fund and the relationship of the payments and accumulated earnings in the trust fund to reclamation obligations of the miner under AS 27.19.040 or AS 27.21.160. The memorandum of understanding may also address expected use of the fund under AS 37.14.820. If the memorandum of understanding addresses investment of the fund with respect to payments made by the miner, the commissioner of revenue must also sign the memorandum.
(d) Nothing in this section creates a dedicated fund.

Section IV: Mining Reclamation Regulations

Title 11. Natural Resources

Chapter 97: MINING RECLAMATION

Article 1
Applicability

11 AAC 97.100. Applicability

(a) This chapter applies to the approval of reclamation plans, reclamation bonding, and enforcement of reclamation requirements under AS 27.19 for locatable mineral, leasable mineral, and material mining operations on state, federal, municipal, and private land. AS 27.19 and this chapter do not apply to a recreational placer mining operation using no mechanized earthmoving equipment other than a dredge with a suction hose six inches or less in diameter, powered by an engine of 18 or fewer horsepower.

(b) AS 27.19.020 sets the minimum standard for conduct of mining operations in Alaska, without regard to land ownership. Although nothing in AS 27.19 requires a miner to file a mining plan before beginning operations, most miners operating on public land are required to do so by other laws. Even where that is not the case, the department recommends that the miner develop a mining plan to help the miner meet the mining standard of AS 27.19.020 and to make the reclamation plan or reclamation letter of intent more effective.

(c) Nothing in AS 27.19 precludes a federal or state agency (including the Department of Natural Resources), a state corporation, the University of Alaska, a municipality, or a private landowner, acting under its own regulatory or proprietary authority, from establishing and enforcing additional requirements or higher standards for reclamation. Compliance with this chapter does not waive or excuse compliance with those additional requirements or higher standards.

(d) This chapter does not apply to:

(1) fuel spills, chemical neutralization, detoxification, or clean-up of hazardous substances used in mineral processing facilities associated with mining operations;

(2) surface coal mining reclamation or related operations regulated under AS 27.21; or (3) an area disturbed by a mining operation before October 15, 1991; however, if a mining operation disturbs a previously mined area after October 14, 1991, a miner must reclaim to the standards of AS 27.19 and this chapter; if only a portion of the previously mined area is disturbed after October 14, 1991, this chapter applies only to that disturbed portion.

Article 2
Reclamation Performance Standards

11 AAC 97.200. Land reclamation performance standards

(a) A miner shall reclaim areas disturbed by a mining operation so that any surface that will not have a stream flowing over it is left in a stable condition.

(1) For the purposes of AS 27.19.100(6) and this section, a stable condition that "**allows for the reestablishment of renewable resources on the site within a reasonable period of time by natural processes**" means a condition that can reasonably be expected to return waterborne soil erosion to pre-mining levels within one year after the reclamation is completed, and that can reasonably be expected to achieve revegetation, where feasible, within five years after the reclamation is completed, without the need for fertilization or reseeding. If rehabilitation of a mined site to this standard is not feasible because the surface materials on the mined site have low natural fertility or the site lacks a natural seed source, the department recommends that the miner fertilize and reseed or replant the site with native vegetation to protect against soil erosion; however, AS 27.19 does not require the miner to do so. Rehabilitation to allow for the reestablishment of renewable resources is not required if that reestablishment would be inconsistent with an alternate post-mining land use approved under AS 27.19.030(b) on state, federal, or municipal land, or with the post-mining land use intended by the landowner on private land.

(2) If topsoil from an area disturbed by a mining operation is not promptly redistributed to an area being reclaimed, a miner shall segregate it, protect it from erosion and from contamination by acidic or toxic materials, and preserve it in a condition suitable for later use.

(3) If the natural composition, texture, or porosity of the surface materials is not conducive to natural revegetation, a miner shall take measures to promote natural revegetation, including redistribution of topsoil, where available. If no topsoil is available, a miner shall apply fines or other suitable growing medium, if available. However, a miner may not redistribute topsoil and fines over surfaces likely to be exposed to annual flooding, unless the action is authorized in an approved reclamation plan and will not result in an unlawful point- or non-point-source discharge of pollutants.

(b) A miner shall reclaim an area disturbed by a mining operation so that the surface contours after reclamation is complete are conducive to natural revegetation or are consistent with an alternate post-mining land use approved under AS 27.19.030(b) on state, federal, or municipal land, or with the post-mining land use intended by the landowner on private land. Measures taken to accomplish this result may include backfilling, contouring, and grading, but a miner need not restore the site's approximate original contours. A miner shall stabilize the reclaimed site to a condition that will retain sufficient moisture for natural revegetation or for an alternate post-mining land use approved under AS 27.19.030(b) on state, federal, or municipal land, or for the post-mining land use intended by the landowner on private land.

(c) A pit wall, subsidence feature, or quarry wall is exempt from the requirements of (a) and (b) of this section if the steepness of the wall makes them impracticable or impossible to accomplish. However, a miner shall leave the wall in a condition such that it will not collapse nor allow loose rock that presents a safety hazard to fall from it.

(d) If a mining operation diverts a stream channel or modifies a flood plain to the extent that the stream channel is no longer stable, a miner shall reestablish the stream channel in a stable location. A miner may not place a settling basin in the way of the reestablished channel location unless the fines will be properly removed or protected from erosion.

11 AAC 97.210. Disposal of buildings, structures, and debris on state land

A miner shall remove, dismantle, or otherwise properly dispose of buildings and structures constructed, used, or improved on state land unless the surface owner or

manager authorizes that the buildings and structures may stay. A miner shall remove or otherwise properly dispose of all scrap iron, equipment, tools, piping, hardware, chemicals, fuels, waste, and general construction debris on state land.

11 AAC 97.220. Underground mines

A miner shall stabilize and properly seal the openings of all shafts, adits, tunnels, and air vents to underground mine workings after mine closure to ensure protection of the public, wildlife, and the environment.

11 AAC 97.230. Heap leach operations

After neutralization of heaps, pads, ponds, and other such facilities has been approved by the appropriate regulatory authority (the Environmental Protection Agency or the Department of Environmental Conservation), a miner shall reclaim the site of a heap leach operation to the standards of AS 27.19 and this chapter.

11 AAC 97.240. Acid rock drainage

A miner shall reclaim a mined area that has potential to generate acid rock drainage (acid mine drainage) in a manner that prevents the generation of acid rock drainage or prevents the offsite discharge of acid rock drainage.

11 AAC 97.250. Material sites

(a) Continuous use; intermittent use of a material site. A miner shall reclaim a material site in accordance with AS 27.19.020, 11 AAC 97.200, 11 AAC 97.210, and this section as contemporaneously as practicable with the mining.

(1) If site conditions permit, a miner shall proceed cell by cell so that reclamation can and will occur immediately after each cell is mined. Mining by cell means dividing the material site into separate units and mining them in an orderly sequence so that topsoil removed from a newly opened unit can be placed on a unit already mined.

(2) If site conditions require that the entire material site be mined continuously, with the materials being removed layer by layer, a miner shall reclaim the site as soon as the mining is completed. However, the commissioner will allow the reclamation to be postponed if the commissioner finds that contemporaneous reclamation is impracticable, because the landowner plans to allow future intermittent mining of the material site by one or more miners over a period of more than one year. Before the commissioner allows such a postponement, the miner or landowner must

(A) submit a reclamation plan for the entire material site, including stockpiles;

(B) ensure that reclamation will occur no later than immediately after the material site is ultimately exhausted or to be abandoned; and

(C) provide for a bond for all mined areas at all times until the reclamation is ultimately completed.

(b) Extraction of materials from river beds (gravel bailing operations). If a miner extracts materials from the bed of a watercourse, the miner shall reestablish a stable bed and bank profile as contemporaneously as practicable with the extraction. A stable bed and bank profile is one that will not substantially alter river currents or change erosion and deposition patterns downstream. In reviewing a reclamation plan for such an operation, the commissioner will use hydrologic information available to the department and other information the commissioner considers relevant.

(c) Peat and topsoil mines. A reclamation plan for a mine that produces peat, topsoil, or similar materials must provide that at least two inches of a suitable growing medium will be left or replaced on the mined land.

(d) Materials used for other mines. If the primary use of extracted materials is to assist another mining operation regulated under this chapter (such as gravel to build a road to a mining operation), the miner must include the reclamation plan or letter of intent for the material site operation as part of the reclamation plan or letter of intent for the primary mine.

(e) Exempt excavations. If materials are extracted primarily for a non-mining purpose and not part of a mining operation (such as when preparing a building site or highway cut, dredging a shipping channel, or drilling an access tunnel for a non-mining purpose), the requirements of this chapter do not apply even if the materials are sold commercially or used as fill.

(f) Stockpiles. The requirements of this chapter do not apply to materials stockpiled at a distribution point other than the mined area, nor to materials stockpiled at a mined area where no mining has taken place after October 14, 1991. A miner need not reclaim acreage on which materials are stockpiled at an active mine site until the stockpile is used up. However, a miner must locate the stockpile where it will not erode into a waterbody. A stockpile is a storage pile of materials segregated as a commercial product for sale or distribution elsewhere and does not include non-commercial waste rock, overburden, or tailings. A stockpile associated with a mining operation other than for materials is not exempt from this chapter.

(g) Material used for logging. After December 31, 1994, this subsection applies as follows to the reclamation of material sites that are subject to AS 41.17 and 11 AAC 95:

(1) submission of a plan of operations under AS 41.17.090(c) and 11 AAC 95.220, or compliance with an adopted site-specific forest land use plan for an operation on state land, satisfies the requirement of AS 27.19.050(b) for a letter of intent, if

(A) an individual material site operation is within the limits set out in AS 27.19.050(a)(2); and

(B) the plan of operations or site-specific forest land use plan notifies the commissioner that

(i) the total acreage and volume to be mined are within the limits set out in AS 27.19.050(a)(2);

(ii) the miner will reclaim all acreage required to be rehabilitated under 11 AAC 95.325; and

(iii) compliance with the rehabilitation measures required under 11 AAC 95.325 will constitute the reclamation measures to be used to reclaim the total acreage mined;

(2) a plan of operations under AS 41.17.090(c) and 11 AAC 95.220, or a timber sale inspection report filed at the end of the operating season for an operation on state land, satisfies the requirement of AS 27.19.050(c) for an annual reclamation statement, if

(A) the miner annually certifies that the material site operation is within the limits set out in AS 27.19.050(a)(2), and that the operation is in compliance with 11 AAC 95.325; and

(B) inspection under AS 41.17 verifies that the miner is in compliance with 11 AAC 95.325;

(3) submission of a plan of operations under AS 41.17.090(c) and 11 AAC 95.220, or compliance with an adopted site-specific forest land use plan for an operation on state land, satisfies the requirement of AS 27.19.030 for a reclamation plan, if

(A) an individual material site operation exceeds the limits set out in AS 27.19.050(a)(2);
(B) the miner complies with the bonding requirement of AS 27.19.040 in one of the ways set out in 11 AAC 97.400 - 11 AAC 97.450; and
(C) the commissioner does not disapprove the use of the plan of operations or site-specific forest land use plan as a means of satisfying the requirement of AS 27.19.030 for a reclamation plan;
(4) compliance with 11 AAC 95.325 fulfills all other requirements of AS 27.19 and this chapter.

Article 3
Reclamation Plan

11 AAC 97.300. Reclamation plan approval, procedure

(a) At least 45 days before the proposed start of mining activities, a miner not exempted under AS 27.19.050 must submit to the department, or to the appropriate agency with which the department has entered into a cooperative management agreement, a proposed reclamation plan for approval.
(b) If a miner entitled to an exemption under AS 27.19.050 mistakenly files a proposed reclamation plan, the commissioner will, within 15 days after receipt,
(1) return any bond filed,
(2) notify the miner that no plan approval is necessary,
(3) accept the plan as a letter of intent under AS 27.19.050(b), and
(4) remind the miner of the subsequent requirement to file an annual reclamation statement under AS 27.19.050(c).
(c) If the commissioner determines that a proposed reclamation plan is complete, the commissioner will begin a review that will take no longer than 30 days. If the commissioner determines that the plan is incomplete, the commissioner will notify the miner that review is suspended pending receipt of the necessary information. The miner may request an extension of time to supply the information. Failure to supply the necessary information within 30 days after notification, or within a longer period allowed by the commissioner, constitutes withdrawal of the proposed plan from consideration.
(d) The commissioner will approve, disapprove, or approve with conditions a proposed reclamation plan within 30 days after determining that the plan is complete. However, the plan approval does not take effect, and the mining operation may not begin, until the miner satisfies the bond requirement under 11 AAC 97.400 - 11 AAC 97.450.
(e) If the commissioner determines that additional time is needed because of the size or complexity of the operation, the commissioner will, with written notice to the applicant, extend the period described in (c) or (d) of this section and establish an alternative review schedule.
(f) If a state or federal agency or a municipality has entered into a cooperative management agreement with the commissioner to implement all or part of this chapter, the application review schedule will comply with that agency's or municipality's applicable review schedule.
(g) If a miner objects to the plan as approved, the miner may give the commissioner written notice of that objection within 30 days and request reconsideration or propose a modification of the plan for the commissioner's review. If, after that reconsideration or review, the miner continues to object to the plan as approved, the miner may file a statement of issues that meets the standard of AS 44.62.370.
(h) If the approved reclamation plan is for an alternate post-mining land use under AS 27.19.030(b) that was proposed by the commissioner, the Department of Fish and Game, the Department of Environmental Conservation, or the landowner rather than by the miner, the miner shall notify the department within 30 days after approval if he or she does not concur. However, a mining locator or material purchaser on public land may not control or determine how the land will be used after a mining operation is completed. The commissioner will, in his or her discretion, modify an approved reclamation plan for a post-mining land use under AS 27.19.030(b) if the miner shows to the commissioner's satisfaction that reclamation for the proposed use would cost the miner more, in time, equipment, or material than reclamation to the basic standard required by AS 27.19.020.
(i) The commissioner may not impose an alternate post-mining land use under AS 27.19.030(b) if the land is privately owned and the state or federal government owns only the reserved minerals. If the state owns both the land estate and the mineral estate, the commissioner will not approve an alternate post-mining land use that is inconsistent with a state land use plan adopted under AS 38.04.065.

11 AAC 97.310. Reclamation plan

(a) Before a miner starts a mining operation subject to AS 27.19.030, or if an exempt miner wishes to operate under the provisions of AS 27.19.040(d), the miner must submit a proposed reclamation plan. The proposed plan must be correct and complete to the best of the miner's knowledge and be signed and dated by the miner or the miner's designee.
(b) A reclamation plan not submitted on a form provided by the commissioner must include the following:
(1) the name, address, and telephone number of the miner or other person who will serve as agent to receive any notice that is required under this chapter, and the names, addresses, and telephone numbers of all other owners, operators, or leaseholders of the mining operation;
(2) a list of all properties, mining locations, or leases on which the mining operation is to be conducted, including the state or federal casefile number, and the legal description of the land on which the mining operation will be conducted, described by legal subdivision, section, quarter-section, township, range, and meridian;
(3) a map (United States Geological Survey topographic map or the equivalent) at a scale no smaller than 1:63,360 (inch to the mile) showing the general vicinity of the mining operation and the specific property to be worked;
(4) a general description and diagram of the mining operation and the mined area that shows and states the number of acres to be mined during each year covered by the plan and that shows the location corners or property boundaries and their relationship to the reclamation work, the tailings or spoil disposal areas, and the areas otherwise affected by the operation; the information furnished must be reasonably appropriate to the scale and complexity of the mine;
(5) the estimated number of yards or tons of overburden or waste and ore or materials to be mined during each year covered by the plan;
(6) a description of the reclamation measures that will be taken to comply with AS 27.19.020 and 11 AAC 97.200 -

11 AAC 97.250, including the equipment to be used; a time schedule for the reclamation measures; and, if the miner proposes to reclaim the land to an alternate post-mining land use under AS 27.19.030(b) on state, federal, or private land or to an alternate post-mining land intended by the landowner on private land, a statement of that proposed or intended use; the description must include:

(A) measures for topsoil removal, storage, protection, and replacement;

(B) measures for reclamation of tailings impoundments, settling ponds, reservoirs, heaps, open pits and cuts, shafts, adits, tunnels, portals, overburden, waste rock storage areas, and all other affected areas;

(C) measures for stream placement and reclamation at the end of mining; and

(D) a proposal for reclamation or post-mining conversion of access roads leading to the mining operation, airstrips, and other associated facilities;

(7) if on private land, a signed and notarized statement by the landowner that the miner has the landowner's permission to operate throughout the period covered by the proposed reclamation plan; however, this statement is not required if the miner is the landowner, or if the mining operation is on a prior federal mining location and the private landowner received title subject to that location under sec. 22(c) of PL 92-203, the Alaska Native Claims Settlement Act (43 U.S.C. 1621(c)); if the private landowner believes that reclamation to the standard set out in AS 27.19.020 is not feasible because the landowner intends to use the land after mining for a purpose incompatible with natural revegetation, the landowner is encouraged to provide this information as part of the statement; for the purposes of this paragraph, the **landowner** means the owner of the estate that includes the mineral or material to be mined.

(c) If a mining operation is a public project for which the successful bidder has not yet been determined, the agency responsible for the project, the landowner, or another third party may submit a proposed reclamation plan on behalf of the successful bidder. The proposed plan must be complete except for the miner's name, address, and telephone number. Before the plan approval takes effect, the miner must provide his or her name, address, and telephone number, sign the plan, and satisfy the bond requirement.

11 AAC 97.320. Term; conditional approval; renewal

(a) The commissioner will, in his or her discretion, approve a reclamation plan for any term not to exceed 10 years. If the plan is for more than one year, the commissioner will, in his or her discretion, require the miner to file an annual report that includes the total acreage and volume of material mined in that year, the total acreage reclaimed in that year, and a statement as to whether the reclamation plan is on schedule.

(b) If the commissioner is not satisfied that the plan complies with AS 27.19 and this chapter, the commissioner will, in his or her discretion, approve the reclamation plan only after inclusion of reclamation-specific monitoring, reporting, or performance conditions.

(c) The commissioner will, in his or her discretion, renew a plan upon written request and demonstration that the miner has complied with the approved reclamation plan and the requirements of AS 27.19 and this chapter, if the commissioner determines that the plan is adequate to cover the renewal period.

11 AAC 97.330. Amendment of reclamation plan

(a) A miner shall ensure that reclamation work complies with an approved reclamation plan. If changing product prices, economics, financing, unanticipated conditions, or suspension of mining operations necessitates a change in the reclamation plan, the miner shall submit an amended reclamation plan for approval before modifying the approved reclamation work.

(b) If new or changed statutory or regulatory requirements affect reclamation under an approved reclamation plan, the miner must submit an amended reclamation plan for approval to demonstrate that reclamation occurring after the effective date of the new requirements will comply with those new requirements.

11 AAC 97.340. Record keeping and inspection; notice address

(a) Until completion of the mining operation, a miner shall keep a copy of the approved reclamation plan, including any approved amendments, at the miner's field office for onsite operations, and shall make the plan available upon request by an authorized representative of the commissioner.

(b) A miner shall allow access to the mining operation to an authorized representative of the commissioner at reasonable times for the purpose of inspecting or monitoring compliance with the reclamation plan.

(c) A miner shall keep the department informed of the miner's correct address until the reclamation is approved as complete.

11 AAC 97.350. Successor in interest

If an interest in a mining operation is transferred from one miner to another by sale, assignment, lease, or otherwise before completion of reclamation and approval by the commissioner, the plan must be amended as provided in 11 AAC 97.330 to reflect the transfer. The commissioner will approve the amendment and will release the predecessor in interest from the reclamation obligations, if

(1) the operation is in compliance with the reclamation plan,

(2) the successor assumes full responsibility and liability under the approved reclamation plan, and

(3) the bonding requirements are met.

Article 4
Reclamation Bonding

11 AAC 97.400. Bonding required

A miner who is not exempt under AS 27.19.050(a) shall either

(1) participate in the statewide bonding pool under 11 AAC 97.425;

(2) post a performance bond with the commissioner to ensure complete compliance with AS 27.19, this chapter, and the approved reclamation plan, consisting of either

(A) a corporate surety bond under 11 AAC 97.405; or

(B) a personal bond accompanied by a letter of credit, by a certificate of deposit, or by a deposit of cash or gold, under 11 AAC 97.410;

(3) post a bond or financial guarantee with another government agency to satisfy that agency's reclamation-related bond requirements if, in a cooperative management agreement with that agency, the commissioner has determined that the agency's bond requirements are at least as effective as those of AS 27.19 and that requiring another bond would be unnecessary; or

(4) post a general performance bond that
(A) is written in favor of an agency of the State of Alaska;
(B) requires reclamation to standards no less effective than those of AS 27.19 and this chapter;
(C) is in an amount no less than $750 per acre of mined area or area to be mined;
(D) remains in effect until the mined area is reclaimed to standards no less effective than those of AS 27.19 and this chapter; and
(E) requires that, if the bond is liquidated, proceeds in the amount of $750 per acre of mined area will be paid or reserved exclusively for the purpose of reclamation until all mined areas are reclaimed to standards no less effective than those of AS 27.19 and this chapter.

11 AAC 97.405. Corporate surety bond

A corporate surety bond must
(1) be executed by a corporate surety approved and authorized to do business in this state;
(2) be submitted on a form prescribed by the commissioner; and
(3) remain in effect until the reclamation of all land covered by the bond is completed to the standard of AS 27.19 and this chapter, and its release is approved by the commissioner.

11 AAC 97.410. Personal bond and letter of credit, certificate of deposit, or deposit of cash or gold

(a) A personal bond must be submitted on a form prescribed by the commissioner and must be accompanied by
(1) an irrevocable letter of credit issued by a bank or other financial institution authorized to do business in the United States;
(2) a certificate of deposit in the amount of the bond issued in sole favor of the department by a bank or other financial institution authorized to do business in this state;
(3) a cash deposit maintained in a depository account as directed by the commissioner; or
(4) a deposit of gold held in escrow by a bank or other financial institution, payable to the State of Alaska if the bond is forfeited, and with a value of 25 percent more than the bond obligation, to allow for potential decreases in gold prices.
(b) A personal bond and letter of credit, certificate of deposit, or deposit of cash or gold must remain in effect until the reclamation of all land covered by the bond is completed to the standard of AS 27.19 and this chapter, and their release is approved by the commissioner.

11 AAC 97.415. Acreage to be bonded

(a) Acreage that must be bonded before a mining operation begins in any calendar year is limited to any area to be mined during that calendar year, plus any mined area (as that term is defined in 11 AAC 97.990) mined in a previous year for which reclamation must be completed under this chapter; it is not necessarily the same as the entire acreage of the mining operation. For an underground mine, only the surface acreage disturbed by the operation constitutes "mined area" for purposes of the bond requirement.
(b) After a multi-year reclamation plan goes into effect, the miner shall ensure that the bond amount is sufficient at all times to cover any area to be mined during the current calendar year, plus any area mined in a previous year that has not yet been reclaimed.
(c) Any previously reclaimed area that is to be mined again is subject to the bond requirement in the year that mining resumes and until it is reclaimed.
(d) In calculating the number of acres that must be bonded, a miner must round up to the next whole number.

11 AAC 97.420. Amount of bond

(a) The amount of the performance bond required by 11 AAC 97.400 is $750 per acre, or the reduced per-acre amount determined by the commissioner under (b) of this section, multiplied by the acreage total determined under 11 AAC 97.415.
(b) If a miner shows to the commissioner's satisfaction that the reasonable and probable costs of reclamation under an approved reclamation plan are less than $750 per acre, the commissioner will reduce the bond to those costs. The miner's showing must be submitted along with the proposed reclamation plan and must include an estimate of the labor and equipment costs that would be incurred to hire a third-party contractor to perform the reclamation in accordance with the plan. In evaluating a miner's proposal for reduction of the bond amount, the commissioner will consider the nature of the surface, its uses, improvements in the vicinity of the land, the degree of risk involved in the mining operation, and all other relevant factors. The commissioner will make a determination on this request of bond reduction in the time schedules set out in 11 AAC 97.300.
(c) A miner may provide a bond for more than the amount required by (a) and (b) of this section.

11 AAC 97.425. Bonding pool

(a) A statewide bonding pool has been established by the department for mining operations subject to AS 27.19. Instead of posting an individual performance bond, a miner may participate in the bonding pool.
(b) To participate in the bonding pool each year, the miner shall pay into the pool a deposit of 15 percent of the miner's total bond amount determined under 11 AAC 97.420(a) for that year, plus an annual nonrefundable fee of five percent of the total bond amount for that year. These percentages are the same for all operations.
(c) Except for an operation whose bond amount is reduced below $750 per acre under 11 AAC 97.420(b), the percentages set by (b) of this section result in a bonding pool deposit of $112.50 per acre and an annual nonrefundable fee of $37.50 per acre.
(d) No reclamation plan approval goes into effect until the bonding pool deposit and annual nonrefundable fee are paid. The annual nonrefundable fee for the first year of a reclamation plan may not be prorated or reduced. Subsequent annual nonrefundable fees for any unreclaimed acreage are due by April 1 of each year that the reclamation is not completed or before the mining operation begins in each calendar year, whichever is earlier. If the amount of acreage requiring reclamation varies from year to year under the plan, the miner is responsible for making the appropriate payment, including an increased deposit when required, each year. If the acreage decreases, the miner may apply, under 11 AAC 97.435, for a refund of the excess deposit. The miner must pay the annual nonrefundable fee, and the increased deposit when required by the reclamation plan, without billing from the department. A late payment automatically suspends approval of the

reclamation plan until full payment, including the late-payment fee set out in 11 AAC 05.010, is received, at which time the reclamation plan is automatically reinstated. During such a suspension, the miner may not engage in a mining operation.

(e) If the commissioner, in his or her discretion, allows a miner who is subject to the bonding requirement of AS 27.21.160 to participate in the bonding pool, the bonding pool is not obligated for an amount exceeding $750 per acre. Any additional bond amount required under AS 27.21.160 must be provided under one of the mechanisms allowed under AS 27.21.160 and 11 AAC 90.

11 AAC 97.430. Liability exceeding bond amount; bonding pool deposit

The posting of a performance bond, or participation in the bonding pool, does not limit the department's right to seek further compensation for a violation of AS 27.19, this chapter, or the approved reclamation plan. The miner is liable for the full costs of reclamation to the standards of AS 27.19, this chapter, and the approved reclamation plan, regardless of the amount of the reclamation bond or bonding pool deposit and fees.

11 AAC 97.435. Release or decrease of bond, and refund of bonding pool deposit

(a) An application for release or decrease of the amount of a performance bond, or for refund of a deposit paid into the bonding pool, must include a sworn statement, executed under penalty of perjury, verifying that the miner has examined the requirements of his or her approved reclamation plan, has investigated the nature and extent of reclamation, and certifies as true that all applicable reclamation responsibilities have been completed.

(b) Before authorizing release of or decrease in the amount of the bond, or refund of a deposit paid into the bonding pool, the commissioner will inspect or review actions taken under the approved reclamation plan, and will make a written finding that each applicable requirement of the approved reclamation plan has been completed. The commissioner will, in his or her discretion, require the miner to submit photographs or other information documenting the reclamation, and, if no inspection takes place, the commissioner will base his or her finding and bond release on the miner's documentary evidence and sworn statement. If reclamation was done in accordance with the plan and with the miner's sworn statement, the commissioner's finding constitutes approval of the reclaimed area and releases the miner from liability under AS 27.19. If reclamation was not done in accordance with the plan and with the miner's sworn statement, the miner remains liable under AS 27.19, notwithstanding the commissioner's finding.

(c) If another agency with jurisdiction over the mining operation agrees to accept the miner's posting of a bond or bond pool deposit with the commissioner as satisfying its own bond requirement, and has filed a written request or entered into a cooperative management agreement under AS 27.19.060 to be notified before the commissioner releases or reduces the bond or bond pool deposit, the commissioner will give the other agency reasonable notice.

(d) Upon request by the miner and consent of the affected surety or financial institution, the commissioner will apply the performance bond, or the bonding pool deposit or a portion of it, to new acreage under a new reclamation plan or amendment to a reclamation plan submitted by the miner. The non-refundable annual fee is not transferable and is due for all new acreage to be mined.

11 AAC 97.440. Interest; use of bonding pool

(a) No miner or surety is entitled to receive interest on any sum deposited into the bonding pool.

(b) The bonding pool, including any accrued interest, may be used by the department only to pay the reclamation costs that have not been paid by the miner or the miner's surety despite the department's reasonable efforts to recover the costs from the miner and the miner's surety. Reclamation funded from the bonding pool will be performed to the standard of AS 27.19.020 and 11 AAC 97.200 - 11 AAC 97.250. The commissioner will, in his or her discretion, use money in the bonding pool for reclamation in accordance with AS 27.19, except that the commissioner will not use a refundable deposit to fulfill another miner's reclamation obligation. The commissioner has no obligation or authority under AS 27.19 to undertake reclamation expenditures beyond the disbursable balance of the bonding pool.

11 AAC 97.445. Assignment

If a miner assigns his or her interest in any uncompleted mining operation, and the commissioner has amended the reclamation plan to reflect the transfer and released the assignor in accordance with 11 AAC 97.350, the commissioner will transfer the assignor's bonding pool deposit and annual nonrefundable bonding pool fee to the assignee upon the written request of the assignee and written consent of the assignor.

11 AAC 97.450. Exception to bonding requirement No bond is required under AS 27.19.040 and 11 AAC 97.400 if the miner is an agency of the State of Alaska or federal government or is a municipality.

Article 5
Exemptions for Small Operations

11 AAC 97.500. Letter of intent

(a) The letter of intent required by AS 27.19.050(b) must be filed annually on a form provided by the department before the mining begins. The following information must be provided:

(1) the name, address, and telephone number of the miner or other person who will serve as agent to receive any notice that is required by this chapter, and the names, addresses, and telephone numbers of all other owners, operators, or leaseholders of the mining operation;

(2) a list of all properties, mining locations, or leases on which the mining operation is to be conducted, including the state or federal casefile number, and the legal description of the land on which the mining operation is to be conducted, described by legal subdivision, section, quarter-section, township, range and meridian;

(3) a map (United States Geological Survey topographic map or the equivalent) at a scale no smaller than 1:63, 360 (inch to the mile) showing the general vicinity of the mining operation and the specific property to be worked; for a material mining operation adjacent to an airport or a public road, the commissioner will, in his or her discretion, waive this requirement and allow the location to be specified by the name of the airport or by the road milepost;

(4) a diagram of the mining operation and the mined area that shows and states the number of acres to be mined during the year and that shows the location corners or property boundaries and their relationship to the reclamation work, the tailings or spoil disposal areas, and the areas otherwise to be affected by the operation; the information furnished must be reasonably appropriate to the scale and complexity of the mine;
(5) total acreage and volume of material to be mined, and the existing acreage of mined area;
(6) total acreage to be reclaimed in the year covered by the letter of intent;
(7) a description of the reclamation measures that will be taken to comply with AS 27.19.020 and 11 AAC 97.200 - 11 AAC 97.250;
(8) if on private land, a signed and notarized statement by the landowner that the miner has the landowner's permission to operate throughout the period covered by the letter of intent; however, this statement is not required if the miner is the landowner, or if the mining operation is on a prior federal mining location and the private landowner received title subject to that location under sec. 22(c) of PL 92-203, the Alaska Native Claims Settlement Act (43 U.S.C. 1621(c)); if the private landowner believes that reclamation to the standard set out in AS 27.19.020 is not feasible because the landowner intends to use the land after mining for a purpose incompatible with natural revegetation, the landowner is encouraged to provide this information as part of the statement. For the purposes of this paragraph, the landowner is the owner of the estate that includes the mineral or material to be mined.

(b) The miner shall keep the department informed of the miner's correct address until the reclamation is completed.

11 AAC 97.510. Annual reclamation statement

(a) The annual reclamation statement required by AS 27.19.050(c) must be filed on a form provided by the department and must include photographs or videotapes dated and described as to location, or other information acceptable to the commissioner, documenting that the reclamation was completed. It must also state the cumulative total of unreclaimed acreage.
(b) The annual reclamation statement must be filed or postmarked by December 31 for each calendar year.
(c) A miner who files a letter of intent must file an annual reclamation statement, even if no mining took place during that year.

Article 6
Violations and Penalties

11 AAC 97.600. Failure to file reclamation statement

A miner who fails to file an annual reclamation statement in accordance with 11 AAC 97.510 may not continue or resume that mining operation without an approved reclamation plan and a bond. The miner may restore the exemption by fully complying with 11 AAC 97.510(a) and (c). Until the miner supplies the documentation required by those subsections, a rebuttable presumption is established that the miner has failed to reclaim the mining operation to the standards of AS 27.19 and this chapter.

11 AAC 97.610. Failure to meet requirements or reclaim small operation

The penalties stated in AS 27.19.050(d) apply if a miner who obtained an exemption under AS 27.19.050(a) exceeds the acreage or cubic yardage limits of that subsection, or if the commissioner determines that the miner has failed to reclaim the mining operation to the standards of AS 27.19 and this chapter. These penalties apply regardless of where the miner's subsequent mining operation occurs.

11 AAC 97.620. Violation of reclamation plan

AS 27.19.040(c) applies to a participant in the statewide bonding pool in the same way as to a miner who has filed an individual performance bond. Under the circumstances set out in AS 27.19.040(c), a statewide bonding pool participant's bonding pool deposit will become nonrefundable.

11 AAC 97.630. Administrative determination of violation

If, after the commissioner issues a written order to a miner, the miner fails to correct a violation of AS 27.19 or this chapter within the period set by the commissioner, the commissioner will, in his or her discretion, serve an accusation in accordance with AS 44.62.360, and 44.62.380 and will conduct further proceedings in accordance with AS 44.62.330 - 44.62.650.

11 AAC 97.640. Reclamation risk assessment fee

(a) The reclamation risk assessment fee required by AS 27.19.070(c) applies to a miner who has had any portion of his or her bonding pool deposit become nonrefundable, in the same way as it applies to a miner who has forfeited a reclamation bond or has been held liable in a civil action. The requirement applies to any future mining operation by that miner, regardless of location, for the period set out in (d) of this section.
(b) The reclamation risk assessment fee required by AS 27.19.070(c) must be tendered to the department in the form of a performance bond meeting the requirements of 11 AAC 97.405 or 11 AAC 97.410. The miner may not participate in the statewide bonding pool to meet this requirement.
(c) The reclamation risk assessment fee is required in addition to, not instead of, the bonding requirements of this chapter.
(d) The reclamation risk assessment fee will be refunded to the miner after two consecutive years of mining operations in complete compliance with AS 27.19, this chapter, and the approved mining reclamation plan then in effect for that miner.
(e) If a miner who has posted a reclamation risk assessment fee is determined to be in violation of AS 27.19, this chapter, or an approved reclamation plan, the reclamation risk assessment fee will be forfeited to the statewide bonding pool.

Article 7
Cooperative Management Agreements

11 AAC 97.700. Cooperative agreements

(a) Upon a written finding that the state's best interest will be served, the commissioner will, in his or her discretion, enter into a cooperative management agreement with a federal or state agency under AS 27.19.060, or with a municipality under art. X, sec. 13 of the Alaska Constitution, to implement AS 27.19 and this chapter. Except as provided in (b) of this section, the cooperative agreement will, in the commissioner's discretion, provide

(1) that the federal or state agency will implement AS 27.19 and this chapter with respect to the land that it manages, or that the municipality will implement AS 27.19 and this chapter with respect to the land that it owns; or

(2) that the department and the federal or state agency or the municipality will implement both its own and the other's reclamation authority on a reciprocal basis.

(b) A cooperative agreement with another state agency will, in the commissioner's discretion, delegate to the state agency administrative review authority under the Administrative Procedure Act.

(c) For purposes of this section,

(1) "**state agency**" means any organizational unit of the executive branch of the state, but does not include any agency in the judicial or legislative branches of the state government;

(2) "**federal agency**" means any organizational unit of the executive branch of the federal government, but does not include an agency in the judicial or legislative branches of the federal government.

Article 8
General Provisions

11 AAC 97.900. Boundary maintenance

In order to provide an accurate reference for the location of the reclaimed area, a miner must maintain or reestablish all location corners or property boundaries described in the reclamation plan until the commissioner inspects the site or reviews it for reclamation approval or bond release under 11 AAC 97.435.

11 AAC 97.910. Multiple miners; liability

(a) If more than one miner is involved in a mining operation, the commissioner will consider the miner or other person identified as the agent in the letter of intent or reclamation plan to be the miners' agent for purposes of any notice under this chapter until the department is otherwise notified. All notices provided by the department to the miners' agent constitute notice to all miners involved in a mining operation.

(b) All miners involved in a mining operation are jointly and severally liable for any penalty for failure to comply with AS 27.19 and this chapter.

11 AAC 97.990. Definitions

In this chapter:

(1) "**commissioner**" means the commissioner of natural resources;

(2) "**mined area**" has the same meaning as in AS 27.19.100(2); however, that definition applies only if the mining occurred after October 14, 1991;

(3) "**miner**" has the same meaning as in AS 27.19.100(3); however, "miner" does not include a state, federal, or municipal landowner, regardless of whether that landowner retains a royalty interest as lessor, unless it owns or operates the mining operation; nor does "miner" include any other landowner, unless the landowner has a managing interest or working interest in the mining operation;

(4) "**previously mined area**" means the land surface, reclaimed or not, that is left by a mining activity.

APPENDIX E

State of Alaska Wage and Hour Administration
Pamphlet No. 600

Laborers' & Mechanics' Minimum Rates of Pay

Effective September 1, 2014
Issue 29

Title 36. Public Contracts
AS 36.05 & AS 36.10
Wage & Hour Administration
Pamphlet No. 600

ALASKA DEPARTMENT OF LABOR
& WORKFORCE DEVELOPMENT

THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Labor and Workforce Development

Office of the Commissioner

Post Office Box 111149
Juneau, Alaska 99811
Main: 907.465.2700
fax: 907.465-2784

September 1, 2014

TO ALL CONTRACTING AGENCIES:

At the Alaska Department of Labor and Workforce Development, our goal is putting Alaskans to work. This pamphlet is designed to help contractors awarded public construction contracts understand the most significant laws of the State of Alaska pertaining to prevailing wage and resident hire requirements.

This pamphlet identifies current prevailing wage rates and resident hire classifications for public construction contracts (any construction projects awarded by the State of Alaska or its political subdivisions, such as local governments and certain non-profit organizations).

Because these rates may change, this publication is printed in the spring and fall of every year, so please be sure you are using the appropriate rates. The rates published in this edition become effective September 1, 2014.

All projects with a final bid date of September 11, 2014, or later, must pay the prevailing wage rates contained in this pamphlet. As the law now provides, these rates will remain stable during the life of a contract or for 24 calendar months, whichever is shorter. **The date the prime contract is awarded is the date from which the 24 months will be counted.** Upon expiration of the initial 24-month period, the latest wage rates issued by the department shall become effective for a subsequent 24-month period or until the original contract is completed, whichever occurs first. This process shall be repeated until the original contract is completed.

The term "original contract", as used herein, means the signed contract that resulted from the original bid and any amendments, including changes of work scope, additions, extensions, change orders, and other instruments agreed to by the parties that have not been subject to subsequent open bid procedures.

If a higher federal rate is required due to partial federal funding or other federal participation, the higher rate must be paid.

For additional copies of this pamphlet, contact the nearest office of the Division of Labor Standards and Safety, Wage and Hour office or visit the Internet site at:

http://labor.state.ak.us/lss/pamp600.htm

For questions regarding prevailing wage or resident hire requirements, please contact the nearest Wage and Hour office. These offices are listed on Page xi.

Sincerely,

Dianne Blumer

Dianne Blumer
Commissioner

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Excerpts from Alaska Law

Additional Information

Note to Readers: The statutes and administrative regulations listed in this publication were taken from the official codes, as of the effective date of the publication. However, there may be errors or omissions that have not been identified and changes that occurred after the publication was printed. This publication is intended as an informational guide only and is not intended to serve as a precise statement of the statutes and regulations of the State of Alaska. To be certain of the current laws and regulations, please refer to the official codes.

EXCERPTS FROM ALASKA LAW

(The following statute (36.05.005) applies to projects bid on or after October 20, 2011)

Sec. 36.05.005. Applicability.

This chapter applies only to a public construction contract that exceeds $25,000.

Sec. 36.05.010. Wage rates on public construction.

A contractor or subcontractor who performs work on a public construction contract in the state shall pay not less than the current prevailing rate of wages for work of a similar nature in the region in which the work is done. The current prevailing rate of wages is that contained in the latest determination of prevailing rate of wages issued by the Department of Labor and Workforce Development at least 10 days before the final date for submission of bids for the contract. The rate shall remain in effect for the life of the contract or for 24 calendar months, whichever is shorter. At the end of the initial 24-month period, if new wage determinations have been issued by the department, the latest wage determination shall become effective for the next 24-month period or until the contract is completed, whichever occurs first. This process shall be repeated until the contract is completed.

Sec. 36.05.040. Filing schedule of employees, wages paid, and other information.

All contractors or subcontractors who perform work on a public construction contract for the state or for a political subdivision of the state shall, before the Friday of every second week, file with the Department of Labor and Workforce Development a sworn affidavit for the previous reporting period, setting out in detail the number of persons employed, wages paid, job classification of each employee, hours worked each day and week, and other information on a form provided by the Department of Labor and Workforce Development.

Sec. 36.05.045. Notice of work and completion; withholding of payment.

(a) Before commencing work on a public construction contract, the person entering into the contract with a contracting agency shall designate a primary contractor for purposes of this section. Before work commences, the primary contractor shall file a notice of work with the Department of Labor and Workforce Development. The notice of work must list work to be performed under the public construction contract by each contractor who will perform any portion of work on the contract and the contract price being paid to each contractor. The primary contractor shall pay all filing fees for each contractor performing work on the contract, including a filing fee based on the contract price being paid for work performed by the primary contractor's employees. The filing fee payable shall be the sum of all fees calculated for each contractor. The filing fee shall be one percent of each contractor's contract price. The total filing fee payable by the primary contractor under this subsection may not exceed $5,000. In this subsection, "contractor" means an employer who is using employees to perform work on the public construction contract under the contract or a subcontract.

(b) Upon completion of all work on the public construction contract, the primary contractor shall file with the Department of Labor and Workforce Development a notice of completion together with payment of any additional filing fees owed due to increased contract amounts. Within 30 days after the department's receipt of the primary contractor's notice of completion, the department shall inform the contracting agency of the amount, if any, to be withheld from the final payment.

(c) A contracting agency

(1) may release final payment of a public construction contract to the extent that the agency has received verification from the Department of Labor and Workforce Development that

(A) the primary contractor has complied with (a) and (b) of this section;

(B) the Department of Labor and Workforce Development is not conducting an investigation under this title; and

(C) the Department of Labor and Workforce Development has not issued a notice of a violation of this chapter to the primary contractor or any other contractors working on the public construction contract; and

(2) shall withhold from the final payment an amount sufficient to pay the department's estimate of what may be needed to compensate the employees of any contractors under investigation on this construction contract, and any unpaid filing fees.

(d) The notice and filing fee required under (a) of this section may be filed after work has begun if
   (1) The public construction contract is for work undertaken in immediate response to an emergency; and
   (2) The notice and fees are filed not later than 14 days after the work has begun.

(e) A false statement made on a notice required by this section is punishable under AS 11.56.210.

Sec. 36.05.060. Penalty for violation of this chapter.

A contractor who violates this chapter is guilty of a misdemeanor and upon conviction is punishable by a fine of not less than $100 nor more than $1,000, or by imprisonment for not less than 10 days nor more than 90 days, or by both. Each day a violation exists constitutes a separate offense.

Sec. 36.05.070. Wage rates in specifications and contracts for public works.

(a) The advertised specifications for a public construction contract that requires or involves the employment of mechanics, laborers, or field surveyors must contain a provision stating the minimum wages to be paid various classes of laborers, mechanics, or field surveyors and that the rate of wages shall be adjusted to the wage rate under AS 36.05.010.

(b) Repealed by §17 ch 142 SLA 1972.

(c) A public construction contract under (a) of this section must contain provisions that
   (1) the contractor or subcontractors of the contractor shall pay all employees unconditionally and not less than once a week;
   (2) wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the contractor or subcontractors and laborers, mechanics, or field surveyors;
   (3) the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work;
   (4) the state or a political subdivision shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the contractor or subcontractors the difference between
      (A) the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work; and
      (B) the rates of wages in fact received by laborers, mechanics, or field surveyors.

Sec. 36.05.080. Failure to pay agreed wages.

Every contract within the scope of AS 36.05.070 shall contain a provision that if it is found that a laborer, mechanic, or field surveyor employed by the contractor or subcontractor has been or is being paid a rate of wages less than the rate of wages required by the contract to be paid, the state or its political subdivision may, by written notice to the contractor, terminate the contractor's right to proceed with the work or the part of the work for which there is a failure to pay the required wages and to prosecute the work to completion by contract or otherwise, and the contractor and the contractor's sureties are liable to the state or its political subdivision for excess costs for completing the work.

Sec. 36.05.090. Payment of wages from withheld payments and listing contractors who violate contracts.

(a) The state disbursing officer in the case of a state public construction contract and the local fiscal officer in the case of a political subdivision public construction contract shall pay directly to laborers, mechanics, or field surveyors from accrued payments withheld under the terms of the contract the wages due laborers, mechanics, or field surveyors under AS 36.05.070.

(b) The state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees. A person appearing on this list and a firm, corporation,

partnership, or association in which the person has an interest may not work as a contractor or subcontractor on a public construction contract for the state or a political subdivision of the state until three years after the date of publication of the list. If the accrued payments withheld under the contract are insufficient to reimburse all the laborers, mechanics, or field surveyors with respect to whom there has been a failure to pay the wages required under AS 36.05.070, the laborers, mechanics, or field surveyors have the right of action or intervention or both against the contractor and the contractor's sureties conferred by law upon persons furnishing labor or materials, and in the proceedings it is not a defense that the laborers, mechanics, or field surveyors accepted or agreed to accept less than the required rate of wages or voluntarily made refunds.

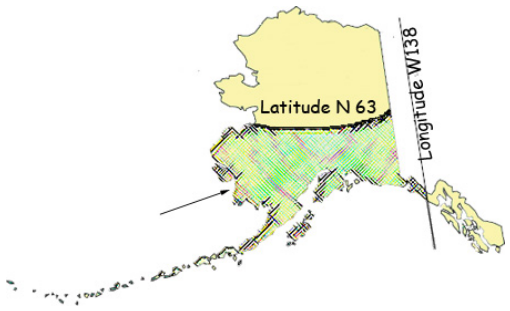
Sec. 36.05.900. Definition.
In this chapter, "contracting agency" means the state or a political subdivision of the state that has entered into a public construction contract with a contractor.

ADDITIONAL INFORMATION

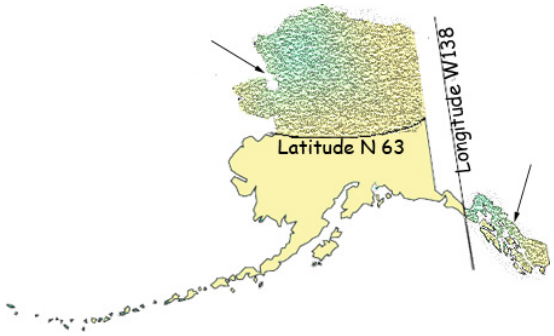
LABORER CLASSIFICATION CLARIFICATION

The laborer rates categorized in class code S1201-S1206 apply in one area of Alaska; the area that is south of N63 latitude and west of W138 Longitude. The laborer rates categorized in class code N1201-N1206 apply in two areas of Alaska; the Alaska areas north of N63 latitude and east of W138 longitude. The following graphic representations should assist with clarifying the applicable wage rate categories:

S1201-
S1206



N1201-
N1206



ACCOMMODATIONS AND PER DIEM

The Alaska Department of Labor and Workforce Development has adopted a per diem requirement for blocklayers, bricklayers, carpenters, dredgemen, heat & frost insulators/asbestos workers, ironworkers, laborers, operative plasterers & cement masons, painters, piledrivers, power equipment operators, roofers, surveyors, truck

drivers/surveyors, and tunnel workers. This per diem rate creates an allowable alternative to providing board and lodging under the following conditions:

Employer-Provided Camp or Suitable Accommodations

Unless otherwise approved by the Commissioner, the employer shall ensure that a worker who is employed on a project that is 65 road miles or more from the international airport in either Fairbanks, Juneau or Anchorage or is inaccessible by road in a 2-wheel drive vehicle and who is not a domiciled resident of the locality of the project shall receive meals and lodging. Lodging shall be in accordance with all applicable state and federal laws. In cases where the project site is not road accessible, but the employee can reasonably get to the project worksite from their permanent residence within one hour, the Commissioner may waive these requirements for that employee upon a written request from the employer.

The term "domiciled resident" means a person living within 65 road miles of the project, or in the case of a highway project, the mid-point of the project, for at least 12 consecutive months prior to the award of the project. However, if the employer or person provides sufficient evidence to convince the department that a person has established a permanent residence and an intent to remain indefinitely within the distance to be considered a "domiciled resident," the employer shall not be required to provide meals and lodging or pay per diem.

Where the employer provides or furnishes board, lodging or any other facility, the cost or amount thereof shall not be considered or included as part of the required prevailing wage basic hourly rate and cannot be applied to meet other fringe benefit requirements. The taxability of employer provided board and lodging shall be determined by the appropriate taxation enforcement authority.

Per Diem

Employers are encouraged to use commercial facilities and lodges; however, when such facilities are not available, per diem in lieu of meals and lodging must be paid at the basic rate of $75.00 per day, or part thereof, the worker is employed on the project. Per diem shall not be allowed on highway projects west of Livengood on the Elliott Highway, at Mile 0 of the Dalton Highway to the North Slope of Alaska, north of Mile 20 on the Taylor Highway, east of Chicken, Alaska, on the Top of the World Highway and south of Tetlin Junction to the Alaska-Canada border.

The above-listed standards for room and board and per diem only apply to the crafts as identified in Pamphlet 600, *Laborers' and Mechanics' Minimum Rates of Pay*. Other crafts working on public construction projects shall be provided room and board at remote sites based on the department's existing policy guidelines. In the event that a contractor provides lodging facilities, but no meals, the department will accept payment of $36 per day for meals to meet the per diem requirements.

APPRENTICE HIRING REQUIREMENTS

On July 24, 2005, Administrative Order No. 226 established a 15 percent goal for hiring apprentices in certain job categories on highway, airport, harbor, dam, tunnel, utility or dredging projects awarded by the Alaska Department of Transportation and Public Facilities that exceed $2.5 million. This Order will apply to all projects in the referenced categories that are advertised after September 1, 2005. On these projects, the hours worked by apprentices will be compared to the hours worked by journeyman level workers to determine if the 15 percent goal has been met. This on-the-job training goal is critical to ensure that the Alaska work force is prepared for the future. For additional details, contact the nearest Wage and Hour office at the address listed on Page xi of this publication. Administrative Order No. 226 may be viewed in its entirety on the Internet at http://www.gov.state.ak.us/admin-orders/226.html or call any Wage and Hour office to receive a copy.

APPRENTICE RATES

Apprentice rates at less than the minimum prevailing rates may be paid to apprentices according to an apprentice program which has been registered and approved by the Commissioner of the Alaska Department of Labor and Workforce Development in writing or according to a bona fide apprenticeship program registered with the U.S. Department of Labor, Office of Apprenticeship. **Any employee listed on a payroll at an apprentice wage rate who is not registered as above shall be paid the journeyman prevailing minimum wage in that work classification.** Wage rates are based on prevailing crew makeup practices in Alaska and apply to work performed regardless of either the quality of the work performed by the employee or the titles or classifications which may be assigned to individual employees.

FRINGE BENEFIT PLANS

Contractors/subcontractors may compensate fringe benefits to their employees in any one of three methods. The fringe benefits may be paid into a union trust fund, into an approved benefit plan, or paid directly on the paycheck as gross wages.

Where fringe benefits are paid into approved plans, funds, or programs including union trust funds, the payments must be contributed at least monthly. If contractors submit their own payroll forms and are paying fringe benefits into approved plans, funds, or programs, the employer's certification must include, in addition to those requirements of 8 AAC 30.020(c), a statement that fringe benefit payments have been or will be paid at least monthly. Contractors who pay fringe benefits to a plan must ensure the plan is one approved by the Internal Revenue Service and that the plan meets the requirements of 8 AAC 30.025 (eff. 3/2/08) in order for payments to be credited toward the prevailing wage obligation.

SPECIAL PREVAILING WAGE RATE DETERMINATION

Special prevailing wage rate determinations may be requested for special projects or a special worker classification if the work to be performed does not conform to traditional public construction for which a prevailing wage rate has been established under 8 AAC 30.050(a) of this section. Requests for special wage rate determinations must be in writing and filed with the Commissioner at least 30 days before the award of the contract. An applicant for a special wage rate determination shall have the responsibility to support the necessity for the special rate. An application for a special wage rate determination filed under this section must contain:

(1) a specification of the contract or project on which the special rates will apply and a description of the work to be performed;
(2) a brief narrative explaining why special wage rates are necessary;
(3) the job class or classes involved;
(4) the special wage rates the applicant is requesting, including survey or other relevant wage data to support the requested rates;
(5) the approximate number of employees who would be affected; and
(6) any other information which might be helpful in determining if special wage rates are appropriate.

Requests made pursuant to the above should be addressed to:

Director
Alaska Department of Labor and Workforce Development
Labor Standards & Safety Division
Wage and Hour Administration
P.O. Box 111149
Juneau, AK 99811-1149
-or-
Email: anchorage.lss-wh@alaska.gov

LABOR STANDARDS REGULATIONS
NOTICE REQUEST

If you would like to receive ***notices of proposed changes to regulations*** for Wage and Hour or Mechanical Inspection, please indicate below the programs for which you are interested in receiving such notices, print your name and email or mailing address in the space provided, and send this page to:

Alaska Department of Labor and Workforce Development
Labor Standards & Safety Division
Wage and Hour Administration
1251 Muldoon Road, Suite 113
Anchorage, AK 99504-2098
Email: anchorage.lss-wh@alaska.gov

For *REGULATIONS* information relating to any of the following:

❒ Wage and Hour Title 23 Employment Practices
❒ Wage and Hour Title 36 Public Works
❒ Employment Agencies
❒ Child Labor
❒ Employment Preference (Local Hire)
❒ Plumbing Code
❒ Electrical Code
❒ Boiler/Pressure Vessel Construction Code
❒ Elevator Code
❒ Certificates of Fitness
❒ Recreational Devices

Request any of the following *PUBLICATIONS* by checking below:

❒ Wage and Hour Title 23 Employment Practices
❒ Minimum Wage & Overtime Poster
❒ Child Labor Poster
❒ Public Construction Pamphlet
❒ Public Construction Wage Rates
❒ Child Labor Pamphlet

PLEASE NOTE: DUE TO INCREASED MAILING AND PRINTING COSTS, ONLY ONE OF EACH PUBLICATION REQUESTED WILL BE MAILED TO YOU. IF YOU WISH TO RECEIVE ADDITIONAL COPIES OR SUBSEQUENT PUBLICATIONS, PLEASE CONTACT OUR OFFICE AT (907) 269-4900.

Name: _____

Mailing Address: _____

_____

_____

_____

Email Address: _____

EMPLOYMENT PREFERENCE INFORMATION
(EFFECTIVE August 16, 2013)

By authority of AS 36.10.150 and 8 AAC 30.064, the Commissioner of Labor and Workforce Development has determined the 15 boroughs and census areas listed below to be Zones of Underemployment. A Zone of Underemployment requires that Alaska residents who are eligible under AS 36.10.140 be given a minimum of 90 percent employment preference on public works contracts throughout the state in certain job classifications. This hiring preference applies on a project-by-project, craft-by-craft or occupational basis and must be met each workweek by each contractor/subcontractor.

For additional information about the Alaska resident hire requirements, contact the nearest Wage and Hour Office in Anchorage at (907) 269-4900, in Fairbanks at (907) 451-2886 or in Juneau at (907) 465-4248.

The following classifications qualify for a minimum of 90 percent Alaska resident hire preference:

Aleutians East Borough: Plumbers and Pipefitters
Aleutians West Borough: Painters
Bethel Census Area: Culinary Workers, Foremen and Supervisors, Mechanics, Painters, Surveyors, Tug Boat Workers
Denali Borough: Carpenters
Dillingham Census Area: Carpenters, Culinary Workers, Electricians, Equipment Operators, Foremen and Supervisors, Laborers, Mechanics, Truck Drivers, Tug Boat Workers
Hoonah-Angoon Census Area: Carpenters, Culinary Workers, Electricians, Equipment Operators, Foremen and Supervisors, Laborers, Mechanics, Painters, Truck Drivers
Nome Census Area: Carpenters, Culinary Workers, Electricians, Equipment Operators, Foremen and Supervisors, Laborers, Mechanics, Surveyors, Truck Drivers, Tug Boat Workers, Welders
Northwest Arctic Borough: Carpenters, Culinary Workers, Electricians, Equipment Operators, Foremen and Supervisors, Plumbers and Pipefitters, Surveyors, Truck Drivers, Tug Boat Workers, Welders
Petersburg Borough: Culinary Workers, Engineers and Architects, Foremen and Supervisors, Laborers
Prince of Wales-Hyder Census Area: Carpenters, Culinary Workers, Electricians, Equipment Operators, Foremen and Supervisors, Laborers, Mechanics, Surveyors, Truck Drivers, Welders
Skagway: None
Southeast Fairbanks Census Area: Carpenters, Culinary Workers, Equipment Operators, Laborers, Painters, Truck Drivers
Wade Hampton Census Area: Carpenters, Electricians, Engineers and Architects, Mechanics, Roofers
Yakutat: None
Yukon-Koyukuk Census Area: Culinary Workers, Electricians, Foremen and Supervisors, Painters, Plumbers and Pipefitters, Surveyors, Truck Drivers, Tug Boat Workers, Welders

This determination is effective August 16, 2013, and remains in effect until June 30, 2015.

The first person on a certified payroll in any classification is called the "first worker" and is not required to be an Alaskan resident. However, once the contractor adds any more workers in the classification, then all workers in the classification are counted, and the 90 percent is applied to compute the number of required Alaskans to be in compliance. To compute the number of Alaskan residents required in a workweek in a particular classification, multiply the number of workers in the classification by 90 percent. The result is then rounded down to the nearest whole number to determine the number of Alaskans that must be employed.

If a worker works in more than one classification during a week, the classification in which they spent the most time would be counted for employment preference purposes. If the time is split evenly between two classifications, the worker is counted in both classifications.

If you have difficulty meeting the 90 percent requirement, an approved waiver must be obtained before a non-Alaskan resident is hired who would put the contractor/subcontractor out of compliance (8 AAC 30.081 (e) (f)). The waiver process requires proof of an intensive search for qualified Alaskan workers. To apply for a waiver, contact the nearest Wage and Hour Office for instructions.

Here is an example to apply the 90 percent requirement to four carpenter workers. Multiply four workers by 90% and drop the fraction (.90 X 4 = 3.6 - .6 = 3). The remaining number is the number of Alaskan resident carpenters required to be in compliance in that particular classification for that week.

The penalties for being out of compliance are serious. AS 36.10.100 (a) states "A contractor who violates a provision of this chapter shall have deducted from amounts due to the contractor under the contract the prevailing wages which should have been paid to a displaced resident, and these amounts shall be retained by the contracting agency." If a contractor/subcontractor is found to be out of compliance, penalties accumulate until they come into compliance.

If you have difficulty determining whether a worker is an Alaska resident, you should contact the nearest Wage and Hour Office. Contact Wage and Hour in Anchorage at (907) 269-4900, in Fairbanks at (907) 451-2886, or in Juneau at (907) 465-4842.

Alaska Department of Labor and Workforce Development
Labor Standards & Safety Division
Wage and Hour Administration
Web site: http://labor.state.ak.us/lss/pamp600.htm

Anchorage	Juneau	Fairbanks
1251 Muldoon Road, Suite 113 Anchorage, Alaska 99504-2098 Phone: (907) 269-4900 Email: anchorage.lss-wh@alaska.gov	1111 W. 8th Street, Suite 302 Juneau, Alaska 99801 Phone: (907) 465-4842 Email: juneau.lss-wh@alaska.gov	Regional State Office Building 675 7th Ave., Station J-1 Fairbanks, Alaska 99701-4593 Phone: (907) 451-2886 Email: fairbanks.lss@alaska.gov

DEBARMENT LIST

AS 36.05.090(b) states that "the state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees."

A person appearing on the following debarment list and a firm, corporation, partnership, or association in which the person has an interest may not work as a contractor or subcontractor on a public construction contract for the state or a political subdivision of the state for three years from the date of debarment.

Company Name	Date of Debarment	Debarment Expires

No companies are currently debarred.

Laborers' & Mechanics' Minimum Rates of Pay

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Boilermakers								
						VAC	**SAF**	
A0101	Boilermaker (journeyman)	44.01	8.57	15.34	0.75	3.00	0.34	72.01
Bricklayers & Blocklayers								
	**See note on last page if remote site							
						L&M		
A0201	Blocklayer	39.03	9.53	8.50	0.55	0.15	0.37	58.13
	Bricklayer							
	Marble or Stone Mason							
	Refractory Worker (Firebrick, Plastic, Castable, and Gunite Refractory Applications)							
	Terrazzo Worker							
	Tile Setter							
						L&M		
A0202	Tuck Pointer Caulker	39.03	9.53	8.50	0.55	0.15	0.37	58.13
	Cleaner (PCC)							
						L&M		
A0203	Marble & Tile Finisher	33.27	9.53	8.50	0.55	0.15	0.37	52.37
	Terrazzo Finisher							
						L&M		
A0204	Torginal Applicator	37.14	9.53	8.50	0.55	0.15	0.37	56.24
Carpenters, Statewide								
	**See note on last page if remote site							
						L&M	**SAF**	
A0301	Carpenter (journeyman)	37.34	9.78	12.86	0.70	0.10	0.15	60.93
	Lather/Drywall/Acoustical							
Cement Masons, Region I (North of N63 latitude)								
	**See note on last page if remote site							
						L&M		
N0401	Group I, including:	35.69	7.24	11.80	0.85	0.10		55.68
	Application of Sealing Compound							
	Application of Underlayment							
	Building, General							
	Cement Mason (journeyman)							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; LML=labor/management fund & LEG combined; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Cement Masons, Region I (North of N63 latitude)							
	**See note on last page if remote site						
						L&M	
N0401	Group I, including:	35.69	7.24	11.80	0.85	0.10	55.68
	Concrete Concrete Paving Curb & Gutter, Sidewalk Curing of All Concrete Grouting & Caulking of Tilt-Up Panels Grouting of All Plates Patching Concrete Screed Pin Setter Spackling/Skim Coating						
						L&M	
N0402	Group II, including:	35.69	7.24	11.80	0.85	0.10	55.68
	Form Setter						
						L&M	
N0403	Group III, including:	35.69	7.24	11.80	0.85	0.10	55.68
	Concrete Saw (self-powered) Curb & Gutter Machine Floor Grinder Pneumatic Power Tools Power Chipping & Bushing Sand Blasting Architectural Finish Screed & Rodding Machine Operator Troweling Machine Operator						
						L&M	
N0404	Group IV, including:	35.69	7.24	11.80	0.85	0.10	55.68
	Application of All Composition Mastic Application of All Epoxy Material Application of All Plastic Material Finish Colored Concrete Gunite Nozzleman Hand Powered Grinder Tunnel Worker						
						L&M	
N0405	Group V, including:	35.94	7.24	11.80	0.85	0.10	55.93
	Plasterer						
Cement Masons, Region II (South of N63 latitude)							
	**See note on last page if remote site						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; LML=labor/management fund & LEG combined; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Cement Masons, Region II (South of N63 latitude)							
	**See note on last page if remote site						
						L&M	
S0401	Group I, including:	35.44	7.24	11.80	0.85	0.10	55.43
	Application of Sealing Compound						
	Application of Underlayment						
	Building, General						
	Cement Mason (journeyman)						
	Concrete						
	Concrete Paving						
	Curb & Gutter, Sidewalk						
	Curing of All Concrete						
	Grouting & Caulking of Tilt-Up Panels						
	Grouting of All Plates						
	Patching Concrete						
	Screed Pin Setter						
	Spackling/Skim Coating						
						L&M	
S0402	Group II, including:	35.44	7.24	11.80	0.85	0.10	55.43
	Form Setter						
						L&M	
S0403	Group III, including:	35.44	7.24	11.80	0.85	0.10	55.43
	Concrete Saw (self-powered)						
	Curb & Gutter Machine						
	Floor Grinder						
	Pneumatic Power Tools						
	Power Chipping & Bushing						
	Sand Blasting Architectural Finish						
	Screed & Rodding Machine Operator						
	Troweling Machine Operator						
						L&M	
S0404	Group IV, including:	35.44	7.24	11.80	0.85	0.10	55.43
	Application of All Composition Mastic						
	Application of All Epoxy Material						
	Application of All Plastic Material						
	Finish Colored Concrete						
	Gunite Nozzleman						
	Hand Powered Grinder						
	Tunnel Worker						
						L&M	
S0405	Group V, including:	35.69	7.24	11.80	0.85	0.10	55.68
	Plasterer						

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Culinary Workers * See note on last page							
A0501	Baker/Cook	25.17	5.92	5.73		**LEG** 0.05	36.87
A0503	General Helper	22.12	5.92	5.73		**LEG** 0.05	33.82
	Housekeeper Janitor Kitchen Helper						
A0504	Head Cook	25.72	5.92	5.73		**LEG** 0.05	37.42
A0505	Head Housekeeper	22.54	5.92	5.73		**LEG** 0.05	34.24
	Head Kitchen Help						
Dredgemen **See note on last page if remote site							
A0601	Assistant Engineer, including:	38.51	9.35	10.00	1.00	**L&M** 0.10	58.96
	Craneman Electrical Generator Operator (primary pump/power barge/dredge) Engineer Welder						
A0602	Assistant Mate (deckhand)	37.35	9.35	10.00	1.00	**L&M** 0.10	57.80
A0603	Fireman	37.79	9.35	10.00	1.00	**L&M** 0.10	58.24
A0605	Leverman Clamshell	41.04	9.35	10.00	1.00	**L&M** 0.10	61.49
A0606	Leverman Hydraulic	39.28	9.35	10.00	1.00	**L&M** 0.10	59.73
A0607	Mate & Boatman	38.51	9.35	10.00	1.00	**L&M** 0.10	58.96
A0608	Oiler (dredge)	37.79	9.35	10.00	1.00	**L&M** 0.10	58.24
Electricians							
A0701	Inside Cable Splicer	39.82	11.06	12.59	0.95	**L&M** 0.20 **LEG** 0.15	64.77

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; LML=labor/management fund & LEG combined; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Electricians								
						L&M	**LEG**	
A0702	Inside Journeyman Wireman, including:	38.79	11.06	12.81	0.95	0.20	0.15	63.96
	Technicians							
						LML	**SAF**	
A0703	Power Cable Splicer	51.52	11.06	16.62	0.95	0.35	0.50	81.00
						L&M	**LEG**	
A0704	Tele Com Cable Splicer	47.45	11.06	14.57	0.95	0.20	0.15	74.38
						LML	**SAF**	
A0705	Power Journeyman Lineman, including:	49.77	11.06	16.56	0.95	0.35	0.50	79.19
	Power Equipment Operator Technician							
						L&M	**LEG**	
A0706	Tele Com Journeyman Lineman, including:	45.70	11.06	14.52	0.95	0.20	0.15	72.58
	Technician Tele Com Equipment Operator							
						L&M	**LEG**	
A0707	Straight Line Installer - Repairman	45.70	11.06	14.52	0.95	0.20	0.15	72.58
						LML	**SAF**	
A0708	Powderman	47.77	11.06	16.50	0.95	0.35	0.50	77.13
						L&M	**LEG**	
A0710	Material Handler	26.28	10.26	4.54	0.15	0.15	0.15	41.53
						L&M	**LEG**	
A0712	Tree Trimmer Groundman	26.67	11.06	9.45	0.15	0.15	0.15	47.63
						L&M	**LEG**	
A0713	Journeyman Tree Trimmer	35.34	11.06	9.71	0.15	0.15	0.15	56.56
						L&M	**LEG**	
A0714	Vegetation Control Sprayer	38.79	11.06	9.81	0.15	0.15	0.15	60.11
						L&M		
A0715	Inside Journeyman Communications CO/PBX	38.07	11.06	12.54	0.95	0.20	0.15	62.97
Elevator Workers								
						L&M	**VAC**	
A0802	Elevator Constructor	35.29	12.73	13.46	0.60	0.30	3.21	65.59
						L&M	**VAC**	
A0803	Elevator Constructor Mechanic	50.42	12.73	13.46	0.60	0.30	5.59	83.10

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; LML=labor/management fund & LEG combined; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Heat & Frost Insulators/Asbestos Workers								
	**See note on last page if remote site							
						SAF		
A0902	Asbestos Abatement-Mechanical Systems	36.18	8.84	9.51	0.60	0.12		55.25
						SAF		
A0903	Asbestos Abatement/General Demolition All Systems	36.18	8.84	9.51	0.60	0.12		55.25
						SAF		
A0904	Insulator, Group II	36.18	8.84	9.51	0.60	0.12		55.25
						SAF		
A0905	Fire Stop	36.18	8.84	9.51	0.60	0.12		55.25
IronWorkers								
	**See note on last page if remote site							
						L&M	**IAF**	
A1101	Ironworkers, including:	36.25	7.58	18.00	0.97	0.46	0.10	63.36
	Bender Operators Bridge & Structural Machinery Mover Ornamental Reinforcing Rigger Sheeter Signalman Stage Rigger Toxic Haz-Mat Work Welder							
						L&M	**IAF**	
A1102	Helicopter	37.25	7.58	18.00	0.97	0.46	0.10	64.36
	Tower (energy producing windmill type towers to include nacelle and blades)							
						L&M	**IAF**	
A1103	Fence/Barrier Installer	32.75	7.58	17.75	0.97	0.46	0.10	59.61
	Guard Rail Installer							
						L&M	**IAF**	
A1104	Guard Rail Layout Man	33.49	7.58	17.75	0.97	0.46	0.10	60.35
Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)								
	**See note on last page if remote site							
						L&M	**LEG**	
N1201	Group I, including:	29.24	7.24	14.84	1.20	0.20	0.15	52.87
	Asphalt Worker (shovelman, plant crew)							

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	
Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)								
	**See note on last page if remote site							
N1201	Group I, including:	29.24	7.24	14.84	1.20	0.20	0.15	52.87

Brush Cutter
Camp Maintenance Laborer
Carpenter Tender or Helper
Choke Setter, Hook Tender, Rigger, Signalman
Concrete Labor (curb & gutter, chute handler, grouting, curing, screeding)
Crusher Plant Laborer
Demolition Laborer
Ditch Digger
Dumpman
Environmental Laborer (hazard/toxic waste, oil spill)
Fence Installer
Fire Watch Laborer
Flagman
Form Stripper
General Laborer
Guardrail Laborer, Bridge Rail Installer
Hydro-seeder Nozzleman
Laborer, Building
Landscaper or Planter
Laying of Mortarless Decorative Block (retaining walls, flowered decorative block 4 feet or less - highway or landscape work)
Material Handler
Pneumatic or Power Tools
Portable or Chemical Toilet Serviceman
Pump Man or Mixer Man
Railroad Track Laborer
Sandblast, Pot Tender
Saw Tender
Slurry Work
Stake Hopper
Steam Cleaner Operator
Steam Point or Water Jet Operator
Tank Cleaning
Utiliwalk & Utilidor Laborer
Watchman (construction projects)
Window Cleaner

						L&M	LEG	
N1202	Group II, including:	30.24	7.24	14.84	1.20	0.20	0.15	53.87

Burning & Cutting Torch
Cement or Lime Dumper or Handler (sack or bulk)

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

**See note on last page if remote site

						L&M	LEG	
N1202	Group II, including:	30.24	7.24	14.84	1.20	0.20	0.15	53.87

Choker Splicer
Chucktender (wagon, air-track & hydraulic drills)
Concrete Laborer (power buggy, concrete saws, pumpcrete nozzleman, vibratorman)
Culvert Pipe Laborer
Cured Inplace Pipelayer
Environmental Laborer (asbestos, marine work)
Foam Gun or Foam Machine Operator
Green Cutter (dam work)
Gunite Operator
Hod Carrier
Jackhammer or Pavement Breaker (more than 45 pounds)
Laser Instrument Operator
Laying of Mortarless Decorative Block (retaining walls, flowered decorative block over 4 feet - highway or landscape work)
Mason Tender & Mud Mixer (sewer work)
Pilot Car
Pipelayer Helper
Plasterer, Bricklayer & Cement Finisher Tender
Powderman Helper
Power Saw Operator
Railroad Switch Layout Laborer
Sandblaster
Scaffold Building & Erecting
Sewer Caulker
Sewer Plant Maintenance Man
Thermal Plastic Applicator
Timber Faller, Chainsaw Operator, Filer
Timberman

						L&M	LEG	
N1203	Group III, including:	31.14	7.24	14.84	1.20	0.20	0.15	54.77

Bit Grinder
Camera/Tool/Video Operator
Guardrail Machine Operator
High Rigger & Tree Topper
High Scaler
Multiplate
Plastic Welding
Slurry Seal Squeegee Man
Traffic Control Supervisor
Welding Certified (in connection with laborer's work)

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; LML=labor/management fund & LEG combined; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

**See note on last page if remote site

						L&M	LEG	
N1204	Group IIIA	34.42	7.24	14.84	1.20	0.20	0.15	58.05

Asphalt Raker, Asphalt Belly Dump Lay Down
Drill Doctor (in the field)
Driller (including, but not limited to, wagon drills, air-track drills, hydraulic drills)
Licensed Powderman
Pioneer Drilling & Drilling Off Tugger (all type drills)
Pipelayers

						L&M	LEG	
N1205	Group IV	18.81	7.24	14.84	1.20	0.20	0.15	42.44

Final Building Cleanup
Permanent Yard Worker

						L&M	LEG	
N1206	Group IIIB	35.25	7.24	14.84	1.20	0.20	0.15	58.88

Federally Licensed Powderman (Responsible Person in Charge)
Grade Checking (setting or transferring of grade marks, line and grade)

Laborers (The area that is south of N63 latitude and west of W138 longitude)

**See note on last page if remote site

						L&M	LEG	
S1201	Group I, including:	29.24	7.24	14.84	1.20	0.20	0.15	52.87

Asphalt Worker (shovelman, plant crew)
Brush Cutter
Camp Maintenance Laborer
Carpenter Tender or Helper
Choke Setter, Hook Tender, Rigger, Signalman
Concrete Labor (curb & gutter, chute handler, grouting, curing, screeding)
Crusher Plant Laborer
Demolition Laborer
Ditch Digger
Dumpman
Environmental Laborer (hazard/toxic waste, oil spill)
Fence Installer
Fire Watch Laborer
Flagman
Form Stripper
General Laborer
Guardrail Laborer, Bridge Rail Installer
Hydro-seeder Nozzleman

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	

Laborers (The area that is south of N63 latitude and west of W138 longitude)

**See note on last page if remote site

S1201	Group I, including:	29.24	7.24	14.84	1.20	0.20	0.15	52.87

Laborer, Building
Landscaper or Planter
Laying of Mortarless Decorative Block (retaining walls, flowered decorative block 4 feet or less - highway or landscape work)
Material Handler
Pneumatic or Power Tools
Portable or Chemical Toilet Serviceman
Pump Man or Mixer Man
Railroad Track Laborer
Sandblast, Pot Tender
Saw Tender
Slurry Work
Stake Hopper
Steam Cleaner Operator
Steam Point or Water Jet Operator
Tank Cleaning
Utiliwalk & Utilidor Laborer
Watchman (construction projects)
Window Cleaner

S1202	Group II, including:	30.24	7.24	14.84	1.20	0.20	0.15	53.87

Burning & Cutting Torch
Cement or Lime Dumper or Handler (sack or bulk)
Choker Splicer
Chucktender (wagon, air-track & hydraulic drills)
Concrete Laborer (power buggy, concrete saws, pumpcrete nozzleman, vibratorman)
Culvert Pipe Laborer
Cured Inplace Pipelayer
Environmental Laborer (asbestos, marine work)
Foam Gun or Foam Machine Operator
Green Cutter (dam work)
Gunite Operator
Hod Carrier
Jackhammer or Pavement Breaker (more than 45 pounds)
Laser Instrument Operator
Laying of Mortarless Decorative Block (retaining walls, flowered decorative block over 4 feet - highway or landscape work)
Mason Tender & Mud Mixer (sewer work)
Pilot Car
Pipelayer Helper

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
	Laborers (The area that is south of N63 latitude and west of W138 longitude)							
	**See note on last page if remote site							
						L&M	**LEG**	
S1202	Group II, including:	30.24	7.24	14.84	1.20	0.20	0.15	53.87
	Plasterer, Bricklayer & Cement Finisher Tender							
	Powderman Helper							
	Power Saw Operator							
	Railroad Switch Layout Laborer							
	Sandblaster							
	Scaffold Building & Erecting							
	Sewer Caulker							
	Sewer Plant Maintenance Man							
	Thermal Plastic Applicator							
	Timber Faller, Chainsaw Operator, Filer							
	Timberman							
						L&M	**LEG**	
S1203	Group III, including:	31.14	7.24	14.84	1.20	0.20	0.15	54.77
	Bit Grinder							
	Camera/Tool/Video Operator							
	Guardrail Machine Operator							
	High Rigger & Tree Topper							
	High Scaler							
	Multiplate							
	Plastic Welding							
	Slurry Seal Squeegee Man							
	Traffic Control Supervisor							
	Welding Certified (in connection with laborer's work)							
						L&M	**LEG**	
S1204	Group IIIA	34.42	7.24	14.84	1.20	0.20	0.15	58.05
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to, wagon drills, air-track drills, hydraulic drills)							
	Licensed Powderman							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayers							
						L&M	**LEG**	
S1205	Group IV	18.81	7.24	14.84	1.20	0.20	0.15	42.44
	Final Building Cleanup							
	Permanent Yard Worker							
						L&M	**LEG**	
S1206	Group IIIB	35.25	7.24	14.84	1.20	0.20	0.15	58.88
	Federally Licensed Powderman (Responsible Person in Charge)							

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	
Laborers (The area that is south of N63 latitude and west of W138 longitude)								
	**See note on last page if remote site							
S1206	Group IIIB	35.25	7.24	14.84	1.20	0.20	0.15	58.88
	Grade Checking (setting or transferring of grade marks, line and grade)							
Millwrights								
						L&M		
A1251	Millwright (journeyman)	35.74	9.78	10.51	1.00	0.25	0.15	57.43
						L&M		
A1252	Millwright Welder	36.33	9.78	10.51	1.00	0.25	0.15	58.02
Painters, Region I (North of N63 latitude)								
	**See note on last page if remote site							
						L&M		
N1301	Group I, including:	30.96	7.69	11.10	0.83	0.07		50.65
	Brush							
	General Painter							
	Hand Taping							
	Hazardous Material Handler							
	Lead-Based Paint Abatement							
	Roll							
						L&M		
N1302	Group II, including:	31.48	7.69	11.10	0.83	0.07		51.17
	Bridge Painter							
	Epoxy Applicator							
	General Drywall Finisher							
	Hand/Spray Texturing							
	Industrial Coatings Specialist							
	Machine/Automatic Taping							
	Pot Tender							
	Sandblasting							
	Specialty Painter							
	Spray							
	Structural Steel Painter							
	Wallpaper/Vinyl Hanger							
N1304	Group IV, including:	37.07	7.69	10.96	0.80	0.05		56.57
	Glazier							
	Storefront/Automatic Door Mechanic							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; LML=labor/management fund & LEG combined; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Painters, Region I (North of N63 latitude)							
	**See note on last page if remote site						
N1305	Group V, including:	29.65	7.69	5.02	0.83	0.07	43.26
	Carpet Installer						
	Floor Coverer						
	Heat Weld/Cove Base						
	Linoleum/Soft Tile Installer						
Painters, Region II (South of N63 latitude)							
	**See note on last page if remote site						
						L&M	
S1301	Group I, including :	29.20	7.69	10.85	0.83	0.07	48.64
	Brush						
	General Painter						
	Hand Taping						
	Hazardous Material Handler						
	Lead-Based Paint Abatement						
	Roll						
	Spray						
						L&M	
S1302	Group II, including :	30.45	7.69	10.85	0.83	0.07	49.89
	General Drywall Finisher						
	Hand/Spray Texturing						
	Machine/Automatic Taping						
	Wallpaper/Vinyl Hanger						
						L&M	
S1303	Group III, including :	30.55	7.69	10.85	0.83	0.07	49.99
	Bridge Painter						
	Epoxy Applicator						
	Industrial Coatings Specialist						
	Pot Tender						
	Sandblasting						
	Specialty Painter						
	Structural Steel Painter						
						L&M	
S1304	Group IV, including:	37.07	7.69	10.21	0.83	0.07	55.87
	Glazier						
	Storefront/Automatic Door Mechanic						
						L&M	
S1305	Group V, including:	29.65	7.69	5.02	0.83	0.07	43.26
	Carpet Installer						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; LML=labor/management fund & LEG combined; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Painters, Region II (South of N63 latitude)								
	**See note on last page if remote site							
						L&M		
S1305	Group V, including:	29.65	7.69	5.02	0.83	0.07		43.26
	Floor Coverer Heat Weld/Cove Base Linoleum/Soft Tile Installer							
Piledrivers								
	**See note on last page if remote site							
						L&M	IAF	
A1401	Piledriver	37.34	9.78	12.86	0.70	0.10	0.15	60.93
	Assistant Dive Tender Carpenter/Piledriver Rigger Sheet Stabber Skiff Operator							
						L&M	IAF	
A1402	Piledriver-Welder/Toxic Worker	38.34	9.78	12.86	0.70	0.10	0.15	61.93
						L&M	IAF	
A1403	Remotely Operated Vehicle Pilot/Technician	41.65	9.78	12.86	0.70	0.10	0.15	65.24
	Single Atmosphere Suit, Bell or Submersible Pilot							
						L&M	IAF	
A1404	Diver (working) ***See note on last page	81.45	9.78	12.86	0.70	0.10	0.15	105.04
						L&M	IAF	
A1405	Diver (standby) ***See note on last page	41.65	9.78	12.86	0.70	0.10	0.15	65.24
						L&M	IAF	
A1406	Dive Tender ***See note on last page	40.65	9.78	12.86	0.70	0.10	0.15	64.24
						L&M	IAF	
A1407	Welder (American Welding Society, Certified Welding Inspector)	42.90	9.78	12.86	0.70	0.10	0.15	66.49
Plumbers, Region I (North of N63 latitude)								
						L&M	S&L	
N1501	Journeyman Pipefitter	40.96	7.40	12.70	1.10	1.10		63.26
	Plumber Welder							
Plumbers, Region II (South of N63 latitude)								

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Plumbers, Region II (South of N63 latitude)							
						L&M	
S1501	Journeyman Pipefitter	39.21	8.67	10.82	1.50	0.20	60.40
	Plumber						
	Welder						
Plumbers, Region IIA (1st Judicial District)							
						L&M	
X1501	Journeyman Pipefitter	37.02	12.47	11.00	2.50	0.24	63.23
	Plumber						
	Welder						
Power Equipment Operators							
	**See note on last page if remote site						
						L&M	
A1601	Group I, including:	39.28	9.35	10.00	1.00	0.10	59.73
	Asphalt Roller: Breakdown, Intermediate, and Finish						
	Back Filler						
	Barrier Machine (Zipper)						
	Beltcrete with Power Pack & similar conveyors						
	Bending Machine						
	Boat Coxswain						
	Bulldozer						
	Cableways, Highlines & Cablecars						
	Cleaning Machine						
	Coating Machine						
	Concrete Hydro Blaster						
	Cranes (45 tons & under or 150 feet of boom & under (including jib & attachments))						
	(a) Hydralifts or Transporters, (all track or truck type)						
	(b) Derricks						
	Crushers						
	Deck Winches, Double Drum						
	Ditching or Trenching Machine (16 inch or over)						
	Drag Scraper, Yarder, and similar types						
	Drilling Machines, Core, Cable, Rotary and Exploration						
	Finishing Machine Operator, Concrete Paving, Laser Screed, Sidewalk, Curb & Gutter Machine						
	Helicopters						
	Hover Craft, Flex Craft, Loadmaster, Air Cushion, All-Terrain Vehicle, Rollagon, Bargecable, Nodwell, & Snow Cat						
	Hydro Ax, Feller Buncher & similar						

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR

Power Equipment Operators

**See note on last page if remote site

						L&M	
A1601	Group I, including:	39.28	9.35	10.00	1.00	0.10	59.73

Licensed Line & Grade
Loaders (2 1/2 yards through 5 yards, including all attachments):
(a) Forklifts (with telescopic boom & swing attachment)
(b) Front End & Overhead, (2-1/2 yards through 5 yards)
(c) Loaders, (with forks or pipe clamp)
(d) Loaders, (elevating belt type, Euclid & similar types)
Mechanic, Welder, Bodyman, Electrical, Camp & Maintenance Engineer
Micro Tunneling Machine
Mixers: Mobile type with hoist combination
Motor Patrol Grader
Mucking Machine: Mole, Tunnel Drill, Horizontal/Directional Drill Operator and/or Shield
Operator on Dredges
Piledriver Engineer, L.B. Foster, Puller or similar paving breaker
Plant Operator (Asphalt & Concrete)
Power Plant, Turbine Operator 200 k.w & over (power plants or combination of power units over 300 k.w.)
Remote Controlled Equipment
Scraper (through 40 yards)
Service Oiler/Service Engineer
Shot Blast Machine
Shovels, Backhoes, Excavators with all attachments, and Gradealls (3 yards & under)
Sideboom (under 45 tons)
Spreaders, Blaw Knox, Cedarapids, Barber Greene, Slurry Machine
Sub Grader (Gurries, Reclaimer & similar types)
Tack Tractor
Truck Mounted Concrete Pump, Conveyor & Creter
Unlicensed Off-Road Hauler
Wate Kote Machine

						L&M	
A1602	Group IA, including:	41.04	9.35	10.00	1.00	0.10	61.49

Camera/Tool/Video Operator (Slipline)
Certified Welder, Electrical Mechanic, Camp Maintenance Engineer, Mechanic (over 10,000 hours)
Cranes (over 45 tons or 150 feet including jib & attachments)
(a) Clamshells & Draglines (over 3 yards)
(b) Tower Cranes
Licensed Water/Waste Water Treatment Operator
Loaders (over 5 yards)

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Power Equipment Operators							
	**See note on last page if remote site						
						L&M	
A1602	Group IA, including:	41.04	9.35	10.00	1.00	0.10	61.49
	Motor Patrol Grader, Dozer, Grade Tractor, Roto-Mill/Profiler (finish: when finishing to final grade and/or to hubs, or for asphalt)						
	Power Plants (1000 k.w. & over)						
	Quad						
	Scrapers (over 40 yards)						
	Screed						
	Shovels, Backhoes, Excavators with all attachments (over 3 yards)						
	Sidebooms (over 45 tons)						
	Slip Form Paver, C.M.I. & similar types						
						L&M	
A1603	Group II, including:	38.51	9.35	10.00	1.00	0.10	58.96
	Boiler - Fireman						
	Cement Hogs & Concrete Pump Operator						
	Conveyors (except those listed in Group I)						
	Hoists on Steel Erection, Towermobiles & Air Tuggers						
	Horizontal/Directional Drill Locator						
	Licensed Grade Technician						
	Loaders (i.e., Elevating Grader & Material Transfer Vehicle)						
	Locomotives, Rod & Geared Engines						
	Mixers						
	Screening, Washing Plant						
	Sideboom (cradling rock drill, regardless of size)						
	Skidder						
	Trenching Machines (under 16 inches)						
	Water/Waste Water Treatment Operator						
						L&M	
A1604	Group III, including:	37.79	9.35	10.00	1.00	0.10	58.24
	"A" Frame Trucks, Deck Winches						
	Bombardier (tack or tow rig)						
	Boring Machine						
	Brooms, Power						
	Bump Cutter						
	Compressor						
	Farm Tractor						
	Forklift, Industrial Type						
	Gin Truck or Winch Truck (with poles when used for hoisting)						
	Grade Checker & Stake Hopper						
	Hoists, Air Tuggers, Elevators						
	Loaders:						
	(a) Elevating-Athey, Barber Greene & similar types						

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Power Equipment Operators								
	**See note on last page if remote site							
						L&M		
A1604	Group III, including:	37.79	9.35	10.00	1.00	0.10		58.24
	(b) Forklifts or Lumber Carrier (on construction job sites)							
	(c) Forklifts, (with tower)							
	(d) Overhead & Front End, (under 2-l/2 yards)							
	Locomotives: Dinkey (air, steam, gas & electric) Speeders							
	Mechanics, Light Duty							
	Oil, Blower Distribution							
	Posthole Digger, Mechanical							
	Pot Fireman (power agitated)							
	Power Plant, Turbine Operator, (under 200 k.w.)							
	Pumps, Water							
	Roller (other than Asphalt)							
	Saws, Concrete							
	Skid Hustler							
	Skid Steer (with all attachments)							
	Straightening Machine							
	Tow Tractor							
						L&M		
A1605	Group IV, including:	31.58	9.35	10.00	1.00	0.10		52.03
	Crane Assistant Engineer/Rig Oiler							
	Drill Helper							
	Parts & Equipment Coordinator							
	Spotter							
	Steam Cleaner							
	Swamper (on trenching machines or shovel type equipment)							
Roofers								
	**See note on last page if remote site							
						L&M		
A1701	Roofer & Waterproofer	42.95	7.43	2.91	0.81	0.10	0.02	54.22
						L&M		
A1702	Roofer Material Handler	30.07	7.43	2.91	0.81	0.10	0.02	41.34
Sheet Metal Workers, Region I (North of N63 latitude)								
						L&M		
N1801	Sheet Metal Journeyman	45.68	8.80	10.34	1.32	0.25		66.39
	Air Balancing and duct cleaning of HVAC systems							
	Brazing, soldering or welding of metals							

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Sheet Metal Workers, Region I (North of N63 latitude)							
						L&M	
N1801	Sheet Metal Journeyman	45.68	8.80	10.34	1.32	0.25	66.39

Demolition of sheet metal HVAC systems
Fabrication and installation of exterior wall sheathing, siding, metal roofing, flashing, decking and architectural sheet metal work
Fabrication and installation of heating, ventilation and air conditioning ducts and equipment
Fabrication and installation of louvers and hoods
Fabrication and installation of sheet metal lagging
Fabrication and installation of stainless steel commercial or industrial food service equipment
Manufacture, fabrication assembly, installation and alteration of all ferrous and nonferrous metal work
Metal lavatory partitions
Preparation of drawings taken from architectural and engineering plans required for fabrication and erection of sheet metal work
Sheet Metal shelving
Sheet Metal venting, chimneys and breaching
Skylight installation

Sheet Metal Workers, Region II (South of N63 latitude)							
						L&M	
S1801	Sheet Metal Journeyman	40.49	8.80	11.42	1.18	0.33	62.22

Air Balancing and duct cleaning of HVAC systems
Brazing, soldering or welding of metals
Demolition of sheet metal HVAC systems
Fabrication and installation of exterior wall sheathing, siding, metal roofing, flashing, decking and architectural sheet metal work
Fabrication and installation of heating, ventilation and air conditioning ducts and equipment
Fabrication and installation of louvers and hoods
Fabrication and installation of sheet metal lagging
Fabrication and installation of stainless steel commercial or industrial food service equipment
Manufacture, fabrication assembly, installation and alteration of all ferrous and nonferrous metal work
Metal lavatory partitions
Preparation of drawings taken from architectural and engineering plans required for fabrication and erection of sheet metal work
Sheet Metal shelving
Sheet Metal venting, chimneys and breaching
Skylight installation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Sprinkler Fitters							
A1901	Sprinkler Fitter	42.89	8.52	13.05	0.45	L&M 0.25	65.16
Surveyors	**See note on last page if remote site						
A2001	Chief of Parties	42.31	8.78	9.99	1.25	L&M 0.10	62.43
A2002	Party Chief	40.72	8.78	9.99	1.25	L&M 0.10	60.84
A2003	Line & Grade Technician/Office Technician	40.12	8.78	9.99	1.25	L&M 0.10	60.24
A2004	Associate Party Chief (including Instrument Person & Head Chain Person)	38.00	8.78	9.99	1.25	L&M 0.10	58.12
A2005	Stake Hop/Grademan	35.07	8.78	9.99	1.25	L&M 0.10	55.19
A2006	Chain Person (for crews with more than 2 people)	33.66	8.78	9.99	1.25	L&M 0.10	53.78
Truck Drivers	**See note on last page if remote site						
A2101	Group I, including:	39.09	8.78	9.99	1.25	L&M 0.10	59.21

Air/Sea Traffic Controllers
Ambulance/Fire Truck Driver (EMT certified)
Boat Coxswain
Captains & Pilots (air & water)
Deltas, Commanders, Rollagons, & similar equipment (when pulling sleds, trailers or similar equipment)
Dump Trucks (including rockbuggy & trucks with pups) over 40 yards up to & including 60 yards
Helicopter Transporter
Lowboys, including attached trailers & jeeps, up to & including 12 axles (over 12 axles or 150 tons to be negotiated)
Material Coordinator and Purchasing Agent
Ready-mix (over 12 yards up to & including 15 yards) (over 15 yards to be negotiated)
Semi with Double Box Mixer
Tireman, Heavy Duty/Fueler
Water Wagon (250 Bbls and above)

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; LML=labor/management fund & LEG combined; ONT=overnight; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Truck Drivers							
	**See note on last page if remote site						
						L&M	
A2102	Group 1A including:	40.36	8.78	9.99	1.25	0.10	60.48
	Dump Trucks (including rockbuggy & trucks with pups) over 60 yards up to & including 100 yards (over 100 yards to be negotiated)						
	Jeeps (driver under load)						
						L&M	
A2103	Group II, including:	37.83	8.78	9.99	1.25	0.10	57.95
	All Deltas, Commanders, Rollagons, & similar equipment						
	Boom Truck/Knuckle Truck (over 5 tons)						
	Construction and Material Safety Technician						
	Dump Trucks (including rockbuggy & trucks with pups) over 20 yards up to & including 40 yards						
	Gin Pole Truck, Winch Truck, Wrecker (truck mounted "A" frame manufactured rating over 5 tons)						
	Lowboys (including attached trailers & jeeps up to & including 8 axles)						
	Mechanics						
	Partsman						
	Ready-mix (over 7 yards up to & including 12 yards)						
	Stringing Truck						
	Super Vac Truck/Cacasco Truck/Heat Stress Truck						
	Turn-O-Wagon or DW-10 (not self loading)						
						L&M	
A2104	Group III, including:	37.01	8.78	9.99	1.25	0.10	57.13
	Batch Trucks (8 yards & up)						
	Boom Truck/Knuckle Truck (up to & including 5 tons)						
	Dump Trucks (including rockbuggy & trucks with pups) over 10 yards up to & including 20 yards						
	Expeditor (electrical & pipefitting materials)						
	Gin Pole Truck, Winch Truck, Wrecker (truck mounted "A" frame manufactured rating 5 tons & under)						
	Greaser - Shop						
	Oil Distributor Driver						
	Thermal Plastic Layout Technician						
	Traffic Control Technician						
	Trucks/Jeeps (push or pull)						
						L&M	
A2105	Group IV, including:	36.43	8.78	9.99	1.25	0.10	56.55
	Air Cushion or similar type vehicle						
	All Terrain Vehicle						
	Buggymobile						
	Bull Lift & Fork Lift, Fork Lift with Power Boom & Swing Attachment (over 5 tons)						

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Truck Drivers							
	**See note on last page if remote site						
						L&M	
A2105	Group IV, including:	36.43	8.78	9.99	1.25	0.10	56.55
	Bus Operator (over 30 passengers)						
	Combination Truck-Fuel & Grease						
	Compactor (when pulled by rubber tired equipment)						
	Dump Trucks (including Rockbuggy & trucks with pups up to & including 10 yards)						
	Dumpster						
	Expeditor (general)						
	Fire Truck/Ambulance Driver						
	Flat Beds, Dual Rear Axle						
	Foam Distributor Truck Dual Axle						
	Front End Loader with Fork						
	Grease Truck						
	Hydro Seeder, Dual Axle						
	Hyster Operators (handling bulk aggregate)						
	Loadmaster (air & water operations)						
	Lumber Carrier						
	Ready-mix, (up to & including 7 yards)						
	Rigger (air/water/oilfield)						
	Semi or Truck & Trailer						
	Tireman, Light Duty						
	Track Truck Equipment						
	Vacuum Truck, Truck Vacuum Sweeper						
	Warehouseperson						
	Water Truck (Below 250 Bbls)						
	Water Truck, Dual Axle						
	Water Wagon, Semi						
						L&M	
A2106	Group V, including:	35.67	8.78	9.99	1.25	0.10	55.79
	Batch Truck (up to & including 7 yards)						
	Buffer Truck						
	Bull Lifts & Fork Lifts, Fork Lifts with Power Boom & Swing Attachments (up to & including 5 tons)						
	Bus Operator (up to 30 passengers)						
	Farm Type Rubber Tired Tractor (when material handling or pulling wagons on a construction project)						
	Flat Beds, Single Rear Axle						
	Foam Distributor Truck Single Axle						
	Fuel Handler (station/bulk attendant)						
	Gear/Supply Truck						
	Gravel Spreader Box Operator on Truck						
	Hydro Seeders, Single axle						

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Truck Drivers								
	**See note on last page if remote site							
						L&M		
A2106	Group V, including:	35.67	8.78	9.99	1.25	0.10		55.79
	Pickups (pilot cars & all light-duty vehicles)							
	Rigger/Swamper							
	Tack Truck							
	Team Drivers (horses, mules, & similar equipment)							
Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)								
	**See note on last page if remote site							
						L&M	LEG	
N2201	Group I, including:	32.16	7.24	14.84	1.20	0.20	0.15	55.79
	Brakeman							
	Mucker							
	Nipper							
	Topman & Bull Gang							
	Tunnel Track Laborer							
						L&M	LEG	
N2202	Group II, including:	33.26	7.24	14.84	1.20	0.20	0.15	56.89
	Burning & Cutting Torch							
	Concrete Laborer							
	Jackhammer							
	Laser Instrument Operator							
	Nozzlemen, Pumpcrete or Shotcrete							
	Pipelayer Helper							
						L&M	LEG	
N2203	Group III, including:	34.25	7.24	14.84	1.20	0.20	0.15	57.88
	Miner							
	Retimberman							
						L&M	LEG	
N2204	Group IIIA, including:	37.86	7.24	14.84	1.20	0.20	0.15	61.49
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)							
	Licensed Powderman							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayer							
						L&M	LEG	
N2206	Group IIIB, including:	38.78	7.24	14.84	1.20	0.20	0.15	62.41
	Federally Licensed Powderman (Responsible Person in Charge)							

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
						L&M	LEG	
Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)								
	**See note on last page if remote site							
N2206	Group IIIB, including:	38.78	7.24	14.84	1.20	0.20	0.15	62.41
	Grade Checking (setting or transferring of grade marks, line and grade)							
Tunnel Workers, Laborers (The area that is south of N63 latitude and west of W138 longitude)								
	**See note on last page if remote site							
S2201	Group I, including:	32.16	7.24	14.84	1.20	0.20	0.15	55.79
	Brakeman							
	Mucker							
	Nipper							
	Topman & Bull Gang							
	Tunnel Track Laborer							
S2202	Group II, including:	33.26	7.24	14.84	1.20	0.20	0.15	56.89
	Burning & Cutting Torch							
	Concrete Laborer							
	Jackhammer							
	Laser Instrument Operator							
	Nozzlemen, Pumpcrete or Shotcrete							
	Pipelayer Helper							
S2203	Group III, including:	34.25	7.24	14.84	1.20	0.20	0.15	57.88
	Miner							
	Retimberman							
S2204	Group IIIA, including:	37.86	7.24	14.84	1.20	0.20	0.15	61.49
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)							
	Licensed Powderman							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayer							
S2206	Group IIIB, including:	38.78	7.24	14.84	1.20	0.20	0.15	62.41
	Federally Licensed Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade)							

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Tunnel Workers, Power Equipment Operators							
	**See note on last page if remote site						
A2207	Group I	43.21	9.35	10.00	1.00	L&M 0.10	63.66
A2208	Group IA	45.14	9.35	10.00	1.00	L&M 0.10	65.59
A2209	Group II	42.36	9.35	10.00	1.00	L&M 0.10	62.81
A2210	Group III	41.57	9.35	10.00	1.00	L&M 0.10	62.02
A2211	Group IV	34.74	9.35	10.00	1.00	L&M 0.10	55.19

*** A remote site is isolated and relatively distant from the amenities of civilization, and usually far from the employee's home. As a condition of employment, the workers must eat, sleep, and socialize at the worksite and remain there for extended periods.**

**** This classification must receive board and lodging under certain conditions. A per diem option of $75 is an alternative to providing meals and lodging. See Page v for an explanation.**

***** Work in combination of classifications: Employees working in any combination of classifications within the diving crew (working diver, standby diver, and tender) in a shift are paid in the classification with the highest rate for a minimum of 8 hours per shift.**

APPENDIX F

Indirect Costs Project
Telephone Interviewee Listing

DRAFT list & order of potential interviewees (Contract 10-15-2015)

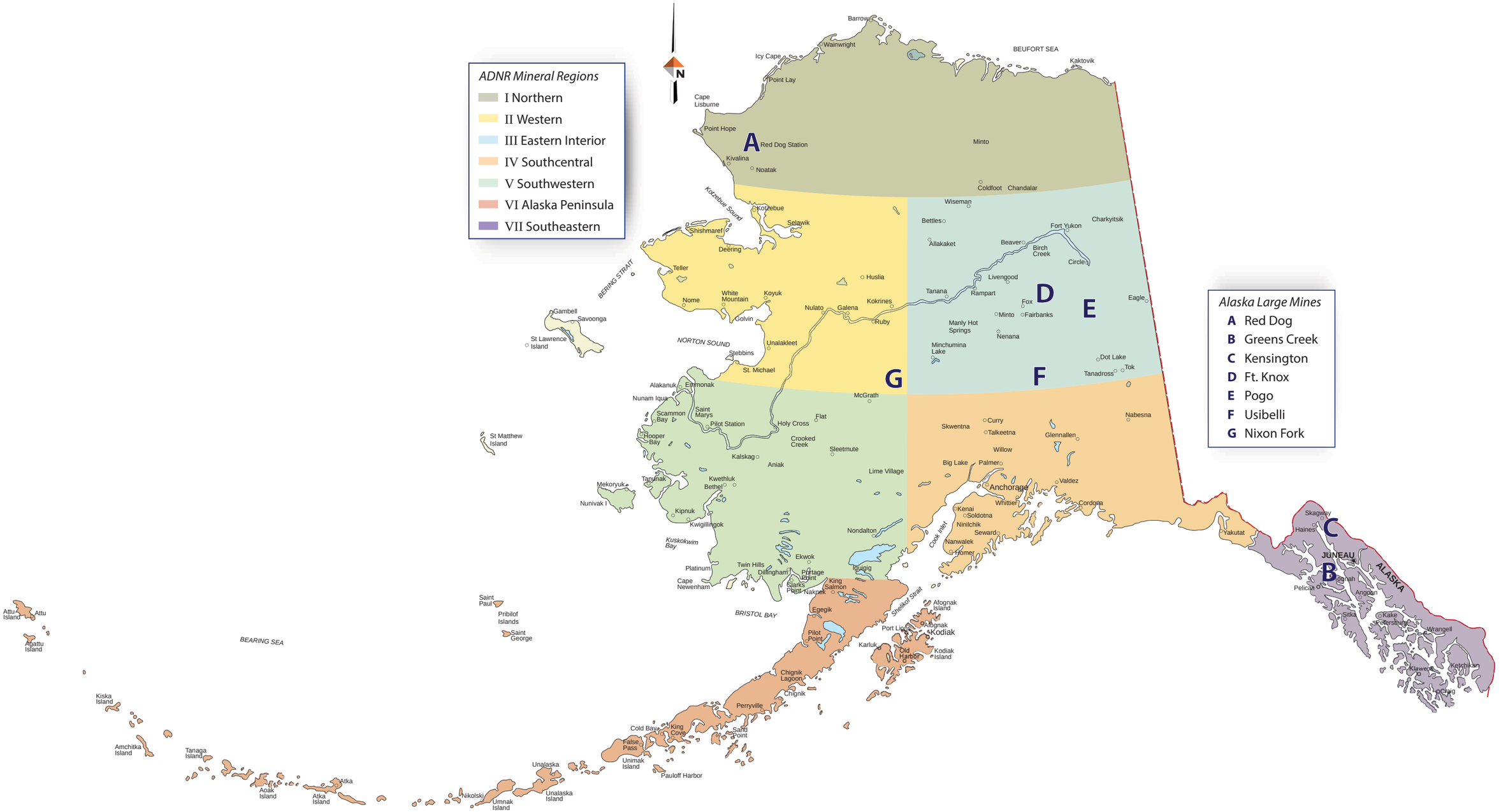
State LMPT Members	Phone No.	Comments/Thoughts	DOWL Caller	DOWL scribe	Call made yet?
Moselle, Kyle W (DNR)	907-465-6849	OPM-OFFICE PRJ MGMT	Clark	Beth	3-Feb
Martellaro, Brent J (DNR)	907-451-2788	MLW-LAND MINING (V-Frb)	Clark	Derek	3-Feb
Bruno, Jeff J (DNR)	907-269-7476	Associate Director (V?)	Clark	X	*failed calls*
Cobb, Charles F (DNR)	907-269-8636	MLW-LAND ANCH	Mike	**X**	
Tichotsky, John (DOR)	907-269-8902	TAX-ADMIN (Audit)	Clark	Derek	5-Feb
Tim Harper (D0R)	907-269-1020	TAX-PRODUC. AUDIT GROUP	Clark	Derek	5-Feb
Nakanishi, Allan S (DEC)	907-269-4028	DOW-WASTE WATER (II)	Clark	Beth	11-Feb
Schade, David W (DNR)	907-269-8645	MLW-LAND ANCH (III)	Derek	Beth	
Pexton, Scott R (DNR)	907-269-8621	MLW-LAND ANCHORAGE (III)	Clark	Beth	6-Feb
Brewer, Marlena M (DEC)	907-269-1099	DEH-SOLID WASTE (IV)	Derek	Beth	
Kirkham, Russell A (DNR)	907-269-8650	MLW-LAND MNG ANCH (IV)	Clark	x	*failed calls*
Ott, Alvin G (DFG)	907-459-7289	HAB-HABITAT FAIRBANKS	Clark	X	6-Feb
Curley, Carolyn A (DNR)	907-451-2795	MLW-LAND MINING (III-Frb)	Clark	Beth	4-Feb
McGee, "Pete" William D (DEC)	907-451-2141	DOW-WASTE WATER (II)	Clark	X	4-Feb
~~Morris, William A (DFG)~~	~~907-459-7282~~	~~HAB-HABITAT FAIRBANKS~~	~~Clark~~	~~X~~	
Stambaugh, Sharmon M (DNR)	907-269-0880	OPM-OFFICE PRJ MGMT	Derek	X	13-Feb
McGroarty, Steve (DOT&PF)	907-451-2236	Tech Eng I / Architect I	Clark	X	9-Feb
Lovell, Stephanie A (DNR)	907-458-6885	MLW-LAND MNG ANCH (III)	Clark	X	11-Feb
Pilon, Timothy A (DEC)	907-451-2136	DOW-WASTE WATER (II)	Clark	X	4-Feb
Evans, Renee L (DEC)	907-269-7568	DOW-WASTE WATER (I)	Beth	X	10-Feb
Wagner, Ben J (DNR)	907-269-8638	MLW-LAND ANCH (I)	Derek	X	
Wilfong, David L (DNR)	907-465-3404	MLW-LAND JUNEAU (I)	Beth	X	10-Feb
Ireys, Justin	907-269-8603	MLW-LAND ANCH (II)	Beth	X	
Forest Service	**Phone No.**				
Samuelson, Sarah	907-586-7886		Clark	x	10-Feb
Gabardi, Jeff	208-737-3205	Natl "expert" for FS - at Idaho	Derek	X	11-Feb
BLM	**Phone No.**				
John Hoppe	907-271-3218		Clark	X	11-Feb
Mike McCrum	907-271-4426		Derek	Beth	6-Feb
EPA	**Phone No.**				
Hood, Lynne	208-378-5757		Clark	X	
Marcy, Ken	206-553-6061		Derek	X	
AK Mine Operators	**Phone No.**				
Bartley Kleven/ Jennifer Pyecha	907-490-2207	**Ft Knox/True North**	Clark	Beth	11-Feb
Chris Erickson & Jeff Clark		**Red Dog (Teck)**			
Brian Erickson/Chris Wallace	(907) 789-8136	**Greens Crk**	Mike		
Jan Trigg	(907) 523-3325	**Kensington**			
Chris Kennedy/ Ray Zimmer	(907) 895-2834	**Pogo**	Clark	X	12-Feb
Fred Wallis/ Richard Sivils	(907) 683-9749	**Usibelli**	Beth	X	

DRAFT list & order of potential interviewees (Contract 10-15-2015)

Other Knowledgeable Parties	Phone No.	Comments/Thoughts	DOWL Caller	DOWL scribe	Call made yet?
Contractors	**Phone No.**				
AIC - Steve Percy			Mike	x	
Granite - Mike Miller	(907) 267-5273	Anchorage office	Mike	x	2-Mar
Brice: Sam Robert Brice	970-452-2512		Clark	x	
Kiewit: Damian Skerbeck	360-693-1478		Mike	x	5-Feb
Southwest Roadbuilders			Mike	x	
Bonding/Insurance Firms	**Phone No.**				
Marsh - Brian Lynch			Mike		
Consulting Firms	**Phone No.**				
Bill Jeffress	907-677-3520	**SRK - Anchorage**	Clark	x	10-Feb
Jack DiMarchi	907-450-1429	**Stantek - Fairbanks**	Clark	x	9-Feb
		Knight-Piesold	Derek	?	
Other States' mining agents	**Phone No.**				
		NV	?		
		CO	?		
		AZ			
		NM			
		UT			

APPENDIX G

Alaska DNR Mining Regions Map


ADNR Mineral Regions
I Northern
II Western
III Eastern Interior
IV Southcentral
V Southwestern
VI Alaska Peninsula
VII Southeastern
N
Barrow
Wainwright
Icy Cape
Point Lay
Cape Lisburne
Point Hope
Red Dog Station
Kivalina
Noatak
BEUFORT SEA
Kaktovik
Minto
Coldfoot
Chandalar
Wiseman
Bettles
Charkyitsik
Fort Yukon
Allakaket
Beaver
Birch Creek
Circle
Livengood
Tanana
Rampart
Fox
Eagle
Minto
Fairbanks
Manly Hot Springs
Nenana
Minchumina Lake
Dot Lake
Tanadross
Tok
Nabesna
Skwentna
Curry
Talkeetna
Glennallen
Willow
Big Lake
Palmer
Anchorage
Valdez
Whittier
Cordova
Kenai
Soldotna
Ninilchik
Seward
Yakutat
Nanwalek
Homer
Cook Inlet
Kotzebue Sound
Kotzebue
Selawik
Shishmaref
Deering
Teller
BERING STRAIT
Huslia
Koyuk
White Mountain
Nome
Kokrines
Nulato
Galena
Ruby
Gambell
Savoonga
St Lawrence Island
NORTON SOUND
Golvin
Unalakleet
Stebbins
St. Michael
Alakanuk
Emmonak
Nunam Iqua
Scammon Bay
Saint Marys
Pilot Station
Holy Cross
Flat
McGrath
Hooper Bay
Crooked Creek
Sleetmute
Kalskag
Aniak
Lime Village
Tanunak
Kwethluk
Bethel
Mekoryuk
Nunivak I
Kipnuk
Kwigillingok
Kuskokwim Bay
Nondalton
Ekwok
Platinum
Twin Hills
Dillingham
Portage Creek
Iguigig
Cape Newenham
Slarks Point
Naknek
King Salmon
Saint Paul
Pribilof Islands
Saint George
BRISTOL BAY
Egegik
Pilot Point
Karluk
Sheikof Strait
Afognak Island
Port Lions
Afognak
Kodiak
Old Harbor
Kodiak Island
Chignik Lagoon
Chignik
Perryville
Cold Bay
King Cove
Sand Point
False Pass
Unimak Island
Pauloff Harbor
Unalaska
Unalaska Island
Nikolski
Umnak Island
Atka
Atka Island
Aoak Island
Amchitka Island
Tanaga Island
Kiska Island
St Matthew Island
BEARING SEA
Attu Island
Attu
Agattu Island
Skagway
Haines
JUNEAU
Pelican
Angoon
Sitka
Kake
Petersburg
Wrangell
Ketchikan
Klawock
Craig
ALASKA
A
B
C
D
E
F
G
Alaska Large Mines
A Red Dog
B Greens Creek
C Kensington
D Ft. Knox
E Pogo
F Usibelli
G Nixon Fork

APPENDIX H

Alaska Climatic Regions Map


ARCTIC OCEAN
Barrow
ARCTIC
BROOKS RANGE
INTERIOR
Fairbanks
ALASKA RANGE
WEST COAST
SOUTHCENTRAL
Anchorage
Bethel
BERING SEA
GULF OF ALASKA
COAST MOUNTAINS
Juneau
EASTERN MARITIME
WESTERN MARITIME
Climatic Regions
Arctic
Eastern Maritime
Interior
Southcentral
West Coast
Western Maritime
Source: Modified from Mark Evangelista and the Alaska Geographic Society
0 200 400 600
Kilometers
0 100 200 300 400
Miles
66
62
58
54
52
170
166
162
158
154
150
146
142
138
134
176
180
176

APPENDIX I

ADEC Large Mine Reclamation/Closure Indirect Cost Percentage Table

Attachment 2: Basis for ratio of indirect to direct costs

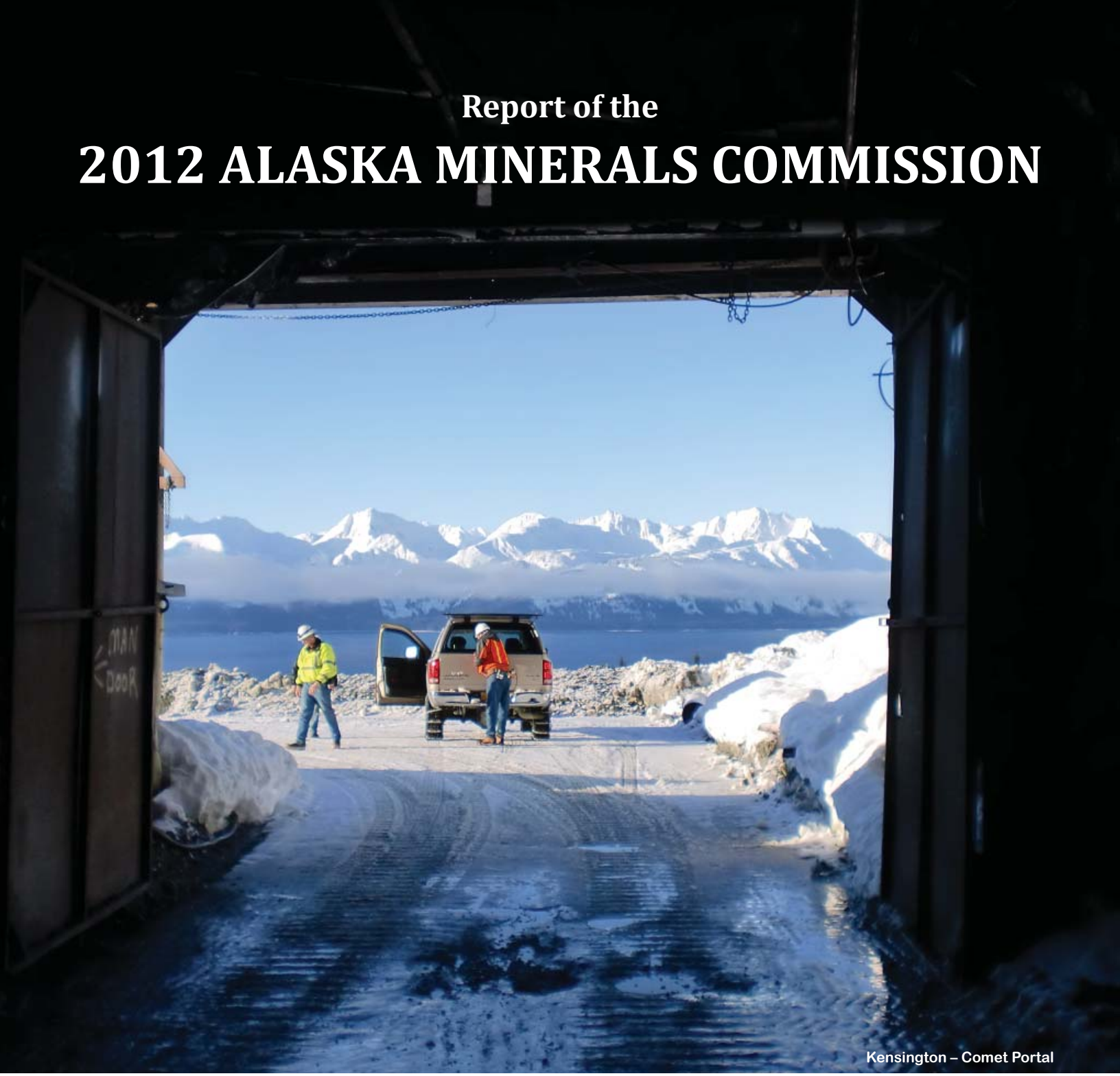
Indirect Cost Category	SMCRA	Fort Knox (2014)	Greens Creek (2014)	Kensington (2013)	Nixon Fork (2012)	Pogo (2012)	Red Dog (2009)	Rock Creek (2012)	State Draft Guidance	DEC Suggestions		
										New Facilities (operating <10 yrs)	Intermediate Facilities (operating <15 yrs)	Mature Facilities (operating 15 or more yrs)
Contractor Profit	15 - 30	15	15.5	10	10	7.5	10% x labor/equip costs	15	10 - 20	12.5	12.5	12.5
Contractor Overhead				5	4	7.5	10% x labor		5 - 10	6.25	6.25	6.25
Performance Bond		3	3	0	1.5	3	1.5	1.5	1.5	1.5	1.5	1.5
Payment Bond		0	0	0	1.5	0	1.5	1.5	1.5	1.5	1.5	1.5
Liability Insurance		1.5% x labor		0	1.5	1.5% x direct	1.6% x labor/equip costs	1.6% x equip. cost	1.5% x labor cost	0.5	0.5	0.5
Contract Administration	2 - 7	8	7	7	9.4 (BLM) 1.5 (state)	4	1	1	2 - 7	5	5	5
Engineering Redesign	2.5 - 6	4	2.75	5	6	3	3	3	3 - 6	5.75	3.75	2.75
Scope Contingency	3 - 5	10	13	12	6	7.5	10	12 (10% x (direct + indirect))	10 – 20 6 – 10 4 - 7	8.5	7	5
Bid Contingency				5	6	7.5	10		10 - 20	8.5	7	5
Other	10% (Mob/ Demob)			$695K long term dam inspection & maintenance		5% (Mob/ Demob)	12% x materials (freight transport)					
Other (road maintenance)							$300,000/ yr					
Inflation				3.5 over 5 yrs ($4.43 M)	2.67	2.66						
Direct Costs ($M)		68.559	68.431	16.0	4.003	29.008		9.952				
Indirect Cost ($M)		27.609	28.228	7.6	1.873	14.271		3.454				
Direct + Indirect ($M)		96.168	96.659	23.6	5.876	43.280		13.405				
Indirect/Direct	0.325 – 0.58	0.40 (3rd permit)	0.4125 (2nd permit)	0.475 (1st or 2nd permit)	0.47 (2nd permit)	0.49 (2nd permit)	(1st permit)	0.35 (2nd permit)		0.5	0.45	0.4

from Pete McGee; 2014 version

APPENDIX J

Alaska Minerals Commission Report – 2012
Selected Pages

Report of the
2012 ALASKA MINERALS COMMISSION

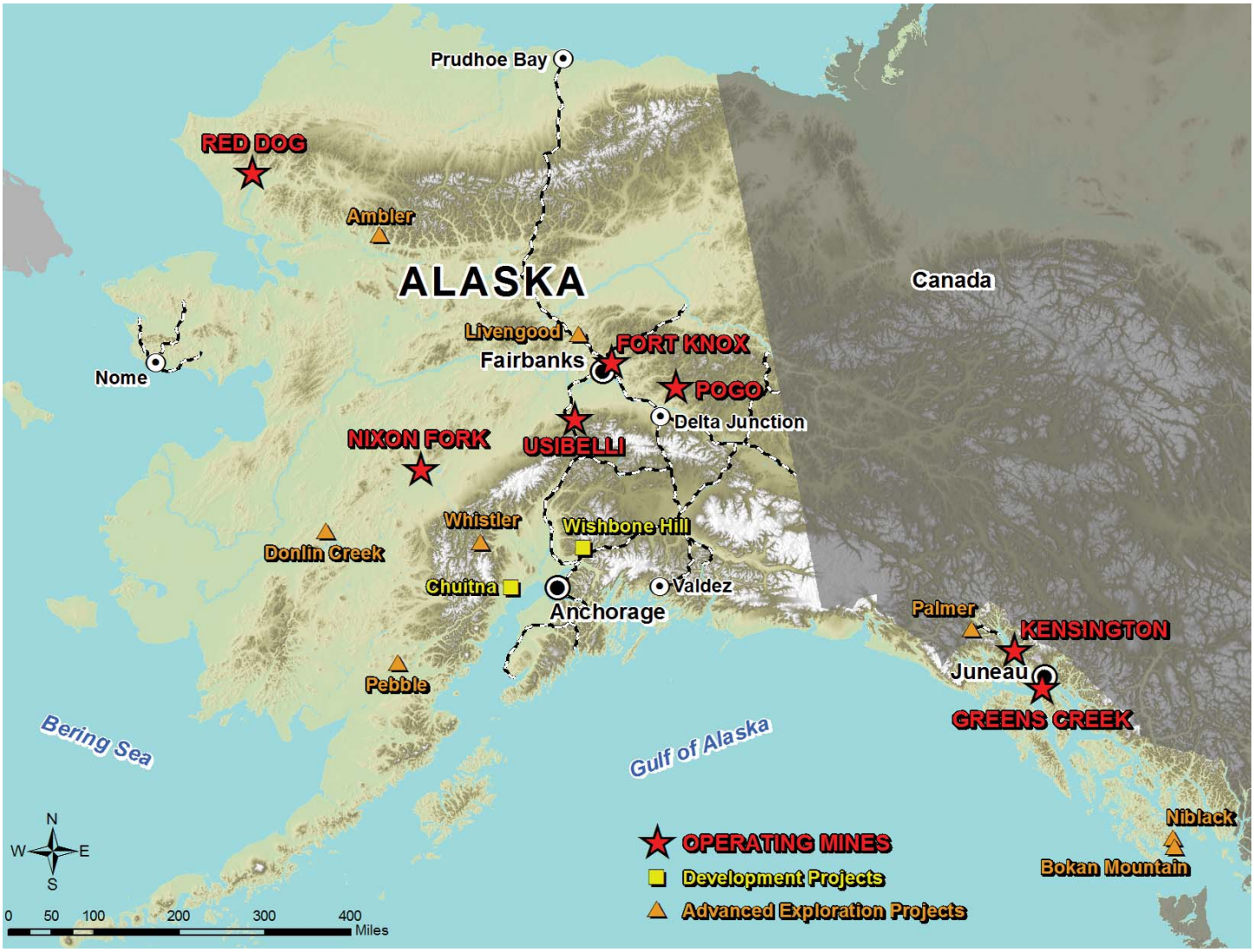


Kensington – Comet Portal

The Alaska Minerals Commission (Commission) serves in an advisory capacity to the Governor and the Alaska State Legislature (Legislature). Its role is to recommend ways to mitigate constraints on mineral development in Alaska. This annual report fulfills that mandate.

Commission members are appointed by the Governor, the President of the Senate, and the Speaker of the House. Current members represent the placer, hard rock, and coal mining industries across the state. Created by the Legislature in 1986, the Commission's authorization continues through 2014.

Alaska Projects Map 2012



Alaska Minerals Commission

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The Alaska Department of Commerce, Community, and Economic Development (DCCED) is tasked with facilitating the Commission's work. This publication was released by DCCED as required by AS 44.33.431 (d). Nothing in this report constitutes an official position or opinion by the department.

Alaska Minerals Commission Supplemental Report 2012

WATER QUALITY

NPDES Primacy

The Alaska Department of Environmental Conservation (ADEC) is assuming National Pollutant Discharge Elimination System (NPDES) primacy in a phased transition to be completed by 2014. ADEC works closely with the U.S. Environmental Protection Agency (EPA) to ensure a smooth transition that provides direct training and experience for ADEC staff. NPDES primacy will be tested as large mine projects like Donlin Gold and Pebble approach the permitting stage. It is important that the Legislature continue to fund ADEC to support an effective transition in assuming full responsibility for regulating discharge to Alaska waters.

Water Quality Regulations

Regulatory Tools:

Water quality criteria fall under Clean Water Act (CWA) regulations with allowances for more stringent criteria set by individual states. The CWA provides states with limited tools to adapt regulations to unusual circumstances that were not considered when the criteria were adopted. This includes natural background conditions that exceed maximum criteria or fall below minimum criteria and water bodies misrepresented when originally classified. Misclassified water bodies are a common occurrence in a large state like Alaska where there were minimal resources to survey all water bodies by the required deadline. Site-specific criteria, mixing zones, and reclassification of water bodies are necessary tools provided under the CWA to allow the state to manage its water bodies in a reasonable manner.

However, under EPA guidance, natural background site-specific criteria only allow the lowest five percent of baseline data to determine acceptable concentrations. Past attempts by ADEC to adopt state guidance were not approved by the EPA and were ineffective when applied by industry to actual baseline data.

Reclassification petitions are often discouraged and delayed due to procedural complexity and uncertainty. Misunderstandings regarding which reclassification is viewed as loosening regulations to allow degradation, as opposed to correcting an arbitrary and erroneous classification through the presentation of scientific data, also contributes to underuse of this essential tool.

Mixing zones are disallowed in spawning, incubation, and rearing areas; therefore, they are effectively disallowed throughout the majority of Alaska's water bodies. This not only impacts the mining industry, but also the much wider application of mixing zones to municipal water treatment, fish processing, and other industries. To be an effective tool for all Alaska, mixing zone regulations must consider site-specific conditions that balance habitat protection with public and economic benefit.

Groundwater Regulations:

Regulated discharge of intercepted water or mine drainage to groundwater is a common practice in mining. Mining is also regulated for potential metals leaching or acid rock drainage from tailings and waste rock. The State of Alaska does not have specific water quality regulations for groundwater, and by default, surface water quality criteria are applied to groundwater discharges. However,

FINANCIAL ASSURANCE

Reclamation and Closure

Reclamation and closure financial assurance for mining activity is authorized through the ADNR and ADEC Solid Waste programs to provide secure, sufficient funds, held by the state, to ensure a mine site can be fully reclaimed. The regulations are designed to incorporate assurance should the mine permittee be wholly or partially negligent in meeting the requirements of the approved reclamation and closure plan.

Calculation of reclamation and closure financial assurance requirements are complex and include direct costs such as removal of infrastructure, backfilling, contouring, reseeding, monitoring, and wetlands mitigation projects. Also included are indirect costs such as contingency factors for equipment efficiency rates, project management, and inflation. Financial assurance requirements in recent years range from several hundred dollars (bond pool) to $305 million per facility. Reclamation and closure costs represent a substantial component of overall project costs in Alaska.

ADNR and ADEC collaborated in writing, *DRAFT Mine Closure and Reclamation Cost Estimation Guidelines*. The document has not been formally reviewed or adopted. With no official state guidelines for determining reclamation costs, calculation estimates, particularly of indirect costs, are subjective, and at the complete discretion of the state permit writer. Disagreement between the permittee and agencies on these costs is common, with differences in each party's calculations ranging up to 50 percent or more.

Without approved guidelines, it is not possible for mining companies to meaningfully conduct financial planning for an operation until very late in the permitting process. The unpredictability of this significant financial liability is an unnecessary hardship for developing mines and a deterrent to attracting mining companies to invest in Alaska.

The Commission supports the development of standardized guidelines and a standardized calculation model that is generally supported by industry and agencies alike. The ADNR should be tasked as lead on development of a standardized model acceptable to the public, stakeholders, state agencies, federal agencies, and industry.

MARKETING

Enhance Development of Foreign Investment in Alaska's Minerals Industry

Until the economic crisis in the fall of 2008, Alaska continued to enjoy growth in minerals exploration as a result of high metal prices, a strong minerals endowment, and a development-friendly administration. Alaska is considered one of the premier locations in the world for mineral exploration and development investment. Most of the exploration funding comes through foreign-based companies, particularly Canada. Interest from Japan and some European countries is also noted. U.S. companies are becoming more interested in Alaska as a stable investment opportunity. With the recent change in worldwide economics, Alaska must be even more competitive in the global arena.