Pogo Reclamation and Closure Plan

Sumitomo Metal Mining Pogo LLC
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Prepared by

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Acronymns

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish & Game
ADNR	Alaska Department of Natural Resources
APDES	Alaska Pollutant Discharge Elimination System
ARD	Acid Rock Drainage
BMP	Best Management Practices
CIP	Carbon-in-Pulp
DMR	Discharge Monitoring Report
DSTF	Drystack Tailing Facility
EPA	Environmental protection Agency
GMU	Game Management Unit
LOM	Life of Mine
MOU	Memorandum of Understanding
Plan	Reclamation and Closure Plan
SC	Sumitomo Corporation
RTP	Recycle Tailings Pond
ROW	Right-of-Way
SCRE	Standard Reclamation Cost Model
SWPPP	Stormwater Pollution Prevention Plan
TBAP	Tanana Basin Area Plan
TVSF	Tanana State Forest
TWUA	Temporary Water Use Authorizations
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey

Units of Measure

°C	Celsius
°F	Fahrenheit
amsl	above mean sea level
ft	foot/feet
gpm	gallons per minute
g/t	gross tons
Ma	million annum
opt	ounce per ton
tpa	tons per annum
yd^3	cubic yards

1.0 INTRODUCTION

Pogo Mine is an underground gold mine and mill in central Alaska, located approximately 38 miles northeast of Delta Junction (**Figure 1.1**). Sumitomo Metal Mining Pogo LLC (Pogo) is the operator of the Pogo Mine.

This Plan describes the post-mining land use and provides the basis for the reclamation and closure activities that will be implemented. Also incorporated in this Plan are field investigations to gather site-specific information to help guide final closure designs.

This plan has been revised to reflect current knowledge of site conditions, closure plans, comments from state agencies and projected reclamation and closure costs.

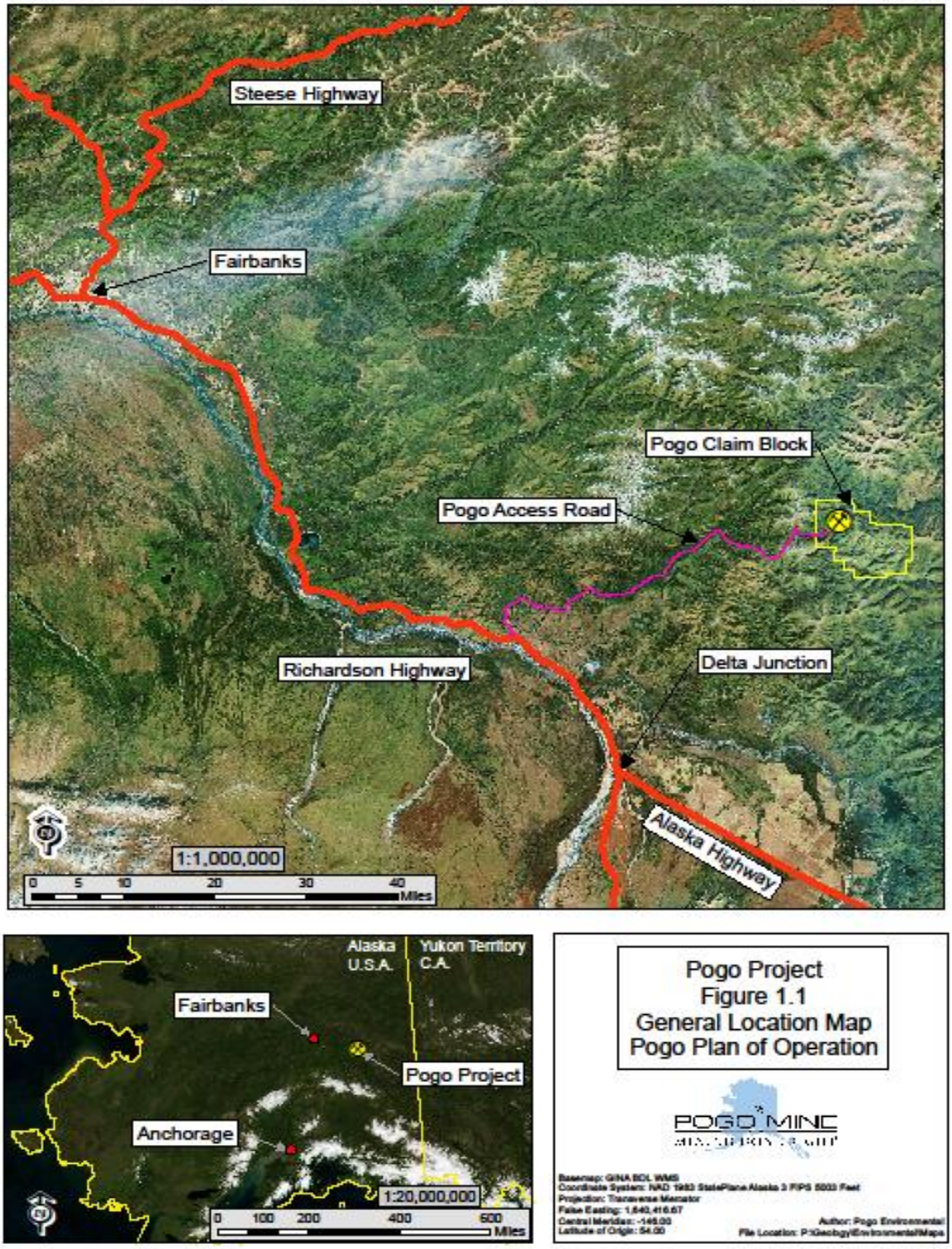
1.1 Purpose of this Document

This Plan is a working document that will be used to guide operations in conformance with the appropriate regulations from the Alaska Department of Natural Resources (ADNR), the Alaska Department of Environmental Conservation (ADEC), and the U.S. Army Corps of Engineers (USACE). As operations proceed, this Plan will be updated with new information to reflect current Best Management Practices (BMPs) and to reflect any changes to the design and operation of the facility.

The purpose of this Plan is to describe methods and procedures that will be used to ensure that operations are conducted in accordance with AS 27.19.020, which states:

> *"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."*

Figure 1.1: General Location and Claim Block



To achieve these directives, Pogo defined the following objectives for the reclamation and closure components of this Plan:

The reclamation objective is to stabilize disturbed land surfaces against erosion and return the land to a post-mining land use of public recreation and wildlife habitat. This objective will be achieved by improving plant growth conditions and encouraging the succession of self-sustaining native and naturalized plant communities. Inactive areas that are not anticipated to be disturbed in the future will be reclaimed concurrent with mining.

The closure objective is to ensure that water quality is not unduly influenced after mining operations cease. Successful reclamation and revegetation will play an important role in reaching this closure objective. As part of this goal, materials that could potentially cause degradation to the lands and waters of the state of Alaska will be stabilized, removed, or reclaimed.

The issues Pogo believes to be most important to successfully achieving these reclamation and closure objectives are:

- Successful stabilization and erosion control on steep dipping slopes,
- Closure of the tailings drystack facility,
- Closure of the underground workings; and
- Closure of the mill site, lower camp, and other facilities

1.2 Organization of this Document

This document is organized into five sections. **Section 1** is the introduction and provides an overview of the project and ecological setting. **Section 2** provides an overview of the operating profile and the nature and extent of the expected disturbance at closure. **Section 3** describes general revegetation guidelines, while **Section 4** describes the specific reclamation and closure prescriptions that will be applied to various project components. **Section 5** presents the performance standards for monitoring the effectiveness of the reclamation practices and the reclamation and closure cost estimate.

The appendices to this report include general procedures to be followed during construction, revegetation, and demolition, as well as material site reclamation plans, proposed vegetation test trials, and a reclamation cost estimate. All units of measure in this report are U.S. standard.

1.3 Agency Involvement

Reclamation of the Pogo project site falls under the jurisdiction of the Alaska Department of Natural Resources, Division of Mining, Land and Water (ADNR-DOM), ADEC, and the USACE.

The State of Alaska governor approved the State *Reclamation Act* on 6 June 1990. This act, administered by ADNR-DMLW, establishes performance standards of "undue and unnecessary degradation" and return to "stable condition" for mining reclamation and extended reclamation requirements to state, federal, and private land subject to cooperative agreements between state and federal agencies. Under the act, reclamation bonding is mandatory for mines disturbing more than five acres.

The ADEC regulates closure activities for specific site facilities and mines under Alaska Statute 46.03.100(f) and solid waste regulations (18 AAC 60). ADEC regulates treatment and discharge of wastewater under water regulations (18 AAC 70 and 18 AAC 72).

The USACE regulates dredge and fill activities associated with wetlands under Section 404 of the *Clean Water Act* (33 U.S.C. 1344).

1.3.1 Reclamation Plan Review

Table 1.1 summarizes the project stages from exploration to closure, and the pertinent reclamation and closure activities for each stage. This Reclamation Plan has been developed during Project Stage VI – Operating Life-of-Mine.

1.3.2 Financial Assurance

Financial assurance requirements by the ADEC and ADNR-DMLW ensure that performance criteria will be met during the reclamation process and that the owner or operator closes a project site according to state and federal regulations.

Pogo proposes to post financial assurance for the amount of the estimated reclamation and closure costs as presented in **Appendix F** for the millsite lease area and access road.

Table 1.1: Project Development Stages

Project Stage	Project Activity	Reclamation & Closure Activity
I	Grass Roots Surface Exploration	No surface disturbance.
II	Advanced Exploration	
	Stage 1 - Surface Exploration	As permitted by ADNR & COE.
	Stage 2 - Underground Exploration	As permitted by ADNR & COE.
III	Mine Environmental Assessment	Mine reclamation & closure plan developed.
	Mine Feasibility	Design for closure at the outset.
IV	Permitting for Mine Construction and Operations	Mine reclamation & closure plan approval by ADNR, ADEC, & COE.
V	Mine Construction	Disturbance minimized to reduce impacts.
VI	Operating Life of Mine	Concurrent reclamation where possible.
VII	Reclamation & Closure	Mine closure in accordance with mine reclamation & closure plan, permit requirements, & best management practices.

1.4 Ecological Setting

The following sections provide a brief overview of the physical and biological baseline environment at the Pogo project. A more detailed description of the environment is included in the Pogo Environmental Impact Statement (EPA 2003).

The Pogo Mine is located near the Goodpaster River in the Tanana Uplands, an area of rolling hills and mountains on the north side of the Alaska Range in Interior Alaska (**Figure 1.1**). The Goodpaster is a major north side tributary to the Tanana River in the Yukon drainage basin. Elevations range from approximately 1,300 ft above mean sea level (amsl) along the alluvial floodplain to over 4,000 ft amsl along the ridge tops. An east-west trending ridge dominates the project site, with creeks to the south of the ridge draining first into Central Creek and then into the Goodpaster, and creeks on the north side draining directly into the Goodpaster River.

Southeast-facing slopes have closed forests of aspen, birch, and white spruce. Open communities of dwarf black spruce and birch are found on the north-facing slopes. The west-facing slopes in the headwaters of the Liese basin have open stands of white spruce at lower elevations and alder at higher elevations. Exposed rubble and short-stature alpine vegetation characterize the surface of the ridges surrounding the basin. For the most part, vegetation is influenced by limited amounts of soil cover and discontinuous permafrost within much of the basin.

1.4.1 Climate

The climate in the Pogo project area is similar to other areas of interior Alaska. Wind speeds at higher elevations (>2,800 ft) are moderate to strong in winter and light to moderate in summer. The wind speeds at lower elevations are generally lighter. Winter temperatures range from -40°F to 32°F. Summer temperatures range from 41°F to 86°F. Temperature inversions are common in the winter, particularly in mountain valleys.

The predicted mean annual precipitation ranges from 12 inches to 19 inches with approximately 38% occurring as snowfall (Teck-Pogo Inc. 2002c).

1.4.2 Soils & Vegetation

Soils in the area vary from very poorly drained, deep organic soils (Histosols), to well-drained but only moderately developed mineral soils (Cryochrepts and Cryumbrepts), to well-drained highly developed mineral soils (Spodosols) (Three Parameters Plus 2000).

Soils in the floodplain of the Goodpaster River are well drained on the higher elevation terraces, and poorly to somewhat poorly drained in more active but vegetated and detritus lined, lower elevation channels. Terraces are typically vegetated with larger diameter, 14 inch plus at diameter breast height (DBH), white spruce (*Picea glauca*), and support a sparse understory. Relic and seasonally active channels support a mixed forest typically dominated by white spruce, black spruce (*Picea mariana*), and paper birch (*Betula papyrifera*). The understory in these areas is denser, but highly variable due to the varying frequency of flooding and degree of saturation found in these channels.

Lowlands within the floodplain of the Goodpaster River and the adjacent lower elevation footslopes support poorly drained soils. These are very cold soils with organic mats of at least 8 inch. These soil types also extend well up the west-facing hillside above the area of the existing advanced exploration camp. Lowland and lower footslope soils often contain ice-rich permafrost within the upper 2 ft of the soil profile, and several of the soil pits in these areas filled with water shortly after the pit was dug. Permafrost is discontinuous in the project area, and its presence and depth is difficult to predict. Mineral soil horizons under these deep organic mats typically become very thixotropic upon exposure and thawing. *Histic Pergelic Cryaquepts* generally support open black spruce forests or scrub shrub vegetation types. These two vegetation types can also occur over cryohemists, however, the tussock sedge vegetation type, dominated by *Eriophorum vaginatum*, is more common.

Hillsides and upper mountain-slopes with a south to west aspect, or convex topography, can also support moderate- to well-drained mineral soils. Generally, these soils have a relatively thin organic mat (2 to 6 inches) overlying 6 to 24 inches of sandy loam material, which in turn overlies loose talus/colluvium or weathering rocks. In some areas, the loamy soil can be sparse to non-existent and the organic mat resides directly on blocky talus/colluvium and/or frost-shattered weathered bedrock.

Soils on these landforms commonly support a closed black spruce forest type with relatively large diameter black spruce (12 inch + DBH) and a moderately sparse understory, or mixed forests with larger diameter spruce and paper birch. Where drainage is poor on these sites, such as in seeps or small depressions, mottles or organic stains are common in the sandy layer. The taxonomic classification of these soils is dependent on several variables, but most would fall into the *Typic Cryaquept* classification. Ice-rich permafrost is uncommon in these areas; however, the colder, wetter soils can become slightly thixotropic upon removal of the organic mat and exposure to warmer temperatures (Teck Resources Inc. 1998).

1.4.3 Wildlife

The project area comprises three types of shrub and forest habitats—lowland shrub needleleaf, riparian and lowland forest needleleaf, and upland forest needleleaf—that are dominated by varying proportions of white and black spruce (*Picea glauca* and *mariana*), quaking aspen and balsam poplar (*Populus tremuloides* and *balsamifera*), paper birch (*Betula papyrifera*), alder (*Alnus spp.*), and willows (*Salix spp.*). These habitat types support both resident birds (e.g., grouse, woodpeckers, chickadees) as well as a number of migratory species that occur only during the summer breeding season—principally songbirds (thrushes, warblers, sparrows, and flycatchers, many of which are neotropical migrants) and raptors. The three types present in the immediate vicinity of the underground project are among the lower diversity types in interior Alaska.

A few waterfowl and shorebirds occur in the wetlands of the Goodpaster River valley but in low densities; habitats suitable for breeding waterfowl are small and widely dispersed in this portion of the Goodpaster drainage. The project area supports a mammalian fauna typical of the boreal forest of the Yukon–Tanana Uplands of interior Alaska. Specific surveys to inventory the small mammals and furbearers have not been done in the project area, but species that are common elsewhere in interior Alaska include: red squirrels (*Tamiasciurus hudsonicus*), snowshoe hares (*Lepus americanus*), red foxes (*Vulpes vulpes*), and various shrews and arvicoline rodents (voles, mice, and lemmings). More information exists for big game species such as moose and bears due to their harvest by humans. The project area is located in the northwestern portion of Game Management Unit (GMU) 20D, which is considered less accessible to hunters than other subunits (Teck Resources Inc. 1998).

1.4.4 Surface Water

The surface water environment in the project area is generally good and overall water quality and physical characteristics are typical of many subarctic Alaska streams.

Surface water in the Pogo project area is clear and non-glacial, with slight to moderate organic staining observed during spring runoff. Water quality and physical characteristics are influenced by the source of the stream flow, which varies seasonally. During the open water season, which lasts from approximately late April through October, the source of

stream flow is a combination of groundwater baseflow and precipitation runoff. Freezing conditions in the winter limit the source of stream flow to groundwater inputs.

The baseline hydrological conditions at the Pogo site have been investigated by analyzing on-site rainfall, snowpack, and stream discharge data as well as regional meteorological information. The short-term rainfall records on site have been correlated with long-term data at regional meteorological stations, and possible orographic (mountain) influences have been assessed. The runoff regime is characterized by spring snowmelt followed by runoff from summer rainfall events. Annual runoff depths have been quantified based on the monitoring results for the Goodpaster River and two tributary creeks, Sonora and Central Creek. Winter discharges often produce areas of aufeis, or glaciation, in the tributary creek valleys.

1.4.5 Groundwater Hydrology

The Pogo project consists of two main hydrogeologic areas: the upland area in the eastern portion of the site and the Goodpaster River valley to the west.

The groundwater table in the project area is a subdued replica of the topography with the water table at a higher elevation beneath the ridge than beneath the valley. Recharge of the groundwater system occurs predominantly in the upland areas. Regional discharge is to the Goodpaster River valley, with local groundwater discharge to Pogo Creek and Liese Creek. Groundwater flow in the sediments of the Goodpaster River is predominately horizontal and from the north to the south, parallel to the river.

The upland or Pogo Ridge area is underlain by low permeable bedrock consisting predominantly of igneous and metamorphosed sedimentary rocks. More pervious zones of broken rock may be present within the less fractured bedrock, but recent data gathered from the advanced exploration adit suggests that these zones are not extensive over large areas and as such are not significant pathways for groundwater flow. Permafrost has developed to a depth of up to 350 ft below ground surface on the north-facing slope of this ridge, while on the south-facing slope it is virtually absent. The water table beneath the ridge is deep and up to approximately 500 ft below the ground surface.

The Goodpaster River valley is underlain predominantly by highly permeable sands and gravels. These sediments are up to 100 ft thick in the center of the valley, with their thickness decreasing towards the valley flanks. The water table is located at approximately 2 to 8 ft below the ground surface. In the eastern portion of the valley, permafrost, which can be considered to be virtually impermeable, generally extends from the ground surface down to the bottom of the sediments. Closer to the existing river channel, the permafrost gradually thins and is underlain by unfrozen sediments.

Pogo began a hydrogeological characterization in 2012 in order to rebuild the groundwater flow model. The original model was initially established in 2002 and was updated in 2009

(Brown 2009). The current model includes the East Deep zone. The final model was released by SRK in May 2014 (SRK 2014).

1.5 Land Use

The Tanana Basin Area Plan Amendment (TBAP) for State Lands (ADNR 2009) designates the uses that will occur on state lands within the Tanana Basin and establishes guidelines that allow various uses to occur without conflicts. The TBAP goals for subsurface resources are:

- To make metallic and non-metallic minerals, coal, oil and gas, and geothermal resources available to contribute to the energy and mineral supplies and independence of the United States of America.
- To contribute to Alaska's economy by making subsurface resources available for development, which will provide stable job opportunities, stimulate growth of secondary and other primary industries, and establish a stable source of state revenues.
- When developing subsurface resources, to protect the integrity of the environment and affected cultures to the extent feasible and prudent.
- To aid in the development of infrastructure such as ports, roads, and railroads, and continue to provide geologic mapping and technical support for the mining industry.

According to the TBAP (ADNR 1991), the Pogo project area is in the Delta-Salcha Subregion (Management Unit 7). The Delta-Salcha Subregion is bordered by Eielson Air Force Base to the north, the Alaska Range to the south, federal lands to the west, and by the limit of the Tanana Basin to the east.

The land within the claim block and west of the claim block where the access route was constructed is classified into six subunits. Primary land use designations for these six subunits include: public recreation (six of the six subunits), wildlife habitat (four of the six subunits), and forestry (two of the six subunits). All state lands in these units are to be retained in public ownership.

The primary designated surface uses for the uplands within the claim block are public recreation and wildlife habitat. Prohibited surface uses are specified along a corridor of the lower Goodpaster River. For the lower portion of the river corridor, Subunit 7D1, all-season roads, timber harvest greater than 10,000 board ft except for special conditions, and permanent commercial facilities are prohibited surface uses. The upper portion of the river corridor, Subunit 7D2, is within the claim block and prohibited surface uses include timber harvesting within the 100-year floodplain.

Tanana Valley State Forest (TVSF) land, Units 9 and 10, is located along access corridors. Management Unit 9 includes most of the uplands between Shaw Creek and the Goodpaster River, while Management Unit 10 includes the bottomland along the Tanana River between Big Delta and Dot Lake as well as the uplands that surround Volkmar Lake.

Traditional resource use of the region has been for subsistence and recreation. Delta Region residents as well as owners of recreational properties in the Goodpaster area hunt moose, caribou, bear, rabbit, grouse, ptarmigan, buffalo, and dall sheep. Trappers in the area report the harvesting of furbearers such as lynx, marten, beaver, wolf, and fox. Recreational fishing in the region includes pike, grayling, trout, and silver and chum salmon. Several of these species are available year-round through winter ice fishing.

Numerous well-developed trails throughout the region are used by snowmobiles, skiers, and dog teams in the winter and spring months. Riverboats, canoes, river rafts, and kayaks are used by residents and visitors on many of the rivers in the region between mid-April and October. Primary among the recreational rivers in the regions are the Tanana, the Goodpaster, and the Clearwater.

2.0 OPERATIONS PROFILE / APPLICANT INFORMATION

2.1 Surface and Mineral Lease Information

The mine is 38 air miles northeast of Delta Junction, Alaska and the property consists of 1,281 state mining claims covering an area approximately 41,880 acres (**Figure 1.1**). The Pogo claim block lies in Sections 13, 14, 22-27, and 34-36 within T5S, R14E, Sections 18, 19, and 29-34 within T5S, R15E, Sections 1-3, 10-15, and 36 within T6S, R14E, and Sections 3-11, 14-23, and 29-32 within T6S, R15E, Fairbanks Meridian. Information on mining claims and land status for Sumitomo Metal Mining Pogo is listed in the Pogo Mine Plan of Operations Appendix A.

2.2 Corporation Officer Completing Application

Name:	Chris Kennedy
Title:	General Manager
Telephone:	(907) 895-2834
Date:	June 2017

2.3 Designated Contact Person

Name:	Jillian Ladegard
Title:	Environmental Manager
Telephone:	(907) 895-2879

2.4 Corporate Information

Business Name:	Sumitomo Metal Mining Pogo LLC
Entity Address:	701 Fifth Avenue, Suite 2150 Seattle, Washington 98104
Local Address:	PO Box 145 Delta Junction, Alaska 99737
Telephone:	(907) 895-2841
President:	Toshiaki Maeda
Treasurer	Hiromi Johnston
Secretary	Hiromi Johnston

Sumitomo Metal Mining Pogo LLC is an Alaska Limited Liability Company wholly owned by Sumitomo Metal Mining America, Inc.

2.5 Alaska Registered Agent

Name:	Davis Wright Tremaine LLP
Address:	188 West Northern Lights Blvd. Anchorage, Alaska 99503-3985

2.6 Applicant Statement of Responsibility

Pogo recognizes its responsibility in the use of state lands and accepts that responsibility in its commitment to reclaim the Pogo project site. Pogo will meet the requirements of its reclamation plan and return the site to a safe and stable condition consistent with the approved post-mining land use. Pogo will meet all required local, federal, and state laws and regulations regarding reclamation activities.

2.7 General Description of the Project

The mine consists of the six major elements shown on **Figure 2.1** and described below.

1525 Portal Area (1000)

- 203-person camp with recreation and catering facilities
- Sewage treatment plant
- Water treatment plant
- Development rock stockpile
- Laydown areas for warehouse and supply
- Warehouses for mine supply
- Growth media stockpiles

Airport Area (2000)

- A 3,000-foot airstrip in the Goodpaster River valley just north of Liese Creek
- Site access roads connecting the plant site with the shop/camp facilities, construction camp area, airstrip, tailings site, borrow sites, and other facilities as needed
- Growth media stockpiles

Mill / Camp Complex (3000)

- Surface gold mill for recovery through gravity concentration, flotation, and Carbon-in-Pulp (CIP) process
- Tailings preparation facilities, including cyanide detoxification and filtration, to produce paste backfill for the underground mine workings and dewatered tailings material suitable for placement in a drystack facility on the surface
- Maintenance shops, office, warehouse complex
- 249-person camp with recreation and catering facility

Tailings Area (4000)

- Drystack tailings facility
- Recycle Tailings Pond (RTP) water storage facility
- Diversion Ditch
- Growth media stockpiles and connecting roads

Mine (5000)

- Underground cut-and-fill mine with adit access and conveyor for transfer of ore to a surface mill
- 1525 portal original exporation adit, ventilation, waste rock haulage, etc.
- 1875 portal primary access for workers, supplies, etc.
- 1690 portal conveyor access and ventilation
- 2150 portal intake ventilation, access for workers, supplies, etc.

All of Mine (6000)

- All utilities, piping and items that connect all of the respective area
- Items not included in other areas

2.8 Design Goals & Considerations

To protect the environment, all aspects of operations for the Pogo mine will be based on the following principles:

- Perform concurrent reclamation and planning for closure,
- Compliance with all relevant federal and state laws and regulations,
- Compliance with the amount of water discharged, including all federal and state rules and regulations during discharges,

- Manage the overall surface footprint of the project,
- Protect the Goodpaster River,
- Proper management and permitting of wetlands,
- Compliance with federal and state rules and regulations regarding the proper use and handling of hazardous materials, including cyanide, fuel, and mill reagents; and
- Appropriately control stormwater and precipitation runoff from mill bench and the Drystack Tailings Facility (DSTF).

2.9 Nature & Extent of Land Disturbance at Closure

There are approximately 527 acres currently disturbed within the Millsite Lease area. Disturbances associated with mining operations are shown in **Table 2.1** and on **Figure 2.1**. Approximately 368 acres of disturbance are associated with the Pogo access road, material sites, and transmission line (approximately 159 acres for material sites, 208 acres for private portion of the access road, and 1 acre - power poles only).

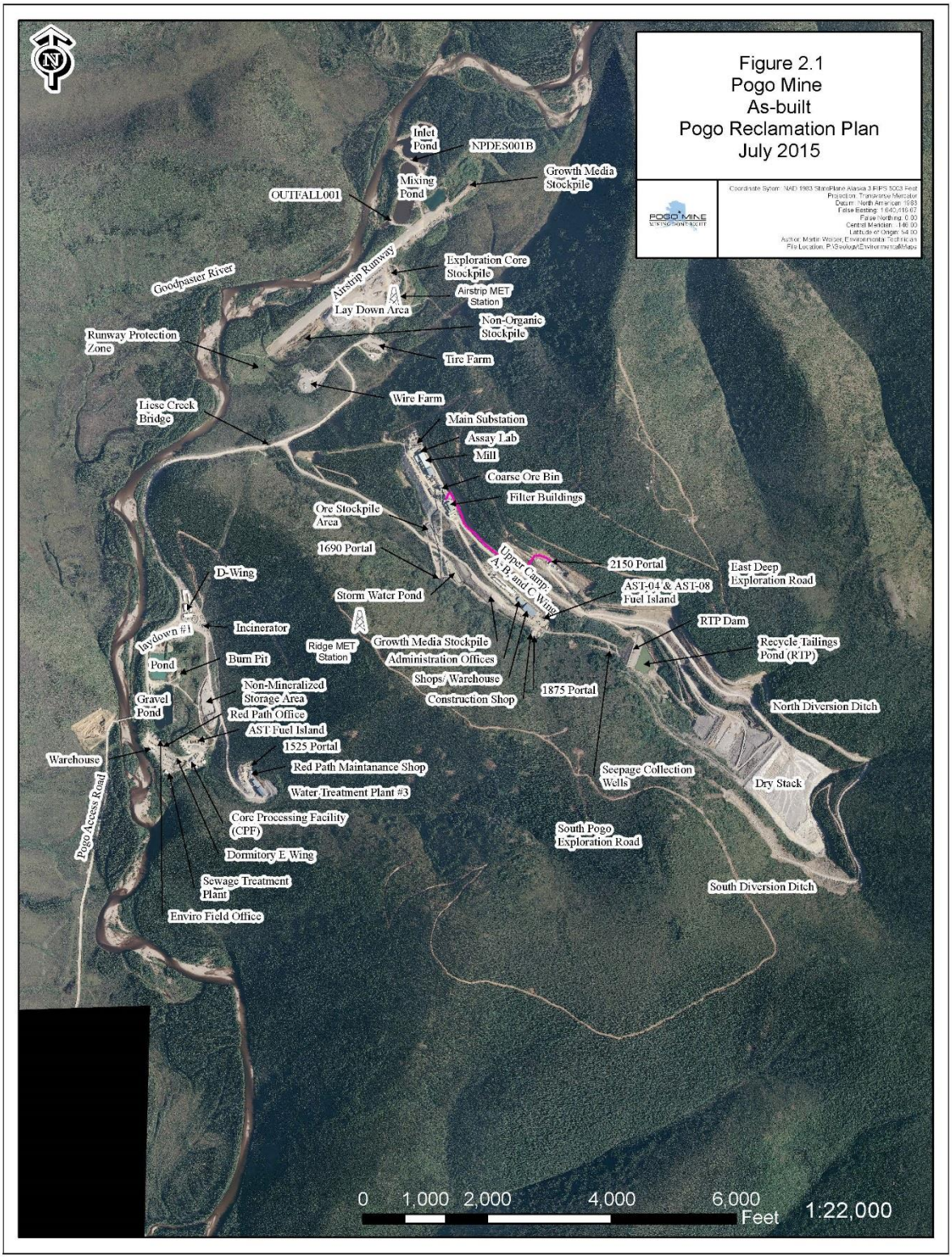
Table 2.1 also provides an estimate of the areas that will require natural and enhanced recovery methods and soils to be reshaped and relocated for recontouring. The goal of the revegetation program is to stabilize soil erosion so that native species may re-colonize the area. This will be accomplished using the two methods described below.

- Natural recovery will be implemented in minimally disturbed areas; scarification and fertilization of the disturbed and surrounding area may be undertaken to encourage natural recovery.
- Enhanced recovery will be implemented in highly disturbed areas using a combination of one or more of the following: growth media, fertilizer, native grass seed, or native shrubbery to immediately establish a vegetative cover to reduce soil erosion and prevent sediment loss into rivers and streams.

Table 2.1: Mine Land Disturbance & Reclamation Methods

Pogo ID	Minesite Facility Name	2016 Acres	Cover layer below GM (ft)	GM thickness (inches)	Rip/ scarify Yes/No	Seeding Yes/No	Cover volume (yd^3)	GM volume (yd^3)
1525 Portal Area								
	Buildings - Lower Camp Area	1.00	3	6	yes	yes	4,855	809
	Buildings - D-wing Area & incinerator	0.91	3	6	yes	yes	4,382	730
	Buildings - 1525 Portal Area	0.76	3	6	yes	yes	3,677	613
	Material Site 23	6.84	0	0	no	no	0	0
	1525 Portal Organic Stockpile	0.62	0	0	no	no	0	0
	1525 Portal Inorganic Stockpile	1.66	0	0	no	no	0	0
	1525 Portal GM-01 & GM-02	1.39	0	0	no	no	0	0
E01	1525 Portal Access Road #8	9.91	0	0	yes	no	0	0
E02	Non-Mineralized Rock Storage Area 1 &2	2.85	0	0	no	no	0	0
E02	Mineralized Rock Storage Area 3	2.32	0	6	no	no	0	1,873
E03	Lower Camp Pond & Gravel Pond	6.97	0	0	no	no	0	0
E04	Construction Airstrip	1.37	0	0	yes	no	0	0
E05	Lower Camp Diversion Ditch	0.07	0	0	no	no	0	0
E06	Access from Goodpaster Bridge to Construction Camp	0.21	0	6	yes	no	0	171
E07	Burn Pit	0.42	0	0	no	no	0	0
N01	1525 Portal Area	5.61	0	6	yes	no	0	2,261
N02	Outfall 002 Path	0.55	0	0	no	no	0	0
N04	1525 Portal Laydown Area #1 & #2 and D-wing Area	11.99	0	0	yes	no	0	0
N05	Construction / Exploration Camp Pad	11.40	0	6	yes	no	0	4,598
N06	Access Road #6 from Goodpaster Bridge to Liese Bridge	12.22	0	6	yes	no	0	9,857
N08	Fuel Area	0.20	0	6	no	no	0	163
	Subtotal	**79.28**					**12,913**	**21,077**
Airport Area								
N03	Access Road #7	10.99	0	6	yes	no	0	8,863
N07	Main Airstrip	44.6	0	6	yes	no	0	26,992
N09	Borrow source at airstrip	1.82	0	0	no	no	0	0
N27	GM-05 through GM-08, GM-16 & GM-17	11.49	0	0	no	no	0	0
	Airstrip Clearance	0.7	0	0	no	no	0	0
N11	Airstrip Laydown 1-3, Non-Organic Stockpile	30.66	0	0	yes	no	0	0
N31	ORTW, Inlet Pond & Mixing Pond	18.31	0	6	yes	no	0	14,773
N34	Log Storage 1 - 8, Exploration Core Stockpile & Laydown Yard	4.11	0	0	yes	no	0	0
	Subtotal	**122.73**					**0**	**50,628**
Mill and Camp Area								
	Buildings - 1875 Portal Area	0.13	3	6	yes	yes	634	106
	Buildings - 1690 Portal Area	0.05	3	6	yes	yes	232	39
	Buildings - Main Camp Area	1.71	3	6	yes	yes	8,279	1,380
	Buildings - Mill Area	2.91	3	6	yes	yes	14,068	2,345
N10	1690 Portal 1 & 2 Area	4.89	0	6	yes	yes	0	3,946
N13	Access Road #1	9.19	0	6	yes	yes	0	7,417
N14	Mill Bench & Main Substation	19.54	0	6	yes	yes	0	15,758
N16	Main Camp / 1875 Portal Area	19.31	0	6	yes	yes	0	15,579
N25	Stormwater Pond	0.74	0	6	no	yes	0	593
N30	Ore Stockpile	1.38	0	0	yes	yes	0	0
	Subtotal	**59.84**					**23,212**	**47,163**
Tailings Area								
	Buildings - RTP Area	0.02	3	6	yes	yes	118	20
	Diversion Channel Area	13.85	0	6	no	yes	0	5,586
	Diversion Channel Access Road	1.24	0	0	yes	yes	0	0
N27	GM-11 through GM-15	6.57	0	0	no	no	0	0
N15	Road Mill to RTP	15.80	0	6	yes	yes	0	6,373
N15R	Access RTP to Drystack	23.20	0	0	yes	yes	0	0
N17	RTP	10.07	0	6	no	yes	0	8,125
N18	Drystack-1, -2 & -3	73.02	1.5	6	yes	yes	176,712	58,904
N20	RTP Access Road	2.27	0	6	yes	yes	0	1,829
	Drystack Perimeter Channel	5.98	0	0	no	yes	0	0
N23	Drystack Diversion Channel	4.33	0	0	no	yes	0	0
	Drystack Diversion Channel Access	30.25	0	0	yes	yes	0	0
	RTP Still Basin	0.49	0	6	no	yes	0	392
N32	Stilling Basin	1.84	0	6	no	yes	0	1,482
	Subtotal	**188.92**					**176,829**	**82,711**
Site-Wide Area								
	Buildings - Exploration Camp	0.05	3	6	yes	yes	227	38
	Buildings - sitewide	0.20	3	6	yes	yes	983	164
	Upper Exploration Camp Area	1.75	0	0	no	no	0	0
	Liese Creek Bridge	0.05	0	0	no	no	0	0
	Goodpaster Bridge	0.18	0	0	no	no	0	0
N21	Transmission Line	18.61	0	0	no	no	0	0
N27	GM-9 & GM-10	2.28	0	0	no	no	0	0
N28A	Material Site A	2.06	0	0	no	no	0	0
N36	Access to GM-19 & MS-1	0.11	0	0	no	no	0	0
N36	Access to GM-18 & MS-2	3.00	0	0	no	no	0	0
N37	Material Site 1 & 2	28.22	0	0	no	no	0	0
N38	GM-18 & GM-19	7.90	0	0	no	no	0	0
	Subtotal	**64.40**					**1,211**	**202**
2150 Portal								
	2150 Portal Yard & Material Site D	11.24	0	0	yes	yes	0	0
	Buildings - 2150 Portal Area	0.12	3	6	yes	yes	562	94
	Subtotal	**11.36**					**562**	**94**
	Total	**526.53**					**214,728**	**201,875**
	Grand Total Required Material Quantities						**214,728**	**201,875**
	Available Material Quantities							**205,816**
	Available Less Required							**3,941**

Figure 2.1: General Site Footprint



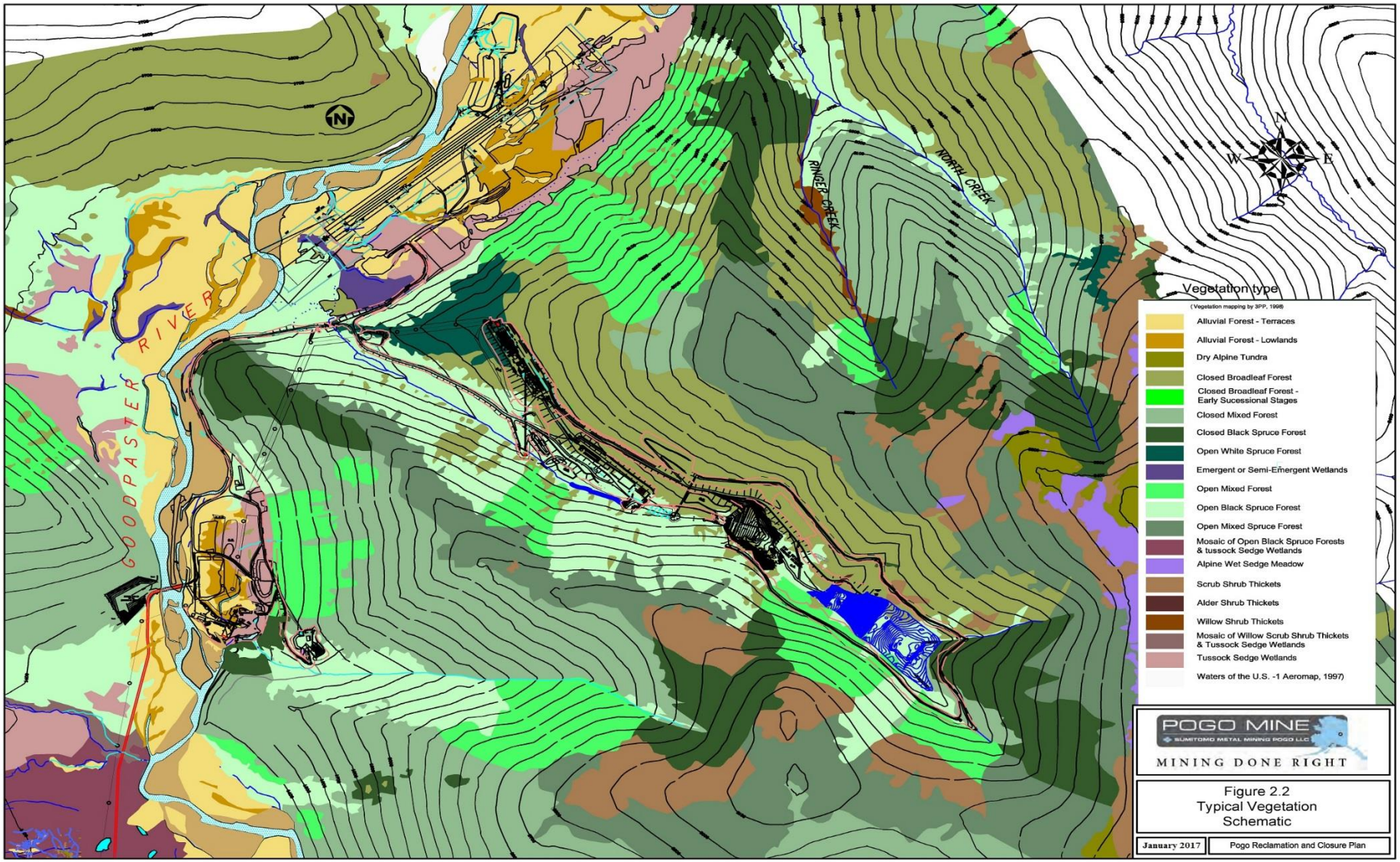
2.9.1 Impacts to Vegetation

A description of the types of vegetation found on the project site is presented in **Table 2.2**. Typical vegetation within the project footprint is presented in **Figure 2.2**. The major vegetation types are: alluvial forest (terrace), open black spruce forest, closed broadleaf forest, and open black spruce forest (tussock sedge complex). The majority of the impacted vegetation is a mosaic of alluvial forest (lowlands) and open black spruce forest with tussock sedge wetlands.

Table 2.2: Vegetation Type Descriptions

Vegetation Type	Soil Description
Alder Shrub Thicket	Somewhat poorly-drained Pergelic Cryaquepts or moderately well-drained Pergelic Cryochrepts, depending on the degree of slope. Hydric or non-hydric.
Alluvial Forest – Emergent Complex	See Alluvial Forests – Lowlands
Alluvial Forest – Lowland	Loamy, mixed, non-acid Pergelic Cryaquepts. Hydric.
Alluvial Forest – Terraces	Moderately well-drained, coarse-silty, mixed, non-acid Aeric Cryaquepts; or Typic Cryofluvents. Hydric.
Alluvial Forest – Willow Shrub Thicket Complex	See Alluvial Forests – Lowlands
Closed Black Spruce Forest	Moderately well- to somewhat poorly-drained Pergelic Cryorthents or Cryochrepts, variable. Predominantly non-hydric.
Closed Broadleaf Forest	Well-drained, coarse-silty, mixed, non-acid Aeric Cryaquepts (occasionally well-drained Typic Cryochrepts). Non-hydric.
Closed Mixed Forest	Moderately well-drained, coarse-silty, mixed, non-acid Aeric cryaquepts (Typic Cryochrepts). Non-hydric.
Disturbed – Filled Areas	Mixed soils.
Dwarf Birch Shrub Thicket	Dysic Pergelic Sphagnofibrists or Histic Pergelic Cryaquepts. Both hydric.
Emergent Aquatic Areas	Dysic Pergelic Sphagnofibrists or Typic or Pergelic Cryofibrists. Hydric.
Gravel Bars	Probable waters of the U.S.
Open Black Spruce Forest	Loam, mixed, non-acid Histic Pergelic Cryaquepts. Hydric.
Open Black Spruce Forest – Tussock Sedge Complex	Loamy, mixed, non-acid to acid Histic Pergelic Cryaquepts or Histic Cryaquepts. Hydric.
Open Mixed Forest	Complex mosaic of forests &shrub thickets, high degree of variability (Pergelic Cryohemists to Typic or Pergelic Cryorthods). Hydric and non-hydric soils.
Open Mixed Spruce Forest	Range from moderately well-drained Pergelic Cryochrepts to somewhat poorly-drained Pergelic Cryaquepts, again depending on the degree of slope and topography. Hydric or non-hydric.
Open Water	Waters of the U.S.
Tussock Sedge	Loamy, mixed, acid Histic Pergelic Cryaquepts or Histic Cryaquepts. Hydric.
Willow Shrub Thicket	Somewhat poorly drained Pergelic Cryaquepts or Pergelic Cryofluvents. Hydric.

Figure 2.2: Typical Vegetation Schematic



3.0 REVEGETATION GUIDELINES

Pogo will revegetate the project area utilizing the following guidelines:

- Institute recommended post-mining land use,
- Evaluate the final landform that will meet that use,
- Assess available plant species,
- Verify available plant growth media,
- Combine and optimize each of these objectives.

According to the Tanana Area Basin Plan Amendment, the designated and traditional land use in the area is wildlife habitat and recreation (ADNR 2009).

Reclamation of the disturbed areas is expected to enhance wildlife habitat within five to fifteen years by stimulating the growth of early successional forest which provides: willow and shrub browse for moose and other game; young aspen stands for Ruffed Grouse habitat; and grass areas, which provide forage, diversity, and cover for voles and other species.

3.1 Final Landforms

With the exception of stable highwalls, the final post-mining landforms will be blended into the undisturbed landscape through the use of contouring and vegetation. Mine structures will be contoured with the objective of reducing infiltration, keeping the disturbed area to a minimum, and stabilizing the surface. To achieve these objectives, the primary design consideration for reclamation will be the overall slope angle as determined by stability and environmental considerations. The slope length of final landforms will be broken to reduce the water runoff velocity and consequent erosion if necessary.

Where required, highwall stabilization will include a combination of toe buttressing and benching. Examples of areas requiring stabilization include cuts at the mill bench, camp/shop bench, portal cuts, Material Sites A and D, and some rock cuts along the road and ditches.

Where possible, wetland areas will be established to increase the post-mining biodiversity of the project area. These wetland areas may include the reclaimed material site areas and the reclaimed recycle tailings pond area.

3.2 Plant Species

The project revegetation program will build on previous work done in conjunction with advanced exploration. In 1998 and 1999, seed and fertilizer were applied to erodible areas

on the winter road and an unstable slope cut into the hillside above the advanced exploration camp during previous placer operations. Anecdotal experience since construction of the mine demonstrates that the growth media stockpiles readily revegetate.

Further site-specific knowledge will be gathered from test plots of various seed, fertilizer, growth media depth, and shrubbery applications. Test plots were established in 2013 near the Pogo Airstrip and the Off River Treatment Works, and in 2014 along the Drystack South Diversion Ditch. Annual test plots and related surveys are underway and ongoing. **Appendix B** provides information on previous revegetation efforts and **Appendix E** presents the list of grass, legume, and woody species which may be used.

3.3 Plant Growth Media

The amount of growth media stripped and stockpiled is more than adequate to reclaim the overall disturbance. Growth media will consist of a combination of organic material, topsoil, and overburden that will serve to enhance revegetation efforts. Approximately 205,816 loose cubic yards of growth media was salvaged during construction activities and stored in 19 growth media stockpiles. Assuming that a six-inch lift of growth media is applied over all the area that will require enhanced recovery, approximately 201,875 loose cubic yards of growth media is required. In addition, the overburden stockpiles have substantial plant growth, which indicates the material is a viable growth media cover. **Appendix B** provides details on the storage and use of growth media in revegetation procedures. The stockpiles will be protected from wind and water erosion using BMPs as described in **Appendix E**.

Table 3.1 summarizes the growth media volumes from storage locations around the site based on the 2015 aerial photographs, surveys, and/or truck counts. The storage locations are shown in **Figure 3.1**.

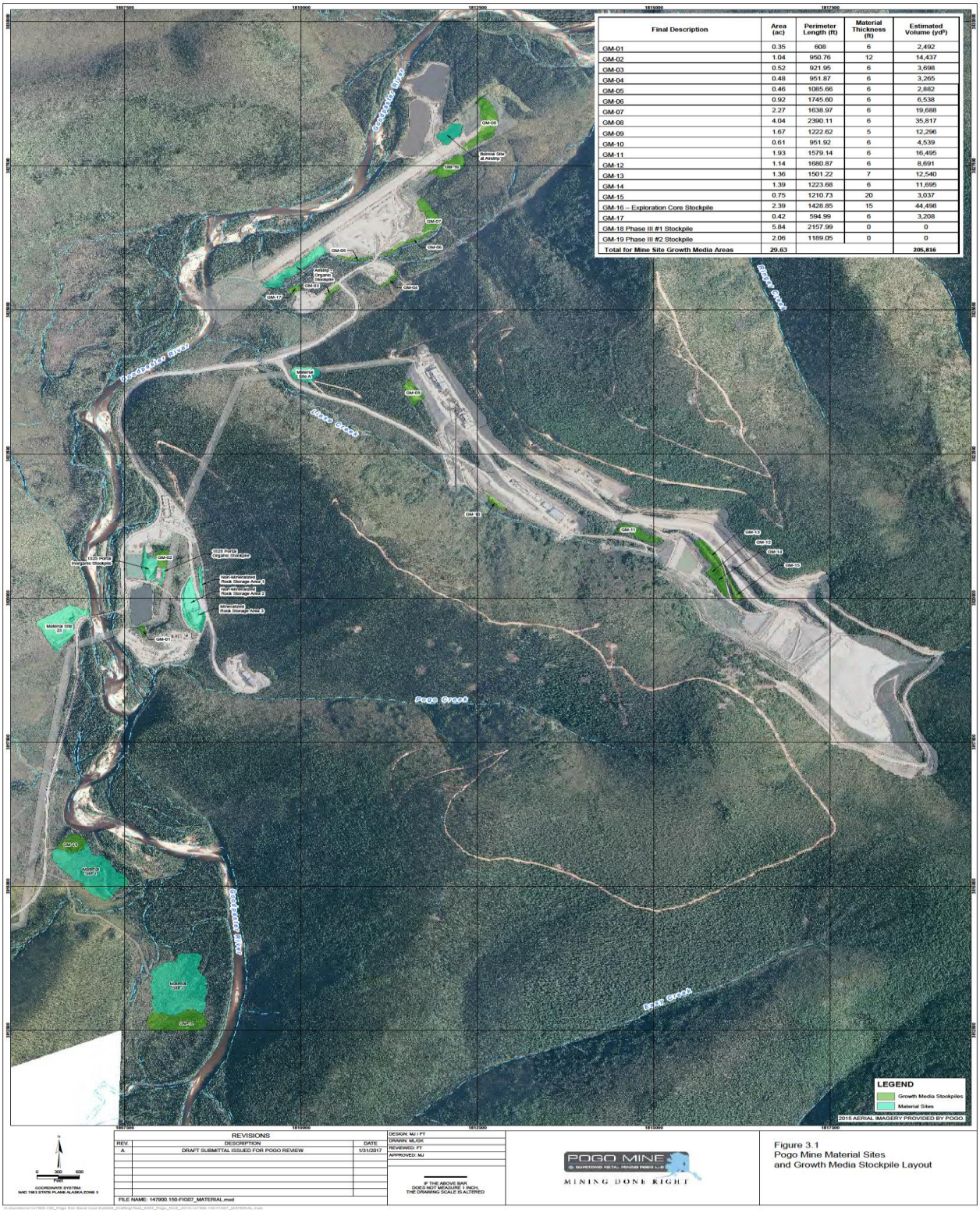
Relevant assumptions regarding growth media recovery and placement are listed below:

- As the drystack is constructed, growth media will continue to be salvaged
- The Goodpaster valley material site areas will be reclaimed as wetlands
- Mulched organic material has not been included in this balance, but could be available if required
- After mixing in the growth media stockpiles, the organic mat will contribute 50% of its original volume to the growth media available for reclamation
- Material Sites 1 and 2 on the west sided of the Goodpaster will be used as contingencies.

Table 3.1: Growth Media Stockpiles

Final Description	Area (acre)	Perimeter Length (feet)	Material Thickness (feet)	Estimated Volume (yd^3)
GM-01	0.35	608	6	2,492
GM-02	1.04	950.76	12	14,437
GM-03	0.52	921.95	6	3,698
GM-04	0.48	951.87	6	3,265
GM-05	0.46	1085.66	6	2,882
GM-06	0.92	1745.60	6	6,538
GM-07	2.27	1638.97	6	19,688
GM-08	4.04	2390.11	6	35,817
GM-09	1.67	1222.62	5	12,296
GM-10	0.61	951.92	6	4,539
GM-11	1.93	1579.14	6	16,495
GM-12	1.14	1680.87	6	8,691
GM-13	1.36	1501.22	7	12,540
GM-14	1.39	1223.68	6	11,695
GM-15	0.75	1210.73	20	3,037
GM-16 – Exploration Core Stockpile	2.39	1428.85	15	44,498
GM-17	0.42	594.99	6	3,208
GM-18 Phase III #1 Stockpile	5.84	2157.99	0	0
GM-19 Phase III #2 Stockpile	2.06	1189.05	0	0
Total for Mine Site Growth Media Areas	**29.63**			**205,816**

Figure 3.1: Pogo Mine Material Sites and Growth Media Stockpile Layout



3.4 Revegetation Standards

The overall objective of the revegetation program is to establish a vegetative cover on all disturbed lands (except for those determined by ADNR to be reclaimed in a different manner or those determined by ADNR to be exempt from the cover criteria) that will flourish without need for fertilization or reseeding after a 5-year period. The standard for measuring revegetation success will be the establishment of a diverse cover of at least 70% as determined using a method approved by ADNR. This cover should be achieved without the application of topsoil, seed, fertilizer, or any water in addition to natural precipitation for the last three growing seasons in the 5-year period. If a cover of 30% has not been achieved by the end of the third growing season, then Pogo will develop an action plan to address any potential problems that may be interfering with revegetation success.

The interim diversity objectives for the vegetative cover after a 5-year period will be such that no one graminoid will comprise more than 70% of the relative cover and no tree or shrub species will comprise more than 95% of the relative density value. These standards may be revised based on the revegetation test trials.

Revegetation progress for reclaimed lands and test plots are ongoing and are reported annually to ADNR as part of the Annual Monitoring Report.

4.0 RECLAMATION AND CLOSURE PRESCRIPTIONS

This section describes the reclamation activities and schedule planned for various project components. To the extent practicable, reclamation efforts will be carried out concurrent with mining activities to minimize the activities required after mining operations cease.

General construction, revegetation, and demolition procedures are described in **Appendices A, B, and C**. These methods will be applied to the prescriptions outlined in this section.

Reclamation scheduling is divided into five phases based on the design, construction, operation, and closure activities of the mine:

Phase I: Reclamation of construction disturbance

Phase II: Reclamation concurrent with mining

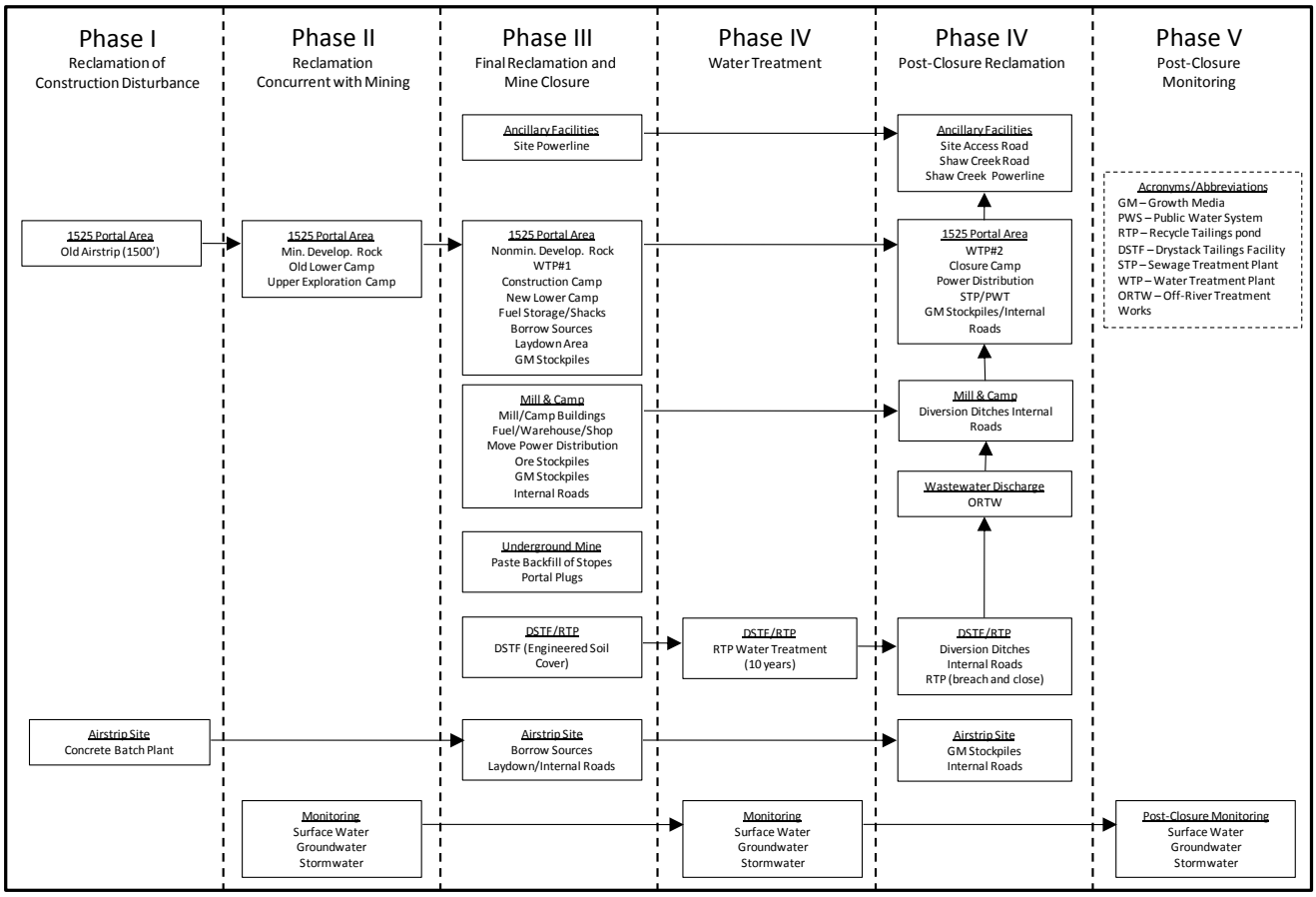
Phase III: Final reclamation and closure of the mine site

Phase IV: Water treatment and post-closure reclamation

Phase V: Post-closure monitoring

Table 4.1 shows the proposed reclamation sequence according to the phase, and each phase is described in more detail below.

Table 4.1: Reclamation Schedule



4.1 Phase I: Reclamation of Construction Disturbance

Any project disturbance from advanced exploration or construction that has not been reclaimed to date has been transferred to Phase II.

Phase I reclamation completed includes:

- 1525 Airstrip Facilities - The airstrip used during early exploration was regraded to remove berms and left in place. Floods and natural revegetation have reclaimed the site.
- Winter Road – The winter access road used prior to construction of Shaw Creek Road was reclaimed by seeding disturbed areas.
- Upper Exploration Camp - In 1998 and 1999, seed and fertilizer were applied to erodible areas on the winter road and an unstable slope cut into the hillside above the advanced exploration camp during previous placer operations.

4.2 Phase II: Reclamation Concurrent with Mining

Phase II reclamation will be undertaken concurrently with mining activities. All of the stockpiled mineralized development rock will be reclaimed during this phase.

4.2.1 Upper Exploration Camp

The upper exploration camp will be removed using the general procedures outlined in **Appendix C**, and revegetated using the general procedures outlined in **Appendix B**. All other disturbances associated with this program (such as drill pads and drill holes) will be reclaimed in accordance with the advanced exploration reclamation plan.

4.2.2 Mineralized Development Rock Storage

Development rock from the 1525 and 1875 portals is hauled to a temporary stockpile outside each portal where it is classified as mineralized or non-mineralized for its disposal location within the drystack. Mineralized rock is entombed within the DSTF.

Remaining mineralized rock stockpile material at the 1525 portal area will be moved to the drystack tailings facility. All liner materials will be placed in a DEC-approved inert solid waste disposal facility (not yet constructed), which may be in the drystack. Gravel materials underlying the liner of the mineralized rock stockpile will be used for surfacing site access roads or left in place and reclaimed by recontouring for drainage, tapering edges, and scarifying or ripping. Organic materials stockpiled will be placed on the area as needed to promote vegetation.

4.2.3 Non-Mineralized Development Rock Storage

Non-mineralized rock is used for site construction and maintenance activities. All liner materials associated with the non-mineralized rock storage will be buried in a DEC-approved inert solid waste disposal facility (not yet constructed), which may be in the drystack. Gravel materials underlying the liner will be used for surfacing site access roads or may also be left in place and reclaimed by recontouring for drainage, tapering edges, and scarifying or ripping. Organic materials stockpiled will be placed on the area as needed to promote revegetation. Establishment of a vegetative cover will be based on the results from the vegetation test trials outlined in **Appendix E**.

4.2.4 Alluvial Gravel Material Sites

If not needed for ongoing facility maintenance or reclamation, the material sites developed in alluvial gravels during advanced exploration for project construction activities will be reclaimed as described in **Appendix D**. This plan incorporates the use of benches, islands, and the development of riparian and wetland habitat to enhance wildlife use of the area. Material sites that are required for reclamation will be stabilized using BMP's.

4.2.5 Access Road Material Sites

If not needed for ongoing access road maintenance or reclamation, the material sites developed to support construction of the Pogo Access Road will be reclaimed. Reclamation will follow site-specific reclamation plans for these material sites developed in conjunction with their initial permitting. Material sites that are required for ongoing maintenance or reclamation will be stabilized using BMP's.

4.3 Phase III: Final Reclamation & Closure of the Mine Site

Phase III will consist of the major closure activities required to decommission the mine, remove the facilities from the property, and place the site in a stable condition. During Phase III, all facilities and structures not needed to support post-closure reclamation activities (Phase IV) will be removed following the general procedures outlined in **Appendix C**. A part of lower camp will be used as a temporary closure camp to support Phase III and IV activities.

Monitoring of groundwater, stormwater, and surface water will continue through Phase V.

4.3.1 Fuel Storage & Hazardous Materials

All surplus fuel, hazardous materials, above-ground tanks, and piping will be removed following the general demolition procedures outlined in **Appendix C**.

A plan will be developed to comprehensively test for fuel contamination near the storage areas. If found, contaminated soil will be removed and treated in accordance with ADEC guidelines before the area is recontoured and revegetated.

4.3.2 Liese Creek Mill Facilities

All buildings, materials storage areas, fencing, and supplies will be removed from the Liese Creek mill area using general demolition procedures outlined in **Appendix C**. An existing substation will provide power for Phase IV operation of the water treatment plant and support facilities.

The storm pond liner will be removed, cut into pieces and buried in a DEC-approved inert solid waste disposal facility (not yet constructed), which may be in the drystack.

The highwall cut faces will be stabilized and left in place. Fill embankments will be reclaimed by pulling the outer crest of the fill over the pad to the highwall, grading to control surface water runoff towards Liese Creek, and blending with the local topography as much as possible. The recontoured surfaces will be ripped where compacted, covered with stockpiled growth media, and seeded and fertilized as needed.

Gravel pads and access roads will be recontoured for drainage, ripped or scarified, spread with growth media, and fertilized and seeded as necessary.

4.3.3 Liese Creek Camp, Office & Shop Facilities

All buildings, materials storage areas, fencing, and related facilities will be removed from the Liese Creek camp and shop area using general demolition procedures (**Appendix C**).

The highwall cut faces will be stabilized and left in place. Fill embankments will be reclaimed by pulling the outer crest of the fill over the pad to the highwall, grading to control surface water runoff towards Liese Creek, and blending with the local topography as much as possible. The recontoured surfaces will be ripped where compacted, covered with stockpiled growth media, and seeded and fertilized as needed.

Gravel pads and access roads will be will be recontoured for drainage, ripped or scarified, spread with growth media, and fertilized and seeded as necessary.

4.3.4 Underground Mine

In general, the closure plan and cost estimate for the mine involves removing salvageable[1] equipment, backfilling, installing cement plugs in all mine openings, and re-flooding as described in the Pogo Mine Underground Closure Study. (Tetra Tech 2014), The tentative closure procedures follow:

Pumps and mobile mining equipment will be removed from site. Chutes, conveyors, ventilation, piping, and electrical systems will be dismantled. Pipes supplying fuel and hazardous materials will be flushed before disposal. Components will be buried in designated areas within the underground workings of the mine during Phase III or the solid waste disposal facility (not yet constructed).

Mined-out stopes will be backfilled completely with cemented paste backfill. The relatively impervious nature of the paste backfill will seal mineralized areas of the wall rock and prevent oxidation and subsequent leaching. At mine closure, select areas of the connecting access declines will be also be backfilled to compartmentalize the hydrogeology and to reduce the potential for water flow through the mine.

After the 1525, 1690, and 2150 mine openings are sealed, the mine workings will be flooded through the 1875 portal to accelerate groundwater level recovery towards pre-operational levels. The 1875 portal will then be sealed and the remainder of the mine flooded through a surface borehole, which will be cemented at completion. The backfill, sealing, and flooding process is expected to be completed within two years.

[1] No salvage value is included in the reclamation and closure cost estimate.

To monitor potential effects of underground water into Goodpaster River, the groundwater monitoring wells installed down gradient from the underground workings MW04-213 and MW11-216 will be sampled throughout all phases of reclamation and closure.

4.3.5 Portals

Upon completion of mining, the 1525, 1690, and 1875 adits will be permanently stabilized and sealed using a combination of select paste backfill placement and concrete plugs to prevent access and drainage. The 2150 portal will be sealed to prevent access and maintain safety at the reclaimed site.

Adit plugs will be located in competent ground to resist the pressure head developed between natural groundwater and the plug elevation. The concrete used to construct the plug will be Type II Portland cement mixed with Type F fly ash to ensure low shrinkage and good sulfate resistance. A grout curtain will minimize seepage across the plugs.

Preliminary design of the plugs has been carried out according to Lang's "Permanent Sealing of Tunnels to Retain Tailings or Acid Rock Drainage" (1999). **Table 4.2** summarizes Lang's criteria for monolithic plugs.

Final plug plans will be stamped by a professional engineer and submitted to the State for review and approval. The plug plans will include a site investigation to assess geotechnical, geochemical, and hydrogeological characteristics at each site. The final plug designs will consider static and dynamic failure mode, seepage rates for each plug, and the feasibility of long-term monitoring. The final plug designs will also include proposed construction methodology and QA/QC plans as well as an estimate of construction cost.

Groundwater levels were estimated based on both piezometer data and by modeling the pre-development heads (Adrian Brown, "Inflow to the Pogo Mine" report, 25 January 2002). For the purpose of this analysis, the highest modeled pre-development water table elevation was used as the driving head for all plugs. The design plug lengths for the various adits are shown in **Table 4.3.** The portal locations and design for the concrete plugs for the 1525, 1690, and 1875 portals are shown in **Figures 4.1, 4.2, and 4.3**.

At the 1690 portal, the external conveyor structure will be dismantled and salvaged where possible. Unusable components will be buried in the mine. Concrete conveyor footings less than one-foot thick will be broken and buried in place as fill material.

The highwall cut faces will be stabilized and left in place. Fill embankments will be reclaimed by pulling the outer crest of the fill over the pad to the highwall, grading to control surface water runoff, and blending with the local topography as much as possible. The recontoured surfaces will be ripped where compacted, covered with stockpiled growth media, seeded, and fertilized as needed.

Gravel pads and access roads will be recontoured for drainage, ripped or scarified, covered with growth media, seeded, and fertilized as necessary.

Table 4.2: Summary of Recommended Design Criteria for Closure Plug

Failure Mode	Design Criteria
Hydraulic jacking of rock	Factor of Safety > 1.3 for normal conditions Factor of Safety > 1.1 for earthquake conditions
Shear failure along contact or through rock mass	Factor of Safety > 3 normal condition Factor of Safety > 1.5 earthquake condition
Deep beam flexure	When the plug length is less than the largest dimension of the opening. Design to allowable concrete tensile stress according the ACI Code
Excessive seepage	Maximum hydraulic gradient (*i*) dependent upon rock mass characteristics and if formation grouting is performed. Seepage limited to drips at plug and < 0.5 ℓ/s downstream of plug (*i*=7-14 for fair to good rock mass conditions)
Long-term degradation of concrete	Concrete > 25 MPa compressive strength, mix to resist sulfate, acid, and alkali-silica reactivity

Note: Criteria are for plugs with no reinforcement that are created in one continuous pour.

Table 4.3: Plug Designs

Adit	Design Water Head (ft)	Design Plug Length for Factor of Safety >3 (ft)
1525 exploration adit	477	19
1875 haulage adit	30	4
1690 conveyor drift	327	17

Figure 4.1: Portal Closure Locations

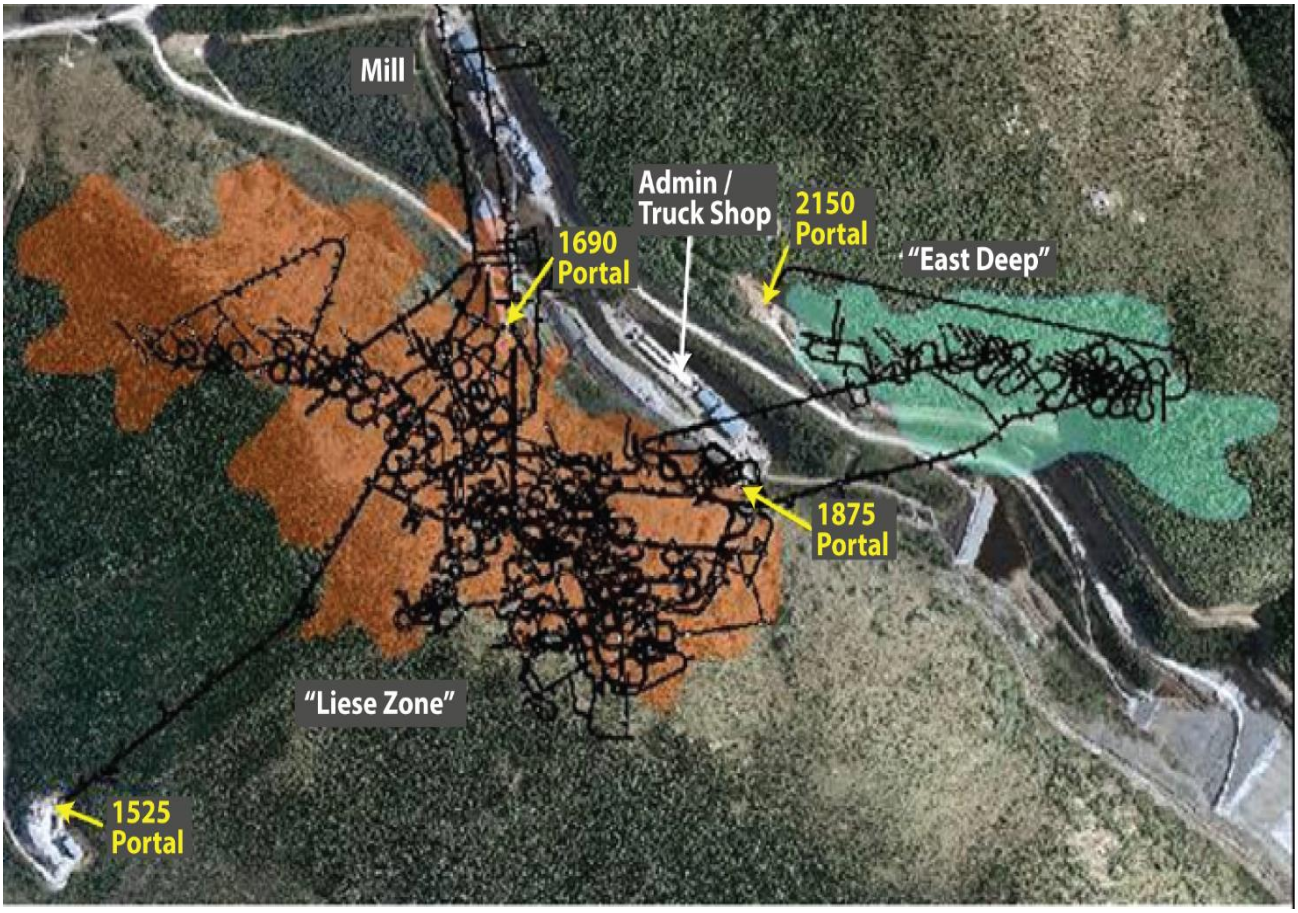
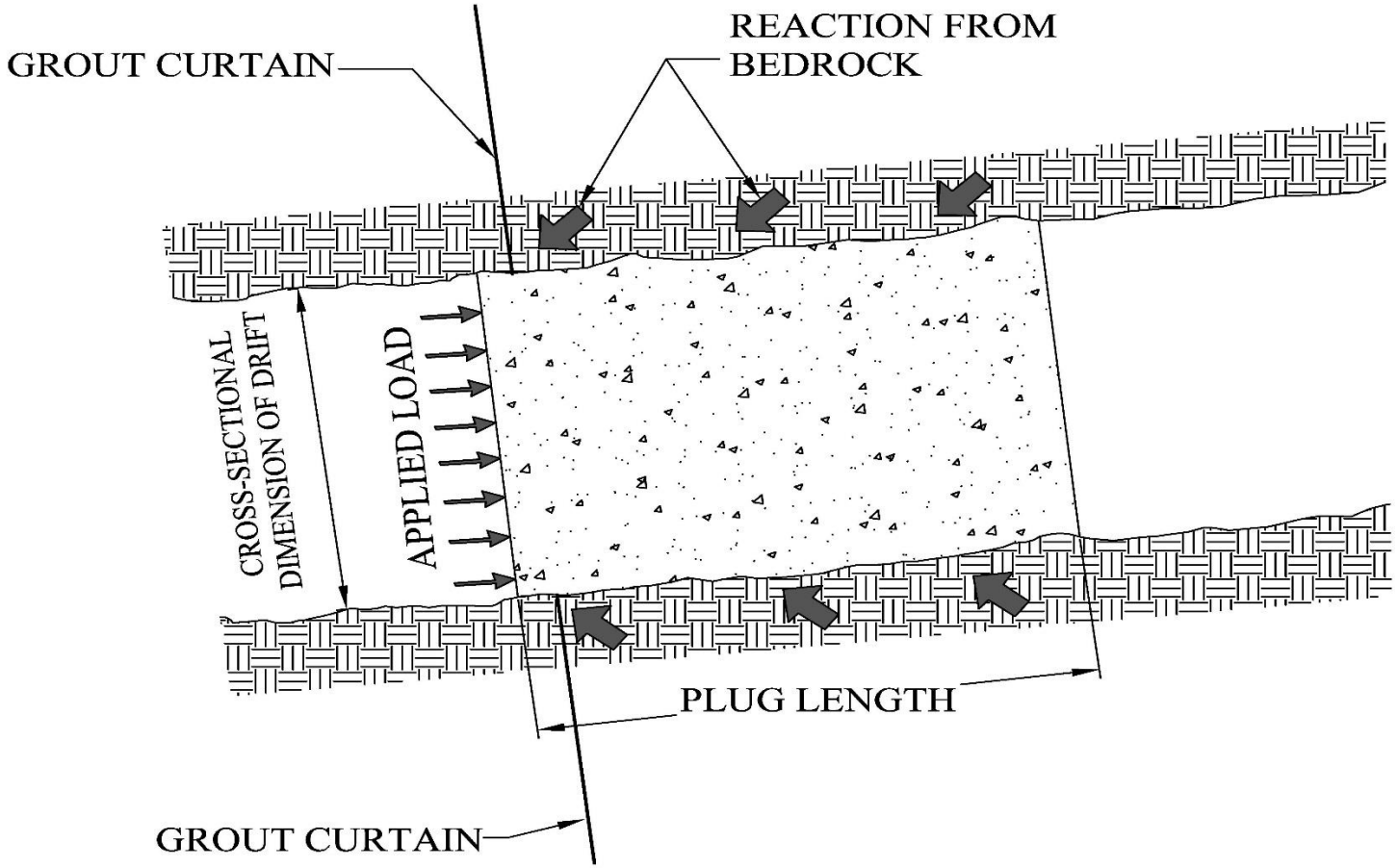


Figure 4.2: Portal Plug Longitudinal Section



LOCATION:	DESIGN HEAD:	PLUG LENGTH:	GROUT CURTAIN REQUIRED:
1525 Portal	477 ft	19 ft	yes (I = 25)
1690 Portal	327 ft	17 ft	yes (I = 19)
1875 Portal	30 ft	4 ft	yes (I = 8)

POGO MINE
SUMITOMO METAL MINING POGO LLC

Figure 4.2
Portal Plug
Longitudinal Section

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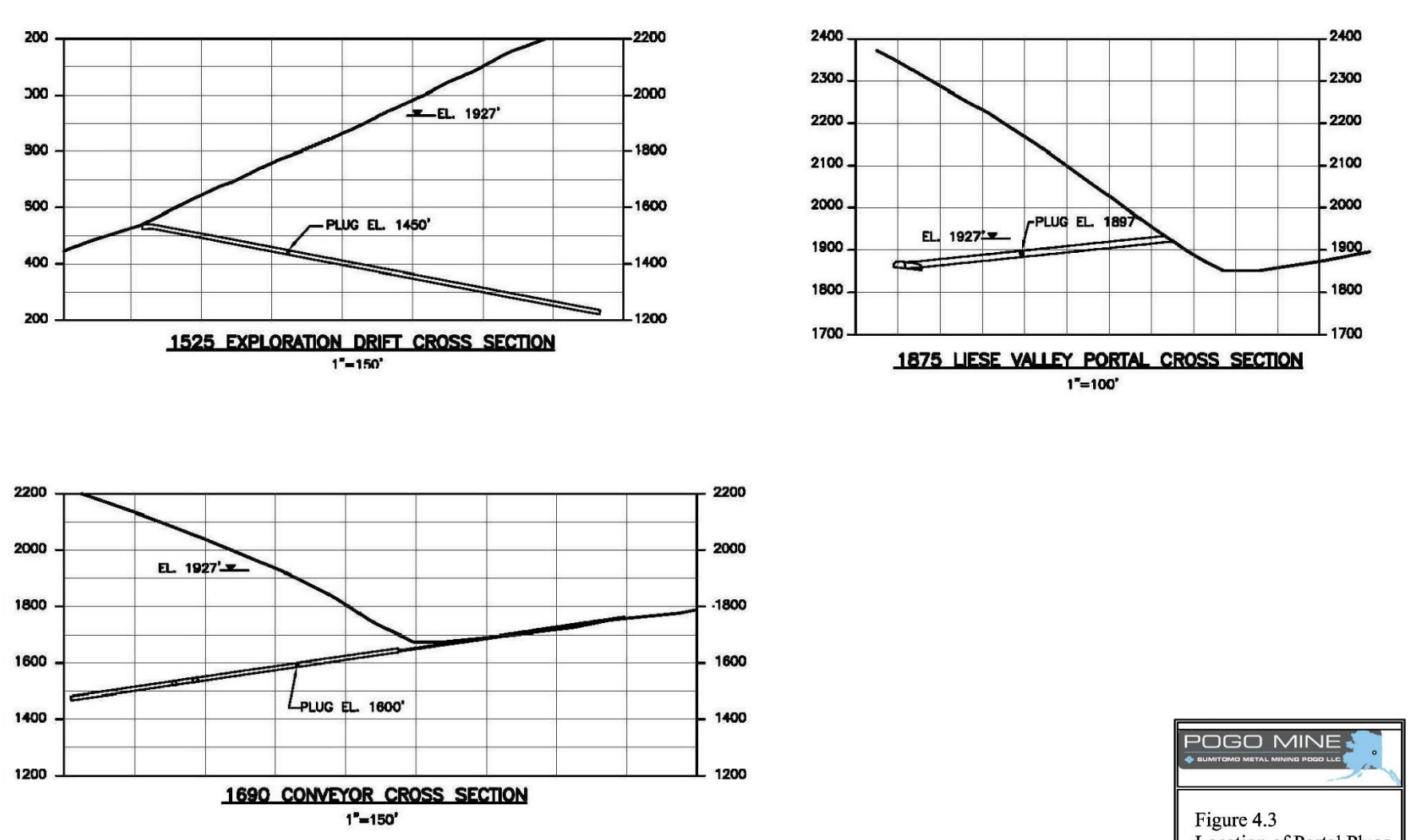
Figure 4.3: Location of Portal Plugs



4.3.6 Drystack Tailings Facility

Tailings that are not placed underground will be dewatered through pressure filtration and placed in the general placement area of the drystack tailings facility. The DSTF expansion and new diversion ditch construction was completed in 2013.

The drystack facility will have two zones: the shell area, which will provide structural stability and erosion control for the facility; and the general placement area, which will be used for random tailings placement and is not required to contribute strength. Non-mineralized development rock will be used to construct the shell with a benched overall slope of 3H:1V to provide long-term stability.

The long-term reclamation and closure goal for the drystack is to establish an alpine grass meadow. The closure concept includes creating a final configuration that limits erosion potential; diverts runoff water from upstream in the watershed around the drystack in permanent ditches; and provides an engineered cover that including an erosion resistant armor over the entire drystack with growth media to enhance revegetation.

Details of the drystack closure are presented in **Figure 4.4**. The engineered soil cover will consist of one-foot of non-mineralized development rock applied over the surface of the crowned drystack facility, followed by a six-inch sand and gravel layer to provide support for an additional six-inch of growth media. 2017 Drystack surveyed elevations indicate the DSTF is at 50% capacity and will not exceed the current design capacity of 20 MT within the current mine life. Drystack elevations are collected and reviewed annually.

A soil cover is proposed due to the relatively modest annual rainfall at the site, the low hydraulic conductivity of the drystack tailings material, and the lack of acid generating potential. It is not believed that additional measures to prevent infiltration, provide a capillary break, or to provide an oxygen barrier, are warranted.

Runoff control for the general placement area surface of the drystack facility will include crowning with a two percent slope to the closure perimeter ditches. The surface of the shell is being constructed with non-mineralized rock to prevent the erosion of drystack.

The closure perimeter ditches will be constructed as wide ditches with flat side slopes. This configuration has a significantly higher flow capacity than the maximum probable precipitation catchment potential. This design will allow for significant ice development and still maintain requisite freshet capacity. Riprap protection will be provided to prevent erosion on both sides of the ditch adjacent to the drystack face. The riprap requirements include graded filters to maintain soil particle stability.

Figure 4.4: Drystack Tailings Facility Schematic Closure Configuration

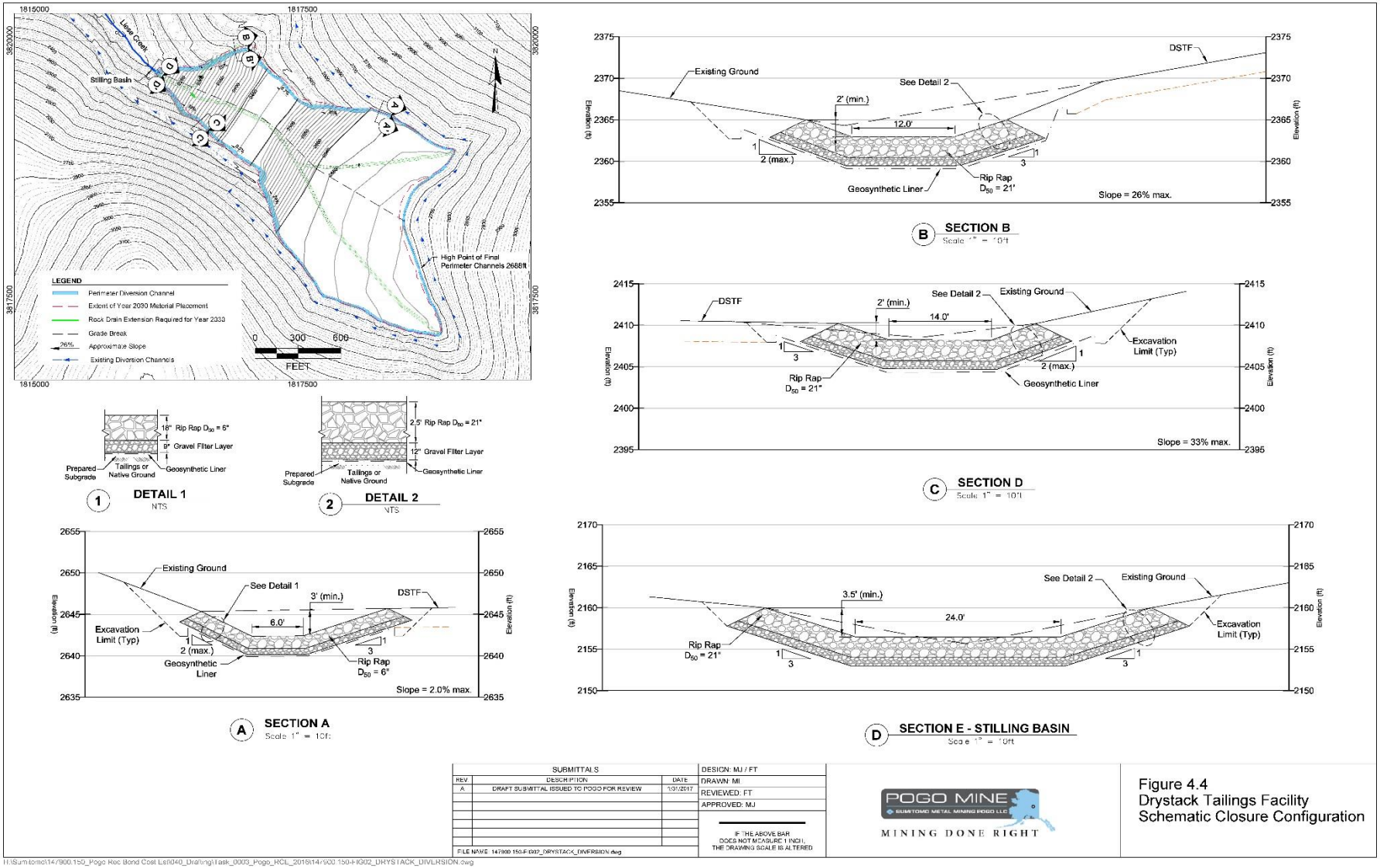


Figure 4.4
Drystack Tailings Facility
Schematic Closure Configuration

During mine operations, a field trial program will be undertaken to evaluate the optimum cover depths. Performance will be evaluated over a three-year period. Variables to be assessed during the field tests include various depths of engineered soil cover material, topsoil, vegetation type, soil amendments, and surface topography. Experience from mines in similar climatic conditions will be used to augment the site-specific information obtained from the trials.

4.3.7 Material Sites

Remaining alluvial gravel material site areas will be reclaimed as described in **Appendix D**. This plan will incorporate the use of benches and islands, as well as develop riparian and wetland habitat to enhance wildlife use of the area.

Material Site C and Material Site D will be reclaimed at the end of Phase III when no longer needed for closure materials. The highwall cut faces will be stabilized and left in place. Fill embankments will be reclaimed by pulling the outer crest of the fill over the pad to the highwall, grading to control surface water runoff towards Liese Creek, and blending with the local topography as much as possible. The recontoured surfaces will be ripped where compacted, covered with stockpiled growth media, and seeded and fertilized as needed.

4.3.8 Internal Access Roads

Access and service roads not specifically required for post-closure and reclamation monitoring will be ripped or scarified, covered with growth media, and fertilized and seeded as necessary. Highwalls or cut-banks associated with sections of these roads will be stabilized as needed.

4.3.9 Water Management

Upon the cessation of milling, all sumps, ponds, and drains will be filled, contoured, seeded, or stabilized to meet the requirements of the designated post-mining land use. Monitoring wells not used for Phase IV and Phase V compliance monitoring will be plugged and abandoned according to **Appendix C.** Drinking water wells not needed to support the closure camp will be closed in a similar manner.

4.4 Phase IV: Water Treatment and Post-Closure Reclamation

Phase IV begins when site monitoring indicates that reclamation and revegetation has stabilized the drystack tailings facility sufficiently so that major additional earthworks will not be required. At this point, the vegetative cover on the drystack will begin taking hold, all of the underground mine openings will be sealed and the mine workings flooded. In addition, the mill and camp facilities in Liese Creek will be decommissioned and reclaimed. Water quality will be monitored in the surface water and groundwater in Liese Creek downstream

of the drystack facility to determine whether operation of the RTP and water treatment plant should continue.

The RTP, water treatment plant, and access roads to these facilities will remain in place during Phase IV as long as needed to treat the drystack runoff and seepage. When agency review of the site information indicates it is appropriate to do so, the remaining RTP water will be treated and discharged, the RTP dam will then be breached and reclaimed. Any tailings that were transported to the RTP over the life of the project would be capped in place in the bottom of the RTP reservoir and protected from erosion. It is anticipated this Phase IV water treatment will last ten years.

4.4.1 Drystack Tailings Facility

When the water quality data indicates that the RTP can be breached and reclaimed, a determination will be made as to any contingency measures that might be appropriate to help maintain water quality standards. The selection will be based on the circumstances and the current technology at the time. Based on the four to six gpm of long-term seepage anticipated from the drystack, it is reasonable to expect that one or more of the contingency measures shown in **Table 4.4** will be both feasible and effective in protecting the environment. The goal would be to implement a system that would allow the RTP to be breached as soon as possible. For the purpose of estimating the reclamation costs, it has been assumed that the RTP and water treatment plant will remain in place and be in operation for ten years during Phase IV.

Table 4.4: Contingency Measures to Mitigate Potential Drystack Seepage

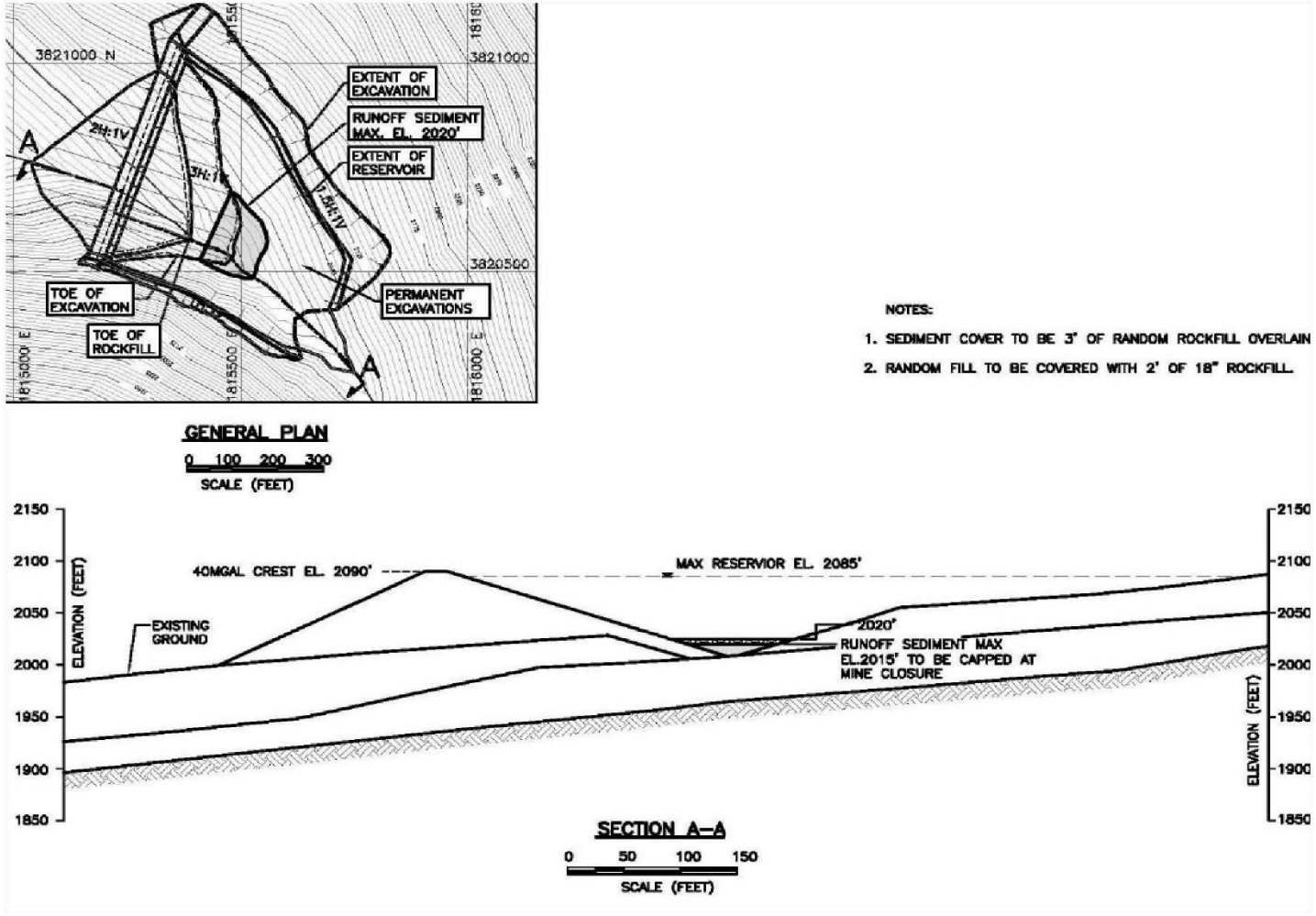
Contingency Approach	Activities
Passive Measures	None required
	Mixing with receiving water
	Natural attenuation
	Infiltration gallery
	Cut-off trench and grout curtain with aufeis (accumulated ice due to glaciation) retention of seepage in winter and release during spring freshet
Active Measures	Settling ponds with simple lime or chemical addition
	Seepage pumped from collection wells to aufeis retention system on Liese Creek hillside and release during freshet
	Seepage pumped from collection wells to active treatment system
	Cut-off trench and grout curtain with collection system and pumped to aufeis retention system on Liese Creek hillside and release during freshet
	Cut-off trench and grout curtain with collection system and pumped to active treatment system

4.4.2 RTP Closure & Sediment Capping

When appropriate, the RTP dam will be breached. Slopes will be trimmed to a maximum of 2:1 side slopes on the dam, and a 50 ft wide floodplain will be re-established. **Figure 4.5** shows the RTP dam in plan and section both at the end of the mine life and after reclamation. Disturbed areas will be recontoured for drainage and the channel re-establishment for Liese Creek. Foot slopes and the former impoundment area will be covered with growth media, seeded, and fertilized as necessary. Micro-wetlands sites will be established where possible. Steeper side slopes will be armored as necessary and shaped to blend with the natural talus slopes of the Liese Creek valley. Highwall cut faces will be stabilized and abandoned in place.

Any of RTP liner covering the section of the RTP dam removed during the Phase III reclamation will be disposed of in a DEC-approved inert solid waste disposal facility (not yet constructed), which may be in the drystack. The portion of the RTP liner covering the section of the RTP dam that will remain after completion of the Phase III reclamation activities will be left in place. Leaving the liner in place poses no long-term stability or environmental issues. The pumps and piping will be removed as described in **Appendix C**.

Figure 4.5: RTP Dam at Closure



POGO MINE
SUMITOMO METAL MINING POGO LLC
MINING DONE RIGHT

Figure 4.5
RTP Dam at Closure

Dec 2010	Pogo Reclamation and Closure Plan

During mine operations, some of the drystack tailing material will be eroded and deposited in the RTP as sediment. The Universal Soil Loss Equation was used to estimate that as much as 135 tons of sediment could be transported from the drystack during the mine life. This estimated rate is based on six tons per annum (tpa) initially, increasing to 20 tpa when the maximum drystack footprint is achieved. Assuming a safety factor of two, the estimate was rounded to 300 tons. This equates to approximately 0.1% of the RTP volume. The RTP sediment would be capped and protected from erosion by rock cover.

This rockfill should have a minimum thickness of three feet of random fill overlain by a minimum of two feet of material, with the majority being greater than 18 inches in size. The random fill and portions on the armoring material used to cap the sediments will come from excavating the breach through the RTP dam.

4.4.3 Site Transmission Lines

Electrical transmission lines from the project site and distribution to the mine, mill, and ancillary facilities will be dismantled when no longer necessary for closure operations. Poles will be cutoff at ground surface and removed. Electric cables, supports, insulators, transformers, and other equipment and materials will be removed and sold for salvage. Disturbance created during transmission line decommissioning will be stabilized and protected against erosion. Seeds and fertilizer will be applied where natural revegetation is not expected to rapidly reinvade.

4.4.4 Pogo Access Road

At the end of mine closure monitoring, the remaining camp facilities and equipment will be removed and the portion of the Pogo access road between Shaw Creek and the Goodpaster River will be reclaimed. The road surface will be recontoured for drainage, ripped or scarified, covered with growth media, seeded, and fertilized as necessary. Culverts and bridges will be removed and drainage channels re-established.

Gravel pads and other cleared areas will be recontoured for drainage, ripped or scarified, covered with residual organics from initial construction, and fertilized and seeded as necessary following final equipment removal.

The portion of the Pogo access road between the Pogo Gate and Shaw Creek will remain in place as a public access corridor into state lands. The SRCE model includes costs to reclaim the access road as the final step for mine closure. Pogo understands that an easement will need to be maintained across the private land to facilitate all mine closure activities through the duration of reclamation and monitoring as estimated in this model.

4.4.5 Pogo Transmission Line

Reclamation of the Pogo Transmission Line will also occur at the end of mine closure monitoring when the access road is reclaimed. All poles and ancillary facilities associated with the transmission line will be removed and pads and other cleared areas will be recontoured for drainage, ripped or scarified, covered with growth media, and fertilized and seeded as necessary following final equipment removal.

4.4.6 1525 Portal Area

Upon agency approval, the water treatment plant located at the 1525 portal will be removed along with the warehouse, shops, and fuel storage under the guidelines of **Appendix C**. The water treatment plant and closure camp will be dismantled and removed from site following the general procedures outlined in **Appendix C**.

The highwall cut faces will be stabilized and left in place. Fill embankments will be reclaimed by pulling the outer crest of the fill over the pad to the highwall, grading to control surface water runoff, and blending with the local topography as much as possible. The recontoured surfaces will be ripped where compacted, covered with stockpiled growth media, and seeded and fertilized as needed.

Gravel pads and access roads will be recontoured for drainage, ripped or scarified, spread with growth media, seeded, and fertilized as necessary.

4.4.7 Off-River Treatment Works

When discharge to the off-river treatment works is no longer necessary, the pump station, other surface facilities, and piping will be removed and the system reclaimed following the procedure in **Appendix D**. Agency input will be sought during closure to assess the merits of permanently connecting the ponds with the river.

4.4.8 Site Access Roads

The remaining site access roads will be ripped or scarified, covered with growth media, seeded, and fertilized as necessary. Culverts will be removed and drainage paths re-established.

4.4.9 Material Sites

Material Site A will be utilized for stormwater control throughout the project and will be reclaimed during Phase IV when the upstream reclamation of mill site, camp area, and local roads has stabilized. Material Site B will also be reclaimed during Phase IV.

4.5 Phase V: Post-Closure Monitoring

By Phase V, all surface disturbances will be stabilized and water quality will be acceptable. Post-closure monitoring of groundwater, stormwater, and surface water could continue for a 30-year period after completion of Phase IV reclamation (depending on compliance history). The monitoring events will take place on years 1, 2, 5, 10, 15, 20, and 30 after stopping active water treatment (unless modified by the agencies).

4.5.1 Control of Sedimentation

During the post-closure monitoring period, all diversion and erosion control structures will be monitored to ensure their effectiveness and long-term stability. Modifications and maintenance will be performed as needed to ensure the long-term success of closure.

4.5.2 Monitoring Wells & Well Closure

After the post-closure monitoring period, all groundwater monitoring wells will be de-commissioned using the procedures outlined in **Appendix C**. Access to the wells will be scarified, seeded, and fertilized.

4.6 Temporary Closure

“Temporary closure” means the cessation of the mining and process plant operations for a period of not more than three years. If conditions require temporary closure to extend beyond three years, final reclamation would begin. Should temporary closure become an option, an extension is requested by the company and approved by ADNR and ADEC. Temporary closure scenarios include modifications to the Plan of Operation management plans, Reclamation and Closure Plan, along with state and federal permits, all coordinated with the appropriate agencies.

Temporary closure may include planned or unplanned cessation of the mining and beneficiation processes. Planned temporary closures, which have specific conditions defining their beginning and end include, but are not limited to, the following:

- Interruptions in the active beneficiation processes to provide planned periods of quiescence for metallurgical or operating reasons,
- Any other planned condition, which would interrupt the active beneficiation process including modification to process components or suppressed metal market conditions; and
- Change in ownership requiring the temporary cessation of operations while operating permits are transferred to the new owner/operator.

Unplanned temporary closures may include, but are not limited to, the following:

- Closure because of unforeseen weather events,
- A failure in a major system component or a process failure, which causes the fluid management system, or a portion thereof, to shut down,
- The cessation of operations because of litigation; and
- Bankruptcy of the mine operator.

In the case of supspension of operations, Pogo must notify the appropriate agencies within three days of supspending operations. Unanticipated suspension or cessation of operations expected to last greater than ninety days but less than three years requires written authorization from ADNR and ADEC. No later than 10 days after operations have been suspended, Pogo will submit a suspension of operations plan with current information and specifc details as required under Pogo's Waste Management Permit (WMP) 2018DB0001.

Pogo Mine would maintain the project area in a safe and secure condition during a temporary closure and not allow the project area to be degraded or eroded during, or as a result of temporary closure. All water collection, treatment, monitoring, and reporting required by the reclamation plan would continue unless otherwise directed by the agencies.

While the mine operation is inactive, environmental monitoring programs would continue to be implemented. The need for implementation of interim reclamation activities or final reclamation on components of the mine would be addressed on the basis of environmental monitoring results and consultation with appropriate agencies.

4.7 Final Reclamation

As per the Plan of Operations Appproval No. F20189500, not later than thirty (30) days after the permanent cessation or abandonment of mining operations, Pogo shall notify the Authorized Officer at ADNR of the cessation of mining operations and provide a schedule for the final reclamation of the site.

Termination mining and milling/processing activities is defined in Pogo's WMP as the permanent cessation for those activites. Updated reclamation and monitoring plans must be submitted to ADEC within 90 days after commencing termination of mining and milling/processing. The final plan will be based on the actual conditions that exist at closure.

5.0 PERFORMANCE STANDARDS

Reclamation Performance Standards, 11 AAC 97, Mining Reclamation Regulations, are needed to assess the success of the reclamation program. The objective of the performance standards is to provide a stable condition that will "allow for the re-establishment of renewable resources on the site within a reasonable period of time by natural processes."

Closure performance standards will be based on water quality criteria.

5.1 Objectives & Goals

Reclamation and closure performance objectives can be divided into three steps:

Step 1 Establish stable soil conditions that can be expected to reduce waterborne soil erosion. The general procedures outlined in **Appendix B** will be used to accomplish this objective.

Step 2 Establish a vegetative cover that will flourish without need for fertilization or re-seeding after a five-year period.

Step 3 Treat RTP water until Alaska Water Quality Standards are met without treatment, assumed to be 10 years.

Step 4 Conduct post-closure monitoring activities to demonstrate that water quality goals are met.

5.2 Monitoring & Reporting

Pogo personnel will monitor the progress of Step 1 objectives by monitoring the water quality in accordance with the "Storm Water Pollution Prevention Plan" established for the project and any other applicable permits.

An annual report will be prepared summarizing the disturbance for the year, the status of revegetation, the results of any test trials, an updated schedule, maps of new disturbance, and any proposed modifications to the procedures outlined in this plan.

5.3 Reclamation Cost Estimate & Financial Assurance

The ADNR and ADEC will coordinate their financial assurance authority for performance of reclamation and facility closure and post-closure monitoring activities at the Pogo Mine. Proof of financial assurance, which may take any form mutually agreed upon by the agencies and Pogo Mine, is referred to as a "bond" in this section. Unless otherwise agreed between the agencies and Pogo Mine, the bond amount would be calculated on the basis of the Reclamation Plan and use of the Standard Reclamation Cost Estimate (SRCE) Model Version 1.4.1 Build 16. The bond will address all costs that would be incurred by the agencies performing reclamation activities in the event of Operator default (**Appendix F**).

SRCE cost estimates are provided for:

> Life of Mine (LOM) reclamation/closure estimate that accounts for the full build out of facilities and final closure at the current end of LOM in approximately five years. Physical reclamation would be completed in approximately 10 years of water treatment activities prior to moving into the post-closure phase.

The SRCE cost estimates are based on third party implementation of reclamation plan, no recycle or salvage costs recovery, and on-site disposal of all equipment and facilities with the exception of hazardous waste, which would be shipped off-site to an appropriate hazardous waste disposal facility.

Financial assurance will be established by Pogo to provide for completion of the reclamation work described in this report. As summarized in **Appendix F**, reclamation and closure costs are estimated at $71.91M for the Pogo Mine Site, the all-season road, transmission line, holding costs, and post-closure water treatment and monitoring. These estimates are based on an updated model described below.

The Pogo Mine Reclamation and Closure Plan was updated to reflect 2016 as-built conditions and current site knowledge. An updated closure cost estimate was also prepared. The SRCE model is more detailed than the approach used previously and projects a physical closure cost of $52.29M for the mine site and $4.81M for the access road and transmission line.

The Pogo SRCE included in **Appendix F** was developed to include all reclamation activities that were previously accounted for under the Mine and ROW reclamation cost estimates. A "Basis of the Reclamation Cost Estimate for the Pogo Mine" is also included in the **Appendix F**. This document summarizes the effected facilities and documents the SRCE model calculations including development of cost unit rates, closure construction quantities, haul distances/profiles, equipment fleets and crews productivities, as well as additional assumptions used to prepare the SRCE model. Supporting documentation including site drawings and vendor quotes are also included in **Appendix F**.

Equipment costs are based on 2016 monthly rental rates obtained from N.C. Machinery. Labor rates are based on State of Alaska Department of Labor, "Laborers' & Mechanics' Minimum Rates of Pay" Issue 33 effective September 2016[2]. Fuel costs are based on $3.23/gallon (2016 vendor quote). The estimate is in constant 2016 dollars, with adjustment for inflation or discounting at 2.66% (the five year average of Anchorage CPI between 2011 and 2016).

[2] Basis of Cost Estimation provided in Appendix F.

5.4 Release of Financial Assurance

Pogo will inspect reclaimed areas on an annual basis to determine if the general procedures outlined in **Appendix B** have been performed adequately to meet the objectives. Pogo will propose that the financial assurance be released in steps as each phase is completed and the reclamation objectives have been met. Release of financial assurance will occur at the discretion of the agencies.

5.5 Post-Closure Public Access & Safety

It is intended to restrict public access during the reclamation and post-closure monitoring phases of the project to protect the public. During reclamation, the portals will be capped and plugged to prevent access. Recontouring sideslopes during reclamation and removing access roads will also protect against public injury.

Public restrictions may be lifted at the discretion of the agencies during Phase V.

6.0 ACKNOWLEDGEMENTS

A. It is understood that should the nature of the operation change, a modified or supplemental plan of operations and reclamation may be required.

B. It is understood that approval of this Plan does not constitute:

   1. Certification of ownership to any person named herein; and
   2. Recognition of the validity of any mining claim herein.

C. It is understood that a bond equivalent to the estimated cost of performing the agreed upon reclamation measures would be required before this Plan can be approved. Bonding and any bond reduction amounts would be set on a site-specific basis by ADNR in coordination with the cooperating agencies.

D. It is understood that any information provided with this Plan or provided in the future, that is marked “Confidential” would be treated by the agency in accordance with that agency's laws, rules, and regulations.

E. Sumitomo Metal Mining Pogo LLC would conduct an environmental closure audit to determine if any previously unknown environmental liabilities exist as a direct or indirect result of the Pogo Mine project.

Sumitomo Metal Mining Pogo LLC has reviewed and agrees to comply with all conditions in the Reclamation and Closure Plan. Sumitomo Metal Mining Pogo LL understands the bond would not be released until ADNR and ADEC give written approval of the reclamation work.

Sumitomo Metal Mining Pogo LLC

By: _____

Title: _____

Signature: _____

Date: _____

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Appendix A
General Construction Procedures

General Construction Procedures

Sumitomo Metal Mining Pogo LLC (Pogo) recognizes that the construction method employed has a direct impact on the success of the reclamation process. The primary objective of minimizing disturbed areas will be considered during all phases of construction, and all activities will be conducted in a manner that will prevent or minimize disturbance of natural drainage systems and fish and wildlife resources. General procedures and guidelines to be followed during construction activities are outlined in this appendix.

Facility Construction

Specific construction practices for facility types are presented below. These will be expanded as designs and specifications are developed.

Roads

All roads, whether proposed for exploration, construction, or production access, will be laid out on the overall site plan prior to flagging. An assessment will determine whether the road is necessary; whether it will provide temporary or permanent access; how surface runoff and erosion will be controlled; and what considerations are required for its final reclamation.

After a road is determined to be necessary, it will be flagged in the field. Consideration will be given to the following factors before the road is constructed:

- Minimize width needed for safe operations, berms, and drainage.
- Minimize cut and fill (follow natural contours where practicable or along ridge lines).
- Provide drainage and erosion control structures as needed (crowns, ditches, culverts, water bars, etc.).
- Salvage topsoil if feasible (i.e., when the safety of the operator is not compromised—seed to stabilize).
- Buy and plant trees or, if downed trees are available, build a brushberm (filter windrow) at the bottom of slopes to help limit erosion.
- Install culverts at intermittent streams.
- If possible, avoid areas that are wet and/or frozen. If this is unavoidable, leave vegetative mat in place and armor if necessary. Use geotextiles or rock to improve the sub-base and minimize rutting and erosion.
- Avoid steep grades when possible.
- Avoid areas where snow will drift if possible, as these areas are often unstable and difficult to revegetate.

Drill Pads

Drill pads will be constructed when needed for the safe operation of the drill and to contain drill fluids. The following general procedures will be followed:

- Use the minimum size drill pad required to accommodate the drilling rig and associated equipment.
- Level the pad the minimum amount necessary for safe operations (use the drill's self levelers).
- Segregate and move trees to the side of the site.
- Segregate and stockpile growth media at the site.
- Construct a mud pit or reserve pit on the drill pad, or use a portable tub.
- Contain all drilling fluids and produced water from the drilling operation and recirculate if possible.

Trenches

Trenches will be backfilled and reclaimed as soon as possible to minimize the danger to personnel and wildlife. Clearing of the trenches will include:

- Segregating and moving trees to the side of the site.
- Segregating and stockpiling growth media at the site.
- Benching sidewalls if the trench depth is greater than 4 ft.

If trenches are not reclaimed immediately, the following safety measures will be followed:

- Stabilize the sidewalls by reducing the angle.
- Implement erosion controls and prevent impoundment of water.
- Post signs if trenches are located near vehicle and/or foot traffic areas.

Laydown Areas

All proposed laydown areas will be flagged in the field prior to construction. Other techniques will include:

- Preserving the natural drainage of the area when feasible.
- Removing brush and trees and stockpile separately.
- Not grubbing topsoil from permafrost or poorly drained areas.
- Removing topsoil (if grubbed) to designated growth media stockpiles.

Highwalls

Highwalls will be cut into steep terrain to accommodate roads, facility pads, and the RTP. The following construction practices will ensure stability:

- Benching highwalls where feasible.
- Directing drainage away from top of highwall.
- Scaling the face to reduce the risk of falling debris.
- Using rock bolting or screens in some cases to enhance stability.

General Practices

General practices to be followed during construction activities are described below. These will be expanded as the project design proceeds.

Timber

Salvageable timber will be managed in a manner to prevent infestation by insects. The following general procedures will be followed:

- Salvageable trees will be cut from the stump using conventional methods (i.e., chain-saw, feller-buncher, or shear).
- Salvageable trees will not be pushed over with a dozer.
- Salvageable timber will be disposed of in a manner approved by the State of Alaska.

Surface Water Use

Surface water may be obtained during construction to aid in compaction of structures or the construction of an ice road. Surface water may only be used at designated locations that have an approved "Temporary Water Use Permit." The following general procedures will be used during water filling operations:

- Water will be taken at the deepest area of the stream.
- Water trucks will not enter any body of water before, during, or after filling the truck with water.

Any water intake structure in fish-bearing water—including a screened enclosure, well point, sump, or infiltration gallery—will be designed, operated, and maintained to prevent fish entrapment, entrainment, or injury. Water velocity at the screen/water interface may not exceed 0.5 fps when the pump is operating and must not cause fish impingement on the screened surfaces. Screens aligned parallel to the stream current will require the least maintenance and will be least likely to impinge on fish.

Appendix B
General Revegetation Procedures

General Revegetation Procedures

General procedures will be followed during the reclamation process. These procedures will be field adjusted where appropriate, and modified as more efficient and/or environmentally effective procedures are developed on site or in similar zones in Alaska. These will be submitted to ADNR for approval.

These prescriptions and improvements are designed to promote successful mine reclamation by providing good soil conditions for plant growth, establishing vegetation to control erosion, and enhancing natural ecological processes.

Establish Good Soil Conditions

Good soil conditions will be established prior to seeding to ensure soil stability and the long-term success of revegetation efforts.

Soils Contouring & Grading

The primary goal of soils contouring and grading is the immediate stabilization of the surface. The secondary goal is to establish a stable surface for revegetation.

Disturbed areas will be graded and contoured to control erosion. Slopes will be modified to control the velocity and direction of runoff, trap and retain water on site, and retard the flow of water as it moves off the disturbed areas. Topography, slope angle, type of soil, and rainfall intensity will be considered when determining the design for contouring. Techniques to be used may include re-sloping, terracing, contour benches or furrows, bioengineering with natural plant materials, and the use of geotextile material.

Slopes flatter than 2H:1V may have dozer gouges prepared for erosion control where appropriate. These gouges are constructed by operating the dozer perpendicular to the crest of the slope. Steeper slopes will be treated on a case-by-case basis to ensure the safety of the operator. These slopes would include quarry highwalls, mill bench highwalls, camp / shop bench highwalls, and other rock cuts along roads and ditches.

Areas that are likely to develop rills and gullies will undergo surface manipulation such as ripping and chiseling along the contour, contour furrows, and pits and/or terraces. Water bars will be placed as needed.

Soil Tillage

During reclamation, soil may be compacted, decreasing the soil pore space. This limits water holding capacity and soil rooting volume, resulting in reduced root growth and seedling success. Soil tillage helps correct these adverse conditions and is particularly important during the critical first years of reclamation.

Areas that have been heavily traveled, such as roads, laydown areas, building pads, etc., will be ripped prior to scarification. If necessary, cross-ripping will be done in extremely compacted material.

Where appropriate, all compacted areas and areas likely to develop rills and gullies will be ripped to a minimum depth of 18 inches prior to growth media placement.

Ripping can have a greater impact on development of seedling roots than any other soil tillage treatment, as this technique will increase the soil volume available to roots and improve their ability to reach water and nutrients.

Growth Media

Growth media in designated areas, such as overburden and topsoil, will be stockpiled for future use. These stockpiles will be seeded to prevent erosion and to enhance their biological properties, such as buried seeds, plant roots, rhizomes, and microbes, that aid in nutrient absorption. These properties decrease with time in stored topsoil.

If available, growth media will be stripped from material sites, laydown areas, and the mill site area. Depending on geotechnical design criteria and water quality considerations, growth media will not be stripped from areas with underlying ice-rich permafrost and fine-grained, poorly drained soils.

Approximately the top 6 inches to 18 inches of growth media will be stripped and stockpiled as topsoil, with the depth dependent on local conditions. The portion of soil containing plant roots will be used as a guide to segregate topsoil from overburden. Growth media will be stockpiled at prescribed locations as shown in **Figure D.1** in **Appendix D**.

Generally, a 6" layer of growth media will be placed over disturbed areas, excluding rock cuts and slopes steeper than 2.5H:1V, that require additional growth media to support revegetation or efforts to promote natural re-invasion by native vegetation. The ongoing test trials (**Appendix E**) will help establish the areas requiring growth media. Stable highwalls will be left in place and will not require growth media.

A Growth Media Replacement Plan that includes depth of growth media placement over buried foundations and proposes a seed mix and fertilizer application rate will be submitted to ADNR for approval prior to Phase III reclamation activities.

Soil Amendments

Disturbed areas are expected to be nutrient-poor, and an initial application of fertilizer will likely be required. However, upland forests of the boreal forest are generally found to leach nutrients, and fertilization may have a negative impact on the establishment of native plant species.

Initial field trials indicate that a fertilization rate of 300 pounds per acre of 20N-20P-10K is adequate. Fertilizer application rates will be adjusted based on additional field trials, the reclamation objective, and field conditions such as growth media organic content, soil temperature, and moisture content. Fertilizer will be applied prior to, or during, seeding operations.

Growth media will be tested for the most important nutrients involved in plant production in the boreal forest: nitrogen (N), phosphorus (P), potassium (K), calcium (Ca), and magnesium (Mg) (Magoun et al., 2000). Fertilizer rates will be adjusted accordingly.

Fertilizer will not be used within 100 feet of the Goodpaster River, its tributaries, or whenever conditions may facilitate transport of fertilizer to the river.

Mulch

Mulch may be used to protect seeds and help retain soil moisture during the critical germination process. The benefits of using mulch produced from native tree and shrub twigs include: (1) provides nitrogen and nutrients as decomposition products, (2) supplies seeds, roots, and microorganisms needed to reestablish native vegetation, and (3) contributes woody debris for habitat enhancement. Mulch cover may not be appropriate for seed mixtures that require mineral soil and light for germination.

During the land clearing process, salvageable timber will be cut and decked. Other plant material may either be cut or chipped and incorporated as a soil amendment, or stockpiled for later use as mulch or woody debris applications.

Seeding

Seeding methods are described below to ensure optimum conditions are present for seed growth.

Seedbed Preparation

After or during placement of growth media, the seedbed area will be scarified. Scarifying improves rooting conditions in the soil surface by increasing the volume of large pores in the surface soil that allows for more water and air transport. Other advantages of preparing a rough surface include the ability to:

- trap moisture
- reduce wind shear
- minimize surface erosion
- increase infiltration
- create micro-habitats conducive to seed germination
- encourage native plant recolonization.

Seeding

The goal of the revegetation program is to stabilize soil erosion so that native species may recolonize the area. This will be accomplished using two methods:

- In minimally disturbed areas with existing duff or plant growth, scarification and fertilization of the disturbed and surrounding area may be undertaken to encourage natural recover.
- In highly disturbed areas, seeding will be conducted to immediately establish a grass cover to reduce soil erosion and prevent sediment loss into rivers and streams.

Test trials began in 1998 with revegetation of the winter road, and have continued with revegetation of portions of the advanced stage exploration project. These trials will continue throughout the life of the mine (**Appendix E**), or until an optimum program is established that meets the following objectives:

- identifies existing and introduced grass, legume, and woody species potentially suitable for temporary and/or permanent stabilization of stockpiles and recontoured areas
- investigates potential requirements for soil amendments such as fertilizer, organic material, etc.
- determines the optimum grass cultivars, singularly or in mixtures, for stockpiled soil from the site areas, overburden and development rock, and tailings.

To date, winter road test trials have indicated the seed mixture presented in **Table B.1** is effective at stabilizing disturbed areas.

Table B.1: Current Seed Mixtures

Objective	Grass Species	Notes
Winter Road	Annual rye grass	Use 50/50 mixture of 40 pounds/acre. Add annual rye grass (up to 10%) to perennial mixture for early season planting. Late season follow up with perennials next spring. Use fertilizer mixture of 20N-20P-10K at 250 pounds/acre
Temporary – quick	Red fescue (Arctared) erosion control	Reapply fertilizer at 250 pounds/acre after grass cover is established (2 to 3 years
Advanced Exploration	Annual rye grass	
Interim Reclamation	Red fescue (Arctared) stockpiles, erosion control devices, cut and fill areas where erosion is likely	Has proven to be effective on trial areas at MS7 and Mile 33

The timing of seeding considers the germination of the seed and its establishment. The preferred seeding time is in the spring, immediately following snowmelt and runoff when the soil surface is moist and temperatures are warming. However, fall seeding will be

practiced when necessary. If seed is applied during the winter, the snow surface will be roughed to provide microsites for trapping the seed. Proposed seeding date cutoffs are presented in **Table B.2**.

Seed and fertilizer will be broadcast by hydroseeder, depending on the size and accessibility of areas to be treated. Alternatively, helicopter-seeding, currently planned for reclamation of the main access road and transmission line disturbances, may be used to revegetate the whole site.

Table B.2: Seed Timing

	Germinate & Establish Seedlings for Overwintering	**Lie Dormant until Spring Breakup**
Uplands	Spring breakup through July 30	October 15 through spring breakup
River Valley	Spring breakup through July 15	October 1 through spring breakup

Woody Debris

Preliminary research indicates that woody debris may play an important role in forest ecosystems (Magoun et al, 1999). The function of woody detritus in forests may include the following:

- reducing erosion
- enhancing soil development
- storing carbon, nutrients, and water
- providing a seedbed for plants
- supplying an important habitat for microorganisms, invertebrates, and vertebrates.

Small-scale natural disturbances such as wind throw, snow breakage, localized mortality from insects and disease, and activity by herbivores may be imitated. Woody debris from cleared areas will be utilized in this way to enhance the overall reclamation program.

Appendix C
Demolition Procedures

General Demolition Procedures

Demolition will include:

- removal of all hazardous materials
- removal of all equipment and buildings
- removal of above-ground power and telephone lines
- burial of concrete foundations and footers
- removal of piping to just below grade
- approved on-site disposal of inert construction and demolition debris.

Hazardous Materials

All controlled and hazardous chemicals, fuels, and regulated materials will be removed from the site for recycling and/or disposal in an approved manner. Decommissioning will include pumping to remove any remaining hazardous materials in pipes, tanks, and other potential storage units. Tanks will be cleaned and purged following all applicable and relevant regulations.

Fuel tanks and steel infrastructures such as walkways will be disposed of in designated areas of the underground mine workings. Uncontaminated gravel will be used to surface site roads. Contaminated gravels will be treated in a manner approved by ADEC. The synthetic liners will be removed to the solid waste disposal facility.

Equipment & Buildings

All equipment will be removed from buildings and salvaged. Modular buildings will be shipped off site. Non-mobile buildings constructed on site will be dismantled. Reusable components will be shipped off site. Other portions will be burned or incinerated, as approved, or removed to the drystack tailings facility during Phase III and the solid waste disposal facility (not yet constructed) or designated area within the underground workings of the mine during Phase III.

All fencing will be dismantled and disposed of. the solid waste disposal facility (not yet constructed) or designated area within the underground workings of the mine during Phase III.

Above-Ground Power & Telephone Lines

When electrical power requirements are no longer necessary, associated facilities such as conductors and insulators will be removed from the site for salvage or disposal. Wooden poles will be cut off at ground surface and removed from site. All above-grade lines will be removed, while any underground conduit below grade will remain in place.

Concrete Foundations & Footers

A dozer will be used to break concrete slabs less than 1 ft thick prior to burial. Foundations thicker than one foot will be buried in place with a minimum twelve inches of cover. Elevated slabs, walls, and footings will be broken to grade level and buried as fill material.

Piping

All piping, including HDPE, PVC, and carbon steel, will be cut off at a minimum twelve inches below grade, and ends will be capped. Buried pipes will be kept to a minimum, but will mainly consist of water and sewage transfer pipes between the mill and camp benches. Buried water lines will be flushed before in situ disposal. Buried lines (other than water lines) will be blown free of liquids using compressed air to remove any residual fuel, antifreeze or hazardous chemicals unless otherwise approved by ADNR.

Surface piping will be flushed, if necessary, and removed to the drystack tailings facility (Phase III), solid waste disposal facility (not yet constructed) or the designated area within the underground workings of the mine during Phase III.

Inert Construction & Demolition Debris

Inert construction and demolition debris will be burned or incinerated, as approved, or placed in the drystack tailings facility (Phase III) or within the underground workings of the mine during Phase III.

Septic & Leach Fields

Surface components of the sewage treatment systems will be removed to the solid waste disposal facility (not yet constructed). The remaining below-ground portions will be abandoned in accordance with ADEC regulations.

Injection & Supply Wells

Injection, water supply, and monitoring wells will be abandoned by removing all projecting casing and piping, and plugging from the surface to the water table with concrete or bentonite. Concrete will not be used as a surface plug because of its susceptibility to frost jacking in ice-rich soils.

Appendix D

Reclamation of Material Sites in Goodpaster Alluvial Gravels

RECLAMATION OF MATERIAL SITES IN GOODPASTER

ALLUVIAL GRAVELS

Pond material sites MS-D and MS-H will be developed in support of the Pogo project. All other material sites will be used as contingencies in the event that additional material is required or some of the material sites do not prove viable.

Estimated extraction volumes are 190,000 cubic yards(yd^3) from site MS-H and 70,000 yd^3 from MS-D, for a total 260,000 yd^3 of sand and gravel. This total is based on an estimated construction volume of 144,000 yd^3 plus an allowance for wastage/contingency, unusable native soil, and future maintenance requirements. The other material sites have not been included in this total because of their contingency status, although acreages and reclamation plans are included in this report.

In general, sand and gravel will be used for concrete aggregate, road surfacing, construction laydown areas, structural backfill, and in the RTP dam.

General

Gravel mining during the construction will be conducted as follows:

1. The perimeter of the borrow pits will be surveyed, and the trees and brush removed from within the perimeter. Tree and brush removal will only be done if and when the particular borrow pit is required. Trees with diameter at breast height (DBH) greater than 9 inches will be decked and used for construction or support activities. Trees with DBH of 9 inches or less will be cut into short sections or chipped for use during reclamation. Growth media will be removed to the nearest designated growth media stockpiles in the airstrip facility area or the 1525 portal area. Brush will be either stockpiled or chipped and incorporated into the growth media.
2. Gravel will be excavated below the water table with either a backhoe or a dragline. The depth of the material sites will vary from 15 to 25 ft depending on the equipment available, the permafrost encountered, and the material found at depth. The sideslopes of the material sites are proposed to be approximately 1.75H:1V to ensure stability and to avoid wildlife entrapment.
3. A cleared buffer zone of 25 ft will be maintained between undisturbed vegetation and the material site limits. This will ensure minimal tree collapse into the material site due to bank thawing and erosion.
4. If gravel requirements and scheduling dictate that gravel is needed from areas where seasonal frost is present, blasting may be necessary. Some irregular areas around the perimeter will not be blasted, and once thawed during the summer, these areas will be reshaped to provide flat slope shoreline and shallow pond areas.
5. When explosives are necessary for gravel extraction during the winter months, Pogo will use appropriate charge sizes and setbacks from the river to prevent injury

to fish. These parameters will be based on ADF&G's 1991 publication Blasting Standards for the Protection of Fish. Precautionary measures will also be taken to minimize nitrogen contamination of the gravels and surrounding area.

6. For the definition of the material site layouts for this permit application it is assumed that gravel extraction will be terminated where permafrost is encountered. As the frost comes out of the gravel, the gravel may be removed, but the general concepts of "upland areas" and "shallow bars" will be maintained.
7. Generally, "upland areas" and "shallow bars" will comprise approximately 20% of the material site areas.
8. Where possible, gravel will be excavated in a manner that maximizes shoreline irregularity.

Final Reclamation

The objective of final reclamation will be to establish wetland habitat with suitable features for waterfowl and shorebirds. This will include the following procedures:

1. Material site slopes and banks will be contoured immediately following completion of each sectional part or the entire operation, as appropriate. No gravel stockpiles will be left at the completion of operations.
2. Shoreline length and diversity will be maximized to the extent practicable.
3. Topsoil will be applied to disturbed areas where erosion is possible.
4. Native emergent plants may be transplanted in shallow areas as appropriate to improve habitat value for waterfowl. In addition, shrubs and other indigenous plant materials may be used to create pockets that should assist natural colonization and increase habitat values.
5. Perimeter vegetation within 100 ft of the material site perimeter will be fertilized so as to enhance vigor and seed production.
6. Because seeding with grass cultivars is likely to inhibit natural colonization, it will be limited to areas where rapid cover development is needed for erosion control.
7. Fertilizer and seed will be broadcast by hand or mechanically, depending on the size and accessibility of areas to be treated. Application rates will depend on the results of the test plots described in **Appendix E**. Fertilizer will not be used within 100 ft of the Goodpaster River or its tributaries.

Clearing activities at the material sites are expected to generate more growth media than will be required for use during material site reclamation. This material will be stored in the designated growth media stockpiles to be used during project reclamation.

Appendix E
Proposed Vegetation Test Trial Program

REVEGETATION TEST TRIAL PROGRAM FOR RECLAMATION AT THE POGO MINE

SUMITOMO METAL MINING POGO LLC

Submitted to:

Alaska Department of Natural Resources

Division of Mining, Land and Water

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June 2018

Table of Contents

1.0 Introduction

The purpose of this proposal was to fulfill the requirements set forth in the Final Pogo Mine Plan of Operations Approval (F20129500), February 7, 2012. Project-Specific Stipulations under the Pogo Reclamation and Closure Plan Stipulation 3 (page 9). The first trials were initiated in 2014. The program of revegetation test trials will help to determine the best, most cost-effective, use of material and resources to achieve the stated reclamation goals. The test plots were developed in two phases.

- Phase I: Establishment of test plots for alluvial shrub and wetland seed mixes near the Pogo burn pit during the summer of 2014. Establishment of test plots for broadleaf forest seed mixes at the south end of the diversion ditch road.
- Phase II: Establishment of test plots for alpine meadow seed mixes, on the south side of shell 2 of the Drystack, during the summer 2015.

2.0 Reclamation/Revegetation Goals

The Pogo Mine Reclamation and Closure Plan defined the revegetation goals as:

- Diverse species cover of at least 70% three years after seeding.
- Vegetation will flourish with no additional seeding or fertilizing after three years and will still be flourishing after five years.
- At least 30 % cover after the first three years, or reassess methods.
- No single species of grass more than 70% of cover.
- No tree or shrub more than 95% of cover.
- Discourage the invasion of Foxtail Barley and other non-native weeds.

Purpose of Test Trials:

1. To determine whether a seed mix of predominantly bunching grasses, rather than sod-forming grasses will allow native species to establish more easily and allow for quicker natural invasion while still meeting the revegetation goals.
2. To discover if the addition of locally collected native legumes, shrubs, and forbs seeds will increase establishment of native species.
3. To discover if using a urea inhibitor will reduce possible ammonium loss and enhance plant establishment as well as reduce fertilizer costs.
4. To compare the rate of natural recovery on disturbed areas to the rate of native plant establishment with the application of different depths of growth media. This will help determine the most cost-effective use of resources to accomplish revegetation goals.
5. To discover if tree seeds collected locally, and planted with a sparse nurse crop of annual and perennial grasses, will increase broadleaf forest establishment and to determine if the use of woody debris from the same species will significantly enhance tree establishment.

3.0 Plot Construction

Trial plots were constructed in areas where the appropriate water regimes and soil conditions remained undisturbed during the course of the study. Each trial had three replicates with variables for seed mixes, growth media depth, and fertilizer rates, including the use of a urea inhibitor. Plots were staked and labeled with metal tags. Plot drawings were developed showing details of plot placement.

The first variable was seed mix composition. A grass and shrub seed mix was developed for the alluvial shrub test plots, and for plots that received willow cuttings. Wetland test plots received a mixture of grasses, a sedge, and a native wildflower. The alpine meadow test plots received a mixture of grasses, native flowers, and legumes. Grass and tree seed mixes were developed to encourage the establishment broadleaf forest species.

Grass species were chosen according to current recommendations from the Plant Material Center, and the UAF Natural Resources Department, based on suitability for the Interior and commercial availability. If, during future reclamation, some of the wildflower or native legume seed used in the revegetation trials becomes commercially available, they may be included in the revegetation seed mixes. If, however, these species are not commercially available, a lesser amount of local, hand-collected seed may still be used. Small, scattered, "islands" of wildflowers, native shrubs and legumes in reclaimed areas can enhance native plant invasion and help increase biodiversity.

Recommended seeding rates from "A Revegetation Manual for Alaska" are 20 to 40 lbs/acre for available grass varieties in the interior, depending on soil conditions. All test plots were planted at 40 lbs/acre except the wetland test plots which were planted at a rate of 30 lbs/acre.

The second variable was the depth of the growth media. The plots containing no growth media indicate the amount of natural plant invasion that may be expected if natural recovery is allowed. The three and six inch depths of growth media help determine if the increased depth of growth media is necessary for successful plant establishment. Test plots were scarified after placement of growth media, including the plots receiving no growth media. The earthmoving work was done by the Pogo Surface Department rather than an outside contractor. Growth media was supplied from nearby growth media stockpiles on site.

The third variable was fertilizer application formulation. In past reclamation efforts on the Pogo Access Road, using a 20N-10P-10K fertilizer appeared to be adequate. However, no monitoring was done to determine actual percent cover or if native species have successfully become established in the reclaimed areas.

Another fertilizer formulation of 10N-10P-10K, with a lower nitrogen ratio, was applied at the same rate of 300 lbs/acre in each plot replicate. In addition, an inexpensive nitrogen loss inhibitor, Agrotain, was added to the N (urea) portion of the fertilizer. Agrotain slows urease (a urea consuming bacteria) which converts ammonium (NH_4^+) into ammonia (NH_3) during warmer summer temperatures and reduces ammonia volatilization into the atmosphere. This allows for a much slower release of N to the soil, leaving more available N for the second season of growth. Agrotain was applied at the recommended rate of 3.3 lbs/ton of urea. The 10N-10P-10K fertilizer blend contains 51.5 lbs. of urea per acre therefore only about 1.36 oz/acre of Agrotain was needed (Van Veldhuizen, R. October 2011).

No equipment was brought on site for this project. However in future, if equipment is brought on site from a region with known populations of invasive plant species or noxious weeds, the equipment will

be inspected and thoroughly cleaned to remove soil, plant and seed contaminants prior to use on the mine site. If a population of noxious weed is found at the mine site, equipment will be inspected and thoroughly cleaned to remove soil, plant and seed contaminants prior to use at another area of the mine.

4.0 Revegetation Test Plots for Alluvial Shrub Establishment

Alluvial Shrub Seed Mix: The grass seed was available commercially; however the native shrub seeds were collected locally. Grasses comprise 40% of the total seed amounts needed for the Alluvial Seed Mix. The seed amounts for the test plots are shown on the table below and are based on the 40lbs/acre rate for grasses. Shrubs comprise 60% of the seed mixture with the recommended average seeding rates for willows species and alder (Schopmeyer, C.S. 1974 and Zasada, JC *et al.*, 1983) listed below:

- 500-600 seeds/ft^2 with approximately 4,000,000 seeds/lbs. for willow.
- 100-200 seeds/ft^2 with approximately 1,280,000 seeds/lbs. for alder

A total of 3 lbs. of Alluvial Seed Mix was needed for the revegetation test plots.

Alluvial Shrub Seed Mix

Species	Scientific Name	Percent of mixture	Growth Characteristics	Seed per Test Plot lbs.	Total Seed for Test Plots lbs.
Annual Ryegrass	*Lolium multiflorum*	10	Annual for quick erosion control	0.05	0.45
Wainwright Slender Wheatgrass	*Elymus trachycaulus*	30	Adaptable to various soils, moist to dry. Vigorous, rapidly spreading	0.14	1.2
Alder	*Alnus sinuata*	15	Prefers wetter, hillsides, creek valleys, nitrogen-fixer	0.12	1.03
Various Willow Species	*Salix ssp.*	45	Fast growing, prefers wetter soils, provides moose browse	0.03	0.3

Willow Cuttings: The seeding rate for the grass mixture, as companion planting with the willow cuttings, was reduced by 60% from the recommended seeding rate; from 40lbs/acre to 16lbs/acre. The reduced grass seeding rate was intended to provide some erosion control, but less competition for nutrients, as the willows became established. A total of 1.8 lbs. of Willow Cutting Grass Seed Mix was needed for the revegetation test plots establishment.

Willow Cuttings Grass Seed Mix

Species	Scientific Name	Percent of mixture	Growth Characteristics	Seed per Test Plot lbs.	Total Seed for Test Plots lbs.
Annual Ryegrass	*Lolium multiflorum*	10	Annual for quick erosion control	0.02	0.2
Wainwright Slender Wheatgrass	*Elymus trachycaulus*	90	Adaptable to various soils, moist to dry. Vigorous, rapidly spreading	0.18	1.6

Cuttings were collected in areas adjacent to disturbed areas as much as possible. Feltleaf willow is abundant on the Pogo Mine site and was the species used in the test trials. Cuttings were preferentially collected from one to two year old wood with a diameter of half an inch or greater when possible. After willow cuttings were collected, they were cut into approximately 8" to 10" lengths. Any leaves were stripped off, and then the cuttings were planted in the appropriate test plot approximately 3/4 of its length in the soil, leaving only 1 or 2 leaf nodes above the soil.

Plot Plan for Alluvial Shrub Establishment

Seed Mix	No growth media	3" Growth Media	6" Growth Media
Control/Natural Invasion	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K
Alluvial Shrub Seed Mix	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K
Willow cuttings	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K

ALLUVIAL SHRUB TEST PLOTS
Each Plot
14 feet wide
35 feet long

Plot Label	6" Growth Media	Plot Label	3" Growth Media	Plot Label	No Growth Media
AVS-1 6"	No Fertilizer No Seed	AVS-1 3"	No Fertilizer No Seed	AVS-1 C	No fertilizer No Seed
AVS-2 6"	10-10-10 + Ag No Seed	AVS-2 3"	10-10-10+Ag No Seed	AVS-2 C	10-10-10+Ag No Seed
AVS-3 6"	20-10-10 No Seed	AVS-3 3"	20-10-10 No Seed	AVS-3 C	20-10-10 No Seed
AVS-4 6"	No Fertilizer Alluvial Shrub Seed Mix	AVS-4 3"	No Fertilizer Alluvial Shrub Seed Mix	AVS-4 C	No Fertilizer Alluvial Shrub Seed Mix
AVS-5 6"	10-10-10 + Ag Alluvial Shrub Seed Mix	AVS-5 3"	10-10-10+Ag Alluvial Shrub Seed Mix	AVS-5 C	10-10-10+Ag Alluvial Shrub Seed Mix
AVS-6 6"	20-10-10 Alluvial Shrub Seed Mix	AVS-6 3"	20-10-10 Alluvial Shrub Seed Mix	AVS-6 C	20-10-10 Alluvial Shrub Seed Mix
AVS-7 6"	No Fertilizer Willow Cuttings	AVS-7 3"	No Fertilizer Willow Cuttings	AVS-7 C	No Fertilizer Willow Cuttings
AVS-8 6"	10-10-10 + Ag Willow Cuttings	AVS-8 3"	10-10-10+Ag Willow Cuttings	AVS-8 C	10-10-10+Ag Willow Cuttings
AVS-9 6"	20-10-10 Willow Cuttings	AVS-9 3"	20-10-10 Willow Cuttings	AVS-9 C	20-10-10 Willow Cuttings

Wetland Plots

5.0 Revegetation Test Plots for Wetland Establishment

Wetland Seed Mix #1: The wetland seed mix contained grasses used to stabilize wetland areas that may be susceptible to erosion. It also provides habitat enhancement for wildlife. The Wild Iris and Northwest Territory Sedge were seeded at the same rate as the grass seed at 30 lbs/acre. Both of these native plants are abundant in the area and seed was readily available for collection. A total of 3.0 lbs. of Wetland Seed Mix #1 was needed for the revegetation test plots establishment.

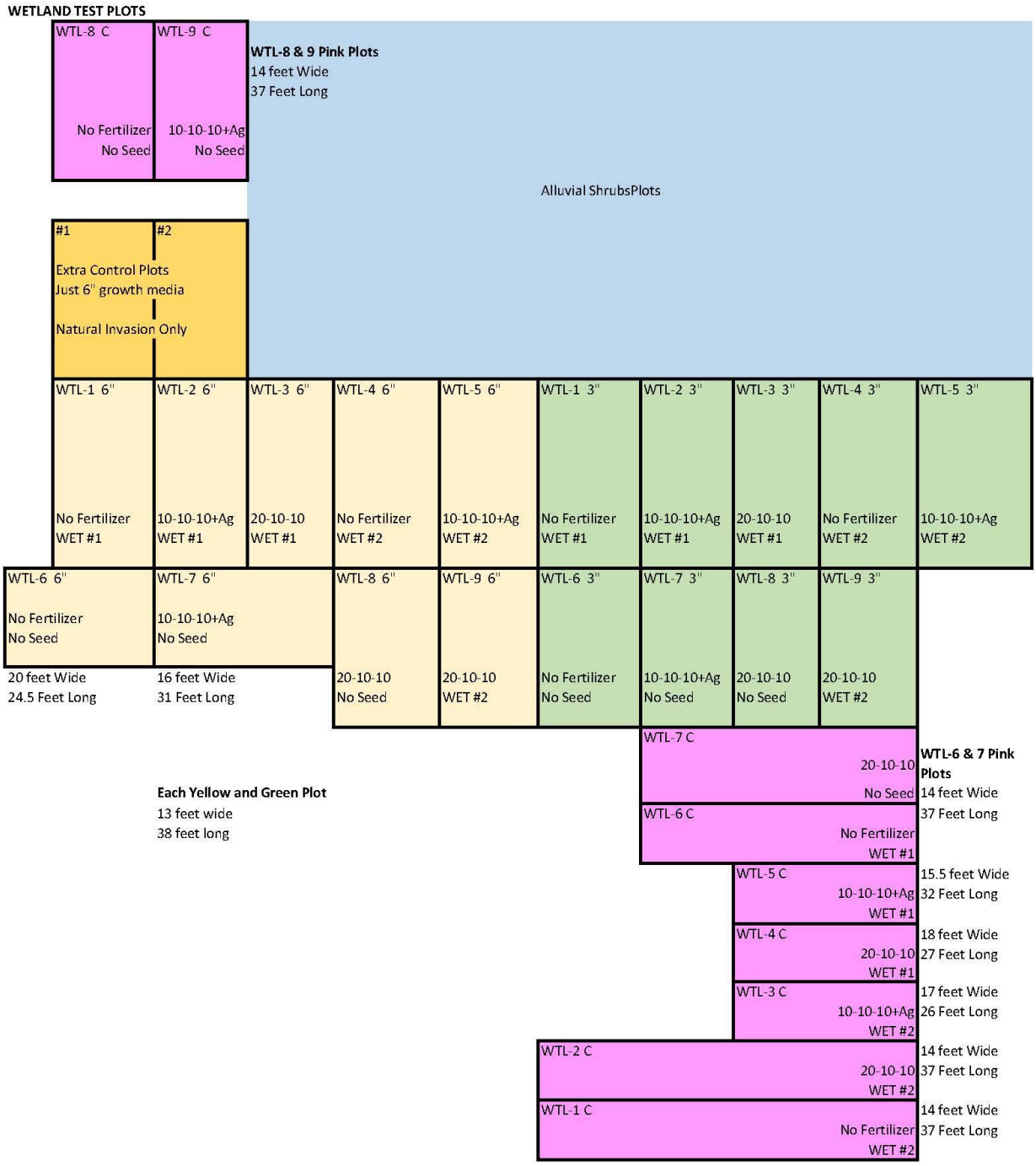
Species	Scientific Name	Percent of mixture	Growth Characteristics	Seed per Test Plot lbs.	Total Seed for Test Plots lbs.
Egan American Slough Grass	Beckmannia syzigachne	30	Prefers wet to swampy conditions, high wildlife value, tall, bunching.	0.1	0.9
Polar Grass 'Alyeska' or 'Kenai'	*Arctagrostis latifolia*	30	Dislikes fertilization and competition, slow to establish, prefers wet condition, high wildlife value.	0.1	0.9
Bering Hairgrass 'Norcoast"	*Deschampsia beringensis*	30	Bunching root system, prefers wet soils or tundra	0.1	0.9
Wild Iris	*Iris setosa*	5	Wet to moderately dry soil, rootstalk holds soil well	0.017	0.153
Northwest Territory Sedge	*Carex utriculata*	5	Found along the Goodpaster river in large stands, emergent, thrives in wet soil to standing water	0.017	0.153

Wetland Seed Mix #2: This wetland seed mix did not include grasses and was seeded at a reduced rate of 15 lbs/acre. This mix encourages increased native plant establishment in areas that are disturbed, but not in danger of sediment movement or loss.

Species	Scientific Name	Percent of mixture	Growth Characteristics	Seed per Test Plot lbs.	Total Seed for Test Plots lbs.
Wild Iris	*Iris setosa*	50	Wet to moderately dry soil, rootstalk holds soil well	0.09	.8
Northwest Territory Sedge	*Carex utriculata*	50	Found along the Goodpaster river in large stands, emergent, thrives in wet soil to standing water	0.09	.8

Plot Plan for Wetland Establishment

Seed Mix	No growth media	3" Growth Media	6" Growth Media
Control/ Natural Invasion only	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K
Wetland Seed Mix #1	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K
Wetland Seed Mix #2	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K


WETLAND TEST PLOTS
WTL-8 C
No Fertilizer
No Seed
WTL-9 C
10-10-10+Ag
No Seed
WTL-8 & 9 Pink Plots
14 feet Wide
37 Feet Long
Alluvial ShrubsPlots
#1
#2
Extra Control Plots
Just 6" growth media
Natural Invasion Only
WTL-1 6"
No Fertilizer
WET #1
WTL-2 6"
10-10-10+Ag
WET #1
WTL-3 6"
20-10-10
WET #1
WTL-4 6"
No Fertilizer
WET #2
WTL-5 6"
10-10-10+Ag
WET #2
WTL-1 3"
No Fertilizer
WET #1
WTL-2 3"
10-10-10+Ag
WET #1
WTL-3 3"
20-10-10
WET #1
WTL-4 3"
No Fertilizer
WET #2
WTL-5 3"
10-10-10+Ag
WET #2
WTL-6 6"
No Fertilizer
No Seed
20 feet Wide
24.5 Feet Long
WTL-7 6"
10-10-10+Ag
No Seed
16 feet Wide
31 Feet Long
WTL-8 6"
20-10-10
No Seed
WTL-9 6"
20-10-10
WET #2
WTL-6 3"
No Fertilizer
No Seed
WTL-7 3"
10-10-10+Ag
No Seed
WTL-8 3"
20-10-10
No Seed
WTL-9 3"
20-10-10
WET #2
Each Yellow and Green Plot
13 feet wide
38 feet long
WTL-7 C
20-10-10
No Seed
WTL-6 C
No Fertilizer
WET #1
WTL-6 & 7 Pink Plots
14 feet Wide
37 Feet Long
WTL-5 C
10-10-10+Ag
WET #1
15.5 feet Wide
32 Feet Long
WTL-4 C
20-10-10
WET #1
18 feet Wide
27 Feet Long
WTL-3 C
10-10-10+Ag
WET #2
17 feet Wide
26 Feet Long
WTL-2 C
20-10-10
WET #2
14 feet Wide
37 Feet Long
WTL-1 C
No Fertilizer
WET #2
14 feet Wide
37 Feet Long

6.0 Revegetation Test Plots for Mesic and Xeric Alpine Meadow Establishment

Alpine Seed Mix #1: In the past, this seed mix has been applied for erosion control along the access road on concurrent reclamation projects and appears to provide vegetative cover in some areas. A total of 4 lbs. of Alpine Seed Mix #1 was needed for the revegetation test plots establishment.

Alpine Seed Mix #1

Species	Scientific Name	Percent of mixture	Growth Characteristics	Seed per Test Plot lbs.	Total Seed for Test Plots lbs.
Annual Ryegrass	*Lolium multiflorum*	10	Annual for quick erosion control	0.045	0.4
Red Fescue 'Arctared'	*Festuca rubra*	50	Aggressive, sod forming, can prevent invasion of native species, very hardy	0.225	2
Wainwright Slender Wheatgrass	*Elymus trachycaulus*	40	Adaptable to various soils, moist to dry. Vigorous, rapidly spreading.	0.18	1.6

Alpine Seed Mix #2: The grasses were commercially available; the other native species seeds were collected near the Pogo Mine. This mixture consisted of 50% bunching grasses, 20% sod-forming grasses, 15% native legumes (including one shrub) for nitrogen fixation, and 5% common native wildflowers in the Pogo area. A total of 4 lbs. of Alpine Seed Mix #2 was needed for the revegetation test plots establishment.

Alpine Seed Mix #2

Species	Scientific Name	Percent of mixture	Growth Characteristics	Seed per Test Plot lbs.	Total Seed for Test Plots lbs.
Annual Ryegrass	*Lolium multiflorum*	10	Annual for quick erosion control	0.045	0.405
Tufted Hairgrass 'Nortran'	*Deschampsia caespitosa*	30	Bunching grass, reseeds readily, best alpine and mountain meadows, drought resistant	0.135	1.22
Wainwright Slender Wheatgrass	*Elymus trachycaulus*	20	Bunching grass, adaptable to various soils, moist to dry. Vigorous and rapidly spreading.	0.09	0.81
Alpine Bluegrass 'Gruening'	*Poa alpina*	20	Short sod-forming grass. Prefers dry, alpine, and meadow sites.	0.09	0.81
Alpine Sweetvetch/ Eskimo Potato	*Hedysarum alpinum*	5	Adaptable, handles dry conditions, low, flowering nitrogen-fixer, food for mice and bears	0.023	0.2
Field Oxytrope	*Oxytropis compestris*	5	Low, flowering nitrogen-fixer, handles dry conditions well, common locally	0.023	0.2
Snow Parsley	*Cnidium cnidifolium*	1	Natural colonizer of disturbed areas, host plant for swallowtail butterfly, common locally	0.0045	0.04
Yarrow	*Achillea millefolium var borealis*	1	Wet and dry soils, fast, easy grower, good initial cover, adds diversity	0.0045	0.04
Silverberry	*Elaeagnus commutata*	5	Shrub, spreading nitrogen-fixer, common locally	0.023	0.2
Pasque Flower	*Pulsatilla vulgaris*	1	Prefers dry, sandy soils, quick invader of open areas, common locally	0.0045	0.04
Pale Corydalis	*Corydalis sempervirens*	2	Quick invader of disturbed areas, biennial but reseeds easily, common locally	0.009	0.08

Alpine Seed Mix #3: This seed mix contained some sod forming grasses to provide better erosion control and discourage the invasion of Foxtail Barley once established. This mixture consisted of 50% sod-forming grasses, 20% bunching grasses, 15% native legumes (including one shrub) for nitrogen fixation, and 5% common native wildflowers in the Pogo area. A total of 4 lbs. of Alpine Seed Mix #3 was needed for the revegetation test plots establishment.

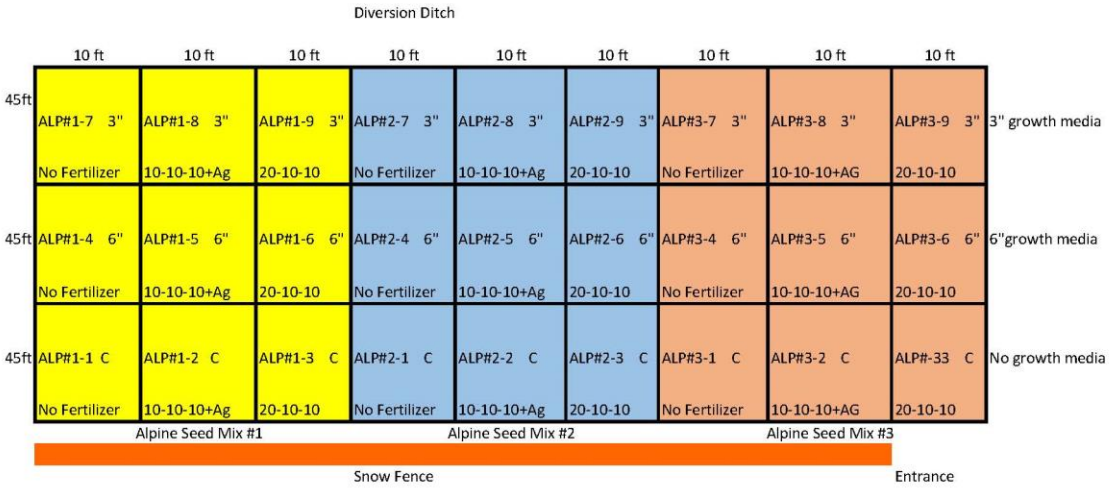
Alpine Seed Mix #3

Species	Scientific Name	Percent of mixture	Growth Characteristics	Seed per Test Plot lbs.	Total Seed for Test Plots lbs.
Annual Rye Grass	*Lolium multiflorum*	10	Annual for quick erosion control	0.045	0.405
Red Fescue 'Arctared'	*Festuca rubra*	30	Aggressive, sod forming, can prevent invasion of native species, very hardy	0.135	1.22
Wainwright Slender Wheatgrass	*Elymus trachycaulus*	20	Bunching grass, adaptable to various soils, moist to dry. Vigorous and rapidly spreading.	0.09	0.81
Alpine Bluegrass 'Gruening'	*Poa alpina*	20	Short sod-forming grass. Prefers dry, alpine, and meadow sites.	0.09	0.81
Alpine Sweetvetch or Eskimo Potato	*Hedysarum alpinum*	5	Adaptable, handles dry conditions, low, flowering nitrogen-fixer, food for mice and bears	0.023	0.2
Field Oxytrope	*Oxytropis compestris*	5	Low, flowering nitrogen-fixer, handles dry conditions well, common locally	0.023	0.2
Snow Parsley	*Cnidium cnidifolium*	1	Natural colonizer of disturbed areas, host plant for swallowtail butterfly, common locally	0.0045	0.04
Yarrow	*Achillea millefolium var borealis*	1	Wet and dry soils, fast, easy grower, good initial cover, adds diversity	0.0045	0.04
Silverberry	*Elaeagnus commutata*	5	Shrub, spreading nitrogen-fixer, common locally	0.023	0.2
Fleabane	Erigeron	1	Prefers dry, sandy/gravel soils, quick invader of open areas, common locally	0.045	0.405
Siberian Aster	*Eurybia sibirica*	2	Prefers dry, sandy/gravel soils, quick invader of open areas, common locally	0.009	0.08
Hairy Scorpion Weed	*Phacelia mollis*	1	Prefers dry, sandy/gravel soils, quick invader of open areas, common locally	0.0045	0.04
Arctic Poppy Poppy	*Papaver radicatum*	2	Prefers dry, sandy/gravel soils, quick invade, common locally.	0.009	0.08

Plot Plan for Mesic and Xeric Alpine Meadow Establishment

Seed Mix	No growth media	3" Growth Media	6" Growth Media
Alpine Seed Mix #1	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K
Alpine Seed Mix #2	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K
Alpine Seed Mix #3	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K

ALPINE MEADOW TEST PLOTS



Note: Plot area size reduced by 8% compared to other test plots. Seed amounts also also reduced by 8%.

7.0 Revegetation Test Plots for Broadleaf Forest Establishment

Broadleaf Forest Seed Mix: This mix included annual rye grass for quick erosion control, but at a reduced percentage as tree species require bare mineral soil to germinate. A slower growing bunching grass was included as tree seeds generally germinate slowly over one or two summers. The grasses may help discourage invasive weeds, such as Foxtail Barley as well as provide some erosion control. The grasses were commercially available; however the tree seeds were collected from local sources.

- Birch tree seeds were collected by setting seed traps under the trees during the winter.
- Aspen seeds capsules were collected in May and June, then dried at room temperature.
- Alder cones were collected by hand close to the test plot areas in the late fall, when the scales on the cones started to separate.
- White spruce cones were collected from local logging operations after trees were felled near the Pogo access road. Cones were collected while they are turning from green to brown and the scales were still closed. Cones were dried at room temperature for a few weeks, then tumbled and shaken to release the seeds.

Total seed amounts needed for the Forest Seed Mix for the revegetation test plots are shown on the table below and are based on the 40 lbs/acre rate for grasses and the recommended seeding rates (Schopmeyer, C.S. 1974 and Zasada, JC *et al.*, 1983) for trees listed below:

- Birch is 150-250 seeds/ft^2 with approximately 1,380,000 seeds/lbs.
- Aspen the recommended rate is 30-37 seeds/ft^2 with approximately 3,6000,000 seeds/lbs.
- Alder the recommended rate is 100-200 seeds/ft^2 with approximately 1,280,000 seeds/lbs.
- White Spruce the recommended rate is 20-50 seeds/ft^2 with approximately 226,000 seeds/lbs.

Broadleaf Forest Seed Mix

Species	Scientific Name	Percent of mixture	Growth Characteristics	Seed per Test Plot lbs.	Total Seed for Test Plots lbs.
Annual Ryegrass	*Lolium multiflorum*	5	Annual for quick erosion control	0.023	0.21
Wainwright Slender Wheatgrass	*Elymus trachycaulus*	5	Bunching grass, adaptable to various soils, moist to dry. Vigorous and rapidly spreading.	0.02	0.18
Birch	*Betula papyrifera*	25	Prefers dryer, south facing slopes, generally quick to germinate	0.02	0.18
Aspen	*Populus tremuloides*	20	Prefers dryer, south facing slopes, generally quick to germinate	0.001	0.009
Alder	*Alnus sinuata*	25	Prefers wetter, hillsides, creek valleys, nitrogen-fixer	0.02	0.18

White Spruce	*Picea glauca*	20	Prefers dryer, south facing slopes	0.02	0.18

Grass/Natural Invasion Seed Mix: This seed mix was designed to allow for faster natural invasion from surrounding native seed sources and included annual rye grass for quick erosion control, but at a reduced percentage as tree species require bare mineral soil to germinate. Total seed amounts needed for the Grass/Natural Invasion Seed Mix for the revegetation test plots are shown on the table below and are based on the reduced rate of 20 lbs/acre to increase the opportunities for native species to invade.

Grass/Natural Invasion Seed Mix

Species	Scientific Name	Percent of mixture	Growth Characteristics	Seed per Test Plot lbs.	Total Seed for Test Plots lbs.
Annual Ryegrass	*Lolium multiflorum*	10	Annual for quick erosion control	0.02	0.18
Wainwright Slender Wheatgrass	*Elymus trachycaulus*	45	Bunching grass, adaptable to various soils, moist to dry. Vigorous and rapidly spreading.	0.09	0.81
Alpine Bluegrass 'Gruening'	*Poa alpina*	45	Short sod-forming grass. Prefers dry, alpine, and meadow sites.	0.09	0.81

Woody Debris: Woody debris on top of approximately 6" of growth media was used to create two large areas alongside the broadleaf forest plots to observe any enhancements to native seed germination and percent cover with the addition of grass seed. Woody debris, left over from road building on the south diversion ditch, was scattered randomly along the contour of the slope. The first area of woody debris (50' wide and 62 feet long) was seeded with 1.4 lbs. of Wainwright Slender Wheat Grass. The second area of woody debris (45' wide and 62' long) was seeded with 1.2 lbs. of Alpine Blue Grass. Cover measurements were taken in both these areas.

Plot Plan for Broadleaf Forest Establishment

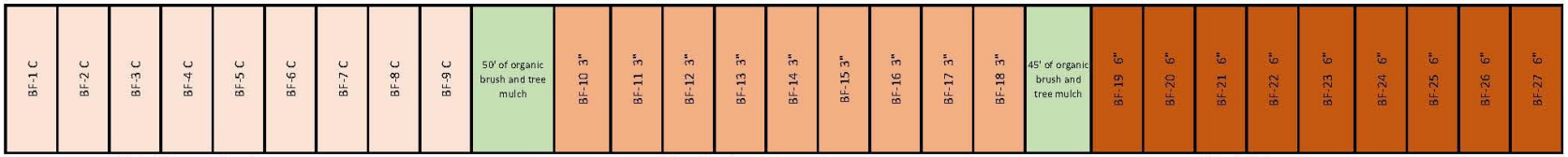
Seed Mix	No growth media	3" Growth Media	6" Growth Media
Control/ Natural Invasion Only	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K
Forest Seed Mix	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K
Grass/Natural Invasion Seed Mix	No Fertilizer	No Fertilizer	No Fertilizer
	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain	10N-10P-10K with Agrotain
	20N-10P-10K	20N-10P-10K	20N-10P-10K

BROADLEAF FOREST TEST PLOTS

Uphill

Each Plot 8 feet wide
62 feet long

Approx: 495 square feet each



C=Control Plots no growth media

3" growth media

6" Growth Media

Downhill

BF-1 C No Fertilizer No Seed	BF-2 C 10-10-10+Ag No Seed	BF-3 C 20-10-10 No Seed	BF-4 C No Fertilizer Forest Seed Mix	BF-5 C 10-10-10+Ag Forest Seed Mix	BF-6 C 20-10-10 Forest Seed Mix	BF-7 C No Fertilizer Grass Seed Mix	BF-8 C 10-10-10+Ag Grass Seed Mix	BF-9 C 20-10-10 Grasst Seed Mix
BF-10 3" No Fertilizer No Seed	BF-11 3" 10-10-10+Ag No Seed	BF-12 3" 20-10-10 No Seed	BF-13 3" No Fertilizer Forest Seed Mix	BF-14 3" 10-10-10+Ag Forest Seed Mix	BF-15 3" 20-10-10 Forest Seed Mix	BF-16 3" No Fertilizer Grass Seed Mix	BF-17 3" 10-10-10+Ag Grass Seed Mix	BF-18 3" 20-10-10 Grasst Seed Mix
BF-19 6" No Fertilizer No Seed	BF-20 6" 10-10-10+Ag No Seed	BF-21 6" 20-10-10 No Seed	BF-22 6" No Fertilizer Forest Seed Mix	BF-23 6" 10-10-10+Ag Forest Seed Mix	BF-24 6" 20-10-10 Forest Seed Mix	BF-25 6" No Fertilizer Grass Seed Mix	BF-26 6" 10-10-10+Ag Grass Seed Mix	BF-27 6" 20-10-10 Grasst Seed Mix

50' of organic brush and tree mulch

1.4 lbs of seed

Wainwright Slender Wheatgrass
(bunching grass)
20 lbs/acre seeding rate

45' of organic brush and tree mulch

1.2 lbs of seed

Alpine Blue Grass
(bunching grass)
20 lbs/acre seeding rate

8.0 Monitoring and Data Collection

A Quadrant Frame was used to collect percent cover data. A frame was constructed to form one meter square (inside measurements). The frame was further divided into 10 cm squares by marking the measurements on the frame, drilling holes and attaching wire to form a grid of 100 squares. A Quadrant Frame with 10 cm markings, but no actual string or wire dividers, may eventually be used to estimate percent cover as plantings mature.

One Quadrant Frame measurement was taken at a randomly selected area within each plot.

- Percent cover was estimated by counting the number of 10cm squares that contain a growing plant stem. If thirty squares within the quadrant frame were showing growing plants, this indicates 30 percent total cover. Only plants whose stems originate within the 10cm square were counted.
- Percent cover of grasses, and other species included in the seed mix, were estimated using the same method. If any stems of a particular species were visible in a 10cm square that is equal to 1% cover.
- A photo was taken to document each quadrant used to determine percent cover.
- The number of willow cuttings that survived was recorded.
- A field data sheet was used to record data from every plot (See Appendix A)
- A visual weed rating of 1-5 was given to each plot:

Rating	Description
0	Zero to a few scattered weeds
1	More than 3, but less than ¼ of the plot with various weed species
2	Approximately ¼ of the plot with various weed species
3	Approximately ½ of the plot with various weed species
4	Approximately ¾ of the plot with various weed species
5	Very weedy, scattered over entire plot

Data collection will continue in late summer for at least three years after plot establishment, with more monitoring to occur at the fifth, seventh, and tenth year if possible.

Records were kept summarizing man-hours needed to collect seed, the amount of seed collected, the time of year it was collected, as well as time needed to clean and process seeds. Similar information was recorded for willow cuttings collected.

Monitoring data will be summarized and presented in the Pogo Mine Annual Activity Report.

9.0 Revegetation Trials Establishment, Monitoring Timeline, and Costs

2013

- Native seeds for all test plots were collected late summer and fall. Birch seed were collected in late winter.

2014

- Alluvial shrub and wetland test plots were constructed adjacent to the Pogo burn pit and seeded during the late fall.
- Broadleaf forest test plots were also constructed and seeded at the end of the south diversion ditch road during the late fall.

2015

- Mesic and xeric alpine meadow test plots were constructed on the south side of Shell 2 on the DSTF and seeded in late fall.
- Monitoring and data collection for the alluvial shrub, wetland, and broadleaf forest test plots began late summer.

2016

- Willow cuttings were collected and planted in alluvial shrub trial plots in early spring as soon as the ground was thawed.
- Monitoring and data collection for the alpine meadow test plots began in late summer.
- Monitoring and data collection for the alluvial shrub, wetland, and broadleaf forest test plots continued in late summer.

2017

- Monitoring continued with percent cover data collected in all test plots as well as willow cutting survival.

2018

- Monitoring will be continued in all test plots with percent cover data and willow cutting survival.

Summary Amounts of Seed by Species for Test Plot Establishment

Species	Source	lbs.	Cost $/lb.	Total Cost
Annual Ryegrass		2.2	.75	1.65
Red Fescue 'Arctared'		4.4	4	17.6
Wainwright Slender Wheatgrass		6.38	40	255.2
Tufted Hairgrass 'Nortran'		1.2	40	48.00
Alpine Bluegrass 'Gruening'		1.62	60	97.2
Egan American Slough Grass		.90	55	49.5
Polar Grass 'Alyeska'		.90	70	63.0
Bering Hairgrass 'Norcoast"		.90	40	36.0
Alpine Sweetvetch	Hand-collected @ Pogo	0.4	-	-
Field Oxytrope	Hand-collected @ Pogo	0.4	-	-
Snow Parsley	Hand-collected @ Pogo	0.08	-	-
Yarrow	Hand-collected @ Pogo	0.08	-	-
Silverberry	Hand-collected @ Pogo	0.4	-	-
Pasque Flower	Hand-collected @ Pogo	0.08	-	-
Pale Corydalis	Hand-collected @ Pogo	0.16	-	-
Birch	Hand-collected @ Pogo	0.4	-	-
Aspen	Hand-collected @ Pogo	0.02		
Alder	Hand-collected @ Pogo	1.38	-	-
Willow (Feltleaf)	Hand-collected @ Pogo	0.3		
White Spruce	Hand-collected @ Pogo	0.4	-	-
Wild Iris	Hand-collected @ Pogo	0.95	-	-
Lakeshore Sedge	Hand-collected @ Pogo	0.95	-	-

Fertilizer costs below are the 2011 prices at the Delta CoOp where they custom mix bulk fertilizer. The 20N-10P-10K was approximately $85 an acre at a rate of 300 lbs/acre. The 10N-10P-10K was approximately $62 an acre at a rate of 300 lbs/acre.

Fertilizer Needed for Test Plot Establishment

Fertilizer	Rate lbs/acre	lbs. per test plot	Cost/Test Plot	Total Cost
20N-10P-10K	300	3.43	$0.95	$103
10N-10P-10K	300	3.43	$0.70	$76
Agrotain	0.085	0.01	$0.05	$6

Other Costs:

- Construction of birch seed traps: 4 traps @ $120.00 for a Total of $480.
- Construction of Quadrant frames: 2 frames approximately $50 in materials.
- Permanent metal plant labels: 30 boxes Impress-O-Tags, box of 100 is $12.50, for a total of $375.00.
- Wire stake flags (500) for delineating test plots: 30" flags, assorted colors $8.00/100 for a total of $40.00
- Handheld seed and fertilizer spreaders: 2 spreaders at approximately $20 each for a total of $40.00

- Pogo will supply equipment and labor needed to establish and monitor plots as needed.

Total Cost Revegetation Test Plots: 1,750.00 + misc/contingency**= $2,000.00**

10.0 Future Projects:

The current revegetation trials will indicate successful methods for soil stabilization and the establishment of conditions conducive to reclamation at Pogo. However, further trials should be performed to discover whether these methods will adequately reduce surface infiltration in the Dry Stack Tailing Facility (DSTF). Consideration should be given to building lined "cells" on a fairly large scale using the same construction methods as the DSTF. Water collection systems for each cell will allow Pogo to determine is the revegetation methods adopted will also meet infiltration reduction requirements at the DSTF.

11.0 References:

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Appendix A

Pogo Mine Revegetation Test Trial Program Field Data Sheets

Date													
Name				Alpine Test Plots									
Plot#	Total %Cover	% Grass	% Hedysarum	% Oxytropis	% Snow Parsley	% Yarrow	% Silverberry	% Erigeron	% Siberian Aster	% Scorpion Weed	% Poppy	Weed Rating	Notes

Date				Broadleaf Forest Test Plots			
Name							
Plot#	Total % over	% Grass	% Alder	% Birch	% White Spruce	Weed Rating	Notes

Date		Wetland Test Plots				
Name						
Plot#	Total %Cover	% Grass	% Iris	% NWT Sedge	Weed Rating	Notes

Date		Alluvial Shrub Test Plots				
Name						
Plot#	Total %Cover	% Grass	% Alder Seedlings	% Willow Seedlings	Weed Rating	Notes

Date				
Name				**Alluvial Shrub Test Plots - Willow Cuttings 28 per plot**
Plot#	**Cuttings growing**	**Cuttings failed**	**Total number found**	**Notes**

Appendix B

Seed Collection Data

Seed Collection Data

Time needed to collect and process 1lb of seed

Species	Collected Plant Material (gallons)	Collecting Time (hours)	Processing Time (hours)	Total Time (hours)
Alder Seed	10	8-10	2.5	12
Northwest Territory Sedge	6	9	3	12
Wild Iris	2	1.5	1.5	3

Notes:

1) When collecting alder cones a one-gallon Ziploc bag packed full of alder cone bunches weighs about 1 lb. It takes 8-10 gallons of cones (with as few leaves as practical) to get 1 lb. of seed or a little bit more. It takes about 1 hour to pick a gallon of cones where alders are moderately plentiful. It takes about 15 minutes to shake and sieve 1 gallon of dry cones to process the seeds, or 2.5 hours to process 10 gallons of cones. One pound of alder seed, therefore, represents approximately 12 hours of labor.

2) Birch seed was collected under trees where fallen leaves caught small pockets of seed. It took approximately 1 hour to collect a gallon of seed. This only works well if collected under a tree that is heavily producing seed.

3) Spruce cones were collected from fallen trees cut in a logging area. About 15 gallons of cones were collected in about 4 hours. Another 2 hours was spent shaking seeds in a bucket (after drying) to release them from the cones to produce slightly less than half a pound of seed. It would take approximately 12 hours to collect a pound of spruce seed

4) When collecting Northwest Territory Sedge a one-gallon Ziploc bag packed full of seed heads weighs about 1 lb. It takes 6 gallons of seed heads (with as few leaves as practical) to get 1 lb. of seed. It takes about 1.5 hours to pick a gallon of seed heads where the sedge is plentiful. It takes about 30 minutes to rub the seeds off the heads and sieve 1 gallon of seed heads. One pound of Northwest Territory Sedge seed, therefore, represents approximately 12 hours of labor.

5) When collecting Wild Iris a one-gallon Ziploc bag packed full of seed heads weighs about 0.5 lbs. It takes approximately 2 gallons of seed heads to get 1 lb. of seed. It takes about 45 minutes to pick a gallon of seed heads where the Iris

are plentiful. It takes about 45 minutes to open each seed head in a gallon to make sure all the seeds are released. One pound of Wild Iris seed, therefore, represents approximately 3 hours of labor.

6) Silverberry seed collection along a river required about 2.5 hours per gallon, no seed cleaning was required.

7) Collecting wildflower seed of other species took similar amounts of time. If large stands of seed are occur in a relatively small area, it takes approximately 2 hours to collect a gallon of seed heads. A gallon of seed heads takes another 30 minutes to process and clean by hand (removal of a large percentage of debris). These seed are generally smaller and finer and produces less than a tenth of a pound. Each species would therefore require about 25 hours of labor per pound of seed.

8) Willow cuttings were collected from Felt Leaf willow shrubs surrounding the Pogo airstrip area. In 4 hours enough branches of approximately the correct diameter were cut and placed in 5-gallon buckets of water to await further processing the next day. The branches were cut to the recommended length and then planted in plots, this required another 4 hours of work.

Appendix F

Reclamation Cost Estimate & Financial Assurance Model

Basis of Estimate or Cost

Basis of Reclamation Cost Estimate

Pogo Mine, Alaska

Report Prepared for

POGO MINE
SUMITOMO METAL MINING POGO LLC
MINING DONE RIGHT

Report Prepared by

srk consulting

SRK Consulting (U.S.), Inc.
147900.150
February 14, 2017

Basis of Reclamation Cost Estimate

Pogo Mine, Alaska

Sumitomo Metal Mining Pogo LLC

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SRK Project Number 147900.150

February 14, 2017

Author:
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Reviewed by:
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Appendices

List of Abbreviations

ADEC	Alaska Department of Environmental Conservation
ADNR	Alaska Department of Natural Resources
BHR	basic hourly rate
BLM	Bureau of Land Management
COE	U.S. Army Corps of Engineers
DSTF	dry stack tailings facility
ED&C	engineering, design and construction
EPA	U.S. Environmental Protection Agency
GET	ground engaging tools
GVEA	Golden Valley Electric Association
HDPE	high density polyethylene
Pogo	Sumitomo Metal Mining Pogo LLC
QA/QC	quality assurance/quality control
RCE	reclamation cost estimate
ROW	right-of-way
RTP	recycle tailings pond
SRCE	Standardized Reclamation Cost Estimator
SRK	SRK Consulting (U.S.), Inc.

1 Introduction

The 2016 reclamation cost estimate (RCE) for the Pogo Mine facilities was completed to determine the required financial assurance cost assuming final reclamation and closure will be initiated for the planned life-of-mine (LOM) operating conditions and disturbance.

Closure and reclamation actions specified in the Reclamation and Closure Plan were used to prepare this RCE. The RCE was developed to include all reclamation activities that are accounted for under the existing Pogo Mine (2012) and Pogo Right-of-Way (ROW) (2010) reclamation cost estimates. In this document, the existing Mine and ROW cost models are referred to as the legacy spreadsheets.

The 2016 RCE was prepared using the Standardized Reclamation Cost Estimator (SRCE) spreadsheet, Version 1.4.1, Build 016, developed by the State of Nevada and available at http://www.nvbond.org. The Build 016 SRCE model allows for generic use and site-specific modification and can therefore be utilized in jurisdictions outside the State of Nevada. The model includes built-in worksheets for the calculation of closure and reclamation activities that are specific to a mining project. Where the capabilities of SRCE did not provide adequate estimation tools applicable to the Pogo mine, the reclamation and closure costs were estimated in "*User Sheets*" provided at the end of the model.

This document summarizes the affected facilities and outlines the methods and assumptions used to prepare the RCE. The cost items addressed in this report include short-term costs associated with closure and reclamation of the facilities and long-term costs associated with water treatment, monitoring, and maintenance activities during and following the completion of the closure activities.

2 Data Requirements

2.1 Unit Costs

The SRCE requires the importation of unit costs from a specially-formatted *Cost Data File*. The data input for the file includes the following:

- Labor rates
- Equipment rates
- Material costs
- Miscellaneous unit costs
- Indirect costs

The project-specific *Cost Data File* was prepared for the Pogo Mine and imported into the SRCE. The file preparation is discussed in Section 3.

2.2 Project Data

The SRCE calculations require input of the physical dimensions of the mine facilities. The required input parameters, assumptions, and calculations are illustrated on the individual SRCE worksheets together with diagrams and examples of the calculations performed by the model.

Closure activity costs are estimated assuming that SRCE-defined crews and fleets are used to perform the closure activities. Heavy equipment used in the SRCE model is standardized with Caterpillar because the company manufactures an extensive line of equipment and offers comprehensive technical specifications and productivities. Caterpillar's equipment productivities used in the SRCE are derived from the Caterpillar Performance Handbook (Caterpillar, 2004). Productivities were calculated assuming that all equipment pieces will be operated by operators with average skill levels and each equipment piece will work 50 minutes per hour. Productivities for other equipment are derived from technical specifications (where available) or from productivities demonstrated on Nevada mine closure projects. The compositions and productivities of crews included in the SRCE calculations are derived from the R.S. Means Heavy Construction Data (R.S. Means, 2006). These are used to calculate task-specific unit rates utilizing labor, equipment, and material rates defined for the project.

2.3 SRCE Model Results

The results of the SRCE cost calculations are summarized in the Cost Summary table provided on *User 2* SRCE worksheet. The Cost Summary table provides direct costs for labor, equipment, and material for the following categories:

- Earthwork/Recontouring
- Revegetation/stabilization
- Detoxification/water treatment/disposal of wastes
- Structure, equipment and facility removal, and miscellaneous
- Monitoring
- Construction management and support
- Closure planning, G&A, human resources

In addition, cost summary tables providing costs associated with the 2-year holding period, Mine facilities, including long-term water treatment, and ROW facilities are also provided on the *User 2* worksheet.

Indirect costs were calculated consistent with the methodology provided in the *"Mine Reclamation and Closure Cost Estimation Guidelines"* prepared by State of Alaska, Department of Natural Resources & Department of Environmental Conservation in August 2014 and *"Mine Reclamation and Closure Cost Estimation Guidelines: Indirect Cost Categories"* prepared by DOWL in April 2015 and are included in the costs summary tables.

A summary of activity-specific earthworks quantities and costs was generated using SRCE and is provided in the *Reclamation Quantities* worksheet. The data were also used in SRCE to prepare facility-specific unit costs.

All SRCE costs were calculated in current dollars and no cost discounts were included in the calculations.

Figures showing the locations of Pogo Mine facilities included in the RCE are included at the end of this document. Pogo SRCE worksheets are provided in Appendix A. The Pogo SRCE-related *Cost Data File* is provided in Appendix B, together with vendor quotes and information used to develop SRCE rates, which are provided for reference.

3 Cost Data

The *Cost Data File* prepared for the Pogo SRCE contains unit rates for labor, equipment, and materials, and unit costs for miscellaneous closure and reclamation activities. The *Cost Data File* printout is provided in Appendix B. The approaches adopted to develop SRCE rates are discussed below.

3.1 Labor

Issue 33 of *"Pamphlet 600 - Laborers' & Mechanics' Minimum Rates of Pay"* (Pamphlet 600), published by the Alaska Department of Labor & Workforce Development (ADLWD), effective September 1, 2016, was used to estimate hourly labor rates used in the RCE. The laborer rates that apply in areas of Alaska north of 63 degrees North latitude and east of 138 degrees West longitude (i.e., class code N1201-N1206) were used where applicable.

Hourly labor rates incorporate the basic hourly rates, fringe benefits and overtime costs, as summarized in Table 3-1.

Pogo is located more than 65 road miles from the international airport in Fairbanks and the ADLWD requires that meals and lodging are provided to laborers. Hourly lodging costs were calculated using the camp costs quotes provided by Taiga Ventures (Appendix B). The Pamphlet 600 meals cost of $36.00 per day was used to calculate hourly meals costs. These costs are included in the *Zone and Area Adjustments* fields of the labor rates provided in the *Cost Data File*. The camp and meals costs were converted to an hourly rate by dividing calculated daily costs by the number of hours worked per person per day. Labor rates calculations are provided in the *User 16* SRCE worksheet.

Table 3-1: Labor Rates Calculations

Group	Description	BHR	H&W	PEN	TRN	L&M	SAF/LEG	OT	Total	Calculation
A0301	Carpenter (Journeyman)	$38.34	$9.78	$14.56	$0.70	$0.10	$0.15	$9.65	**$73.28**	=38.34+(9.78+14.56+0.7+0.1+0.15)+38.34x0.2516
A1601	Group I	$40.03	$9.95	$11.05	$1.00	$0.10	$0	$10.07	**$72.20**	=40.03+(9.95+11.05+1+0.1+0)+40.03x0.2516
A1602	Group IA	$41.79	$9.95	$11.05	$1.00	$0.10	$0	$10.51	**$74.40**	=41.79+(9.95+11.05+1+0.1+0)+41.79x0.2516
A1604	Group III	$38.54	$9.95	$11.05	$1.00	$0.10	$0	$9.70	**$70.34**	=38.54+(9.95+11.05+1+0.1+0)+38.54x0.2516
A2101	Truck Drivers, Group I	$39.59	$10.58	$10.39	$1.35	$0.10	$0	$9.96	**$71.97**	=39.59+(10.58+10.39+1.35+0.1+0)+39.59x0.2516
A2102	Truck Drivers, Group IA	$40.86	$10.58	$10.39	$1.35	$0.10	$0	$10.28	**$73.56**	=40.86+(10.58+10.39+1.35+0.1+0)+40.86x0.2516
A2105	Truck Drivers, Group IV	$36.93	$10.58	$10.39	$1.35	$0.10	$0	$9.29	**$68.64**	=36.93+(10.58+10.39+1.35+0.1+0)+36.93x0.2516
N0401	Cement Mason, Group I	$37.50	$7.43	$11.8	$1.18	$0.10	$0	$9.44	**$67.45**	=37.5+(7.43+11.8+1.18+0.1+0)+37.5x0.2516
N1201	Laborers, Group I	$30.00	$7.71	$17.06	$1.20	$0.20	$0.20	$7.55	**$63.92**	=30+(7.71+17.06+1.2+0.2+0.2)+30x0.2516
N1203	Laborers, Group III	$31.90	$7.71	$17.06	$1.20	$0.20	$0.20	$8.03	**$66.3**	=31.9+(7.71+17.06+1.2+0.2+0.2)+31.9x0.2516
N2204	Tunnel Workers, Group IIIA	$38.70	$7.71	$17.06	$1.20	$0.20	$0.20	$9.74	**$74.81**	=38.7+(7.71+17.06+1.2+0.2+0.2)+38.7x0.2516

BHR Basic hourly rate

H&W Health and welfare

PEN Pension

TRN Training

L&M Labor/management fund

SAF Safety

LEG Legal fund

OT Overtime (OT = BHR x 25.16%; the 25.16% used in the calculations was adopted from the legacy spreadsheets)

3.2 Equipment

Equipment monthly rental rates that were used in the RCE and were incorporated in the *Cost Data File* were obtained from NC Machinery, Fairbanks, Alaska (Appendix B).

The estimated operating costs per hour are based on the assumption that the equipment is in good condition. No allowances were made for equipment operating in severe conditions or beyond periodic maintenance services. Operator's wages are not included in the operating costs. Costs for the *GET Consumption* and *Tire Cost Table* in the *Cost Data File* were calculated by adjusting 2016 Nevada rates to Fairbanks, Alaska using weighted average city cost indexes provided in the "R.S. Means Heavy Construction Data" (R.S. Means) handbook.

Fuel costs are calculated by multiplying the vendor-obtained fuel costs ($/gal) provided in the *Cost Data File* by fuel consumption rates (gal/hr) calculated by SRCE for the respective equipment and operating conditions and are included in the equipment costs calculated in the SRCE model.

3.3 Materials

3.3.1 Revegetation

Native seed rates were obtained from FW Scott Enterprises, as documented in Appendix B.

3.3.2 Well Abandonment Materials

Rates for cement were developed using Alaska Basic Industries quote documented in Appendix B. The cement grout rates were taken from 2016 Nevada rates and adjusted for Fairbanks using R.S. Means coefficients.

3.3.3 Monitoring Costs

Helicopter rental rates for site-wide sampling and laboratory costs for compliance monitoring activities were obtained from Aurora Aviation Services and are documented in Appendix B.

Laboratory analytical costs associated with meeting current and anticipated post-closure monitoring requirements were obtained from ARS Aleut Analytical. Analytical costs are included for biological, effluent, groundwater, surface water, potable water, waste water and soils testing, as documented in Appendix B.

3.3.4 Fuel and Electrical Power

Diesel rates for off-road diesel delivered to Pogo were calculated using the Crowley Fuels quote provided in Appendix B.

Rates for electrical power ($/kWh) were obtained from Golden Valley Electric Association (GVEA), as documented in Appendix B, and were calculated using GVEA's online calculator for industrial services, with the assumption that Pogo will require 10 percent of its current operational power consumption during closure and post-closure activities, including long-term water treatment.

3.4 Other Miscellaneous Costs

3.4.1 Revegetation Labor and Equipment

The method of revegetation in SRCE is governed by the selections incorporated into the model and access via drop-down boxes in the *Material Costs* SRCE worksheet. Available choices are hand broadcast, mechanical broadcast, drill seeding, and hydroseeding.

The mechanical broadcast rates were developed using FW Scott Enterprises quote (Appendix B) and are included under the *Hydroseeding* line item in the *Cost Data File.* These rates were used to calculate hydroseeding costs for the Mine disturbances.

In order to accommodate the anticipated helicopter seeding of the ROW disturbances in the cost calculations, the helicopter seeding rates were included under the *Seeding-Broadcast Mechanical* line item in the *Cost Data File*. The helicopter hydroseeding rate was calculated using Aurora Aviation Services quote also included in Appendix B.

3.4.2 Waste Disposal

Waste disposal rates were obtained from R.S. Means for several dumpster sizes and an average cost was calculated. This average cost was adjusted for Fairbanks using R.S Means coefficient and incorporated in the *Cost Data File*.

A solid waste disposal fee quoted by Fairbanks North Star Borough was incorporated in the *Cost Data File* (Appendix B).

Costs for transport and remediation of petroleum, oil, and lubricant (POL) contaminated soils were obtained from Organic Incineration Technology (Appendix B). The cost per ton was converted to cost per mile per ton to reflect SRCE's distance-based approach.

3.4.3 Underground Opening Closure

The SRCE calculates the cost of installing reinforced concrete bulkheads and shaft covers using R.S. Means. The associated material rates were taken from 2016 Nevada rates and adjusted for Fairbanks using R.S. Means coefficients.

3.4.4 Fencing Installation and Removal

The SRCE calculates the cost of fencing installation and removal using R.S. Means. The associated material rates were taken from 2016 Nevada rates and adjusted for Fairbanks using R.S. Means coefficients.

3.4.5 Culvert and Pipeline Removal

The SRCE calculates the cost of culvert and pipeline removal using R.S. Means crews and productivity rates.

3.4.6 Pipe and Drainpipe Installation

The SRCE calculates the cost of installing pipe and drain pipe using R.S. Means. The associated material rates were taken from 2016 Nevada rates and adjusted for Fairbanks using R.S. Means coefficients. Rates for the installation of a 6-inch-diameter insulated and

heat-traced pipe were obtained from the Ferguson Enterprises, Inc. quote provided in Appendix B.

3.4.7 Powerline and Transformer Removal

Development of the power transmission line removal unit costs per mile are documented on the SRCE *User 4* worksheet. Calculated rates for demolition of a single pole and a double pole power transmission lines are included in the *Cost Data File*.

Transformer removal rates were based on the R.S. Means 2016 Nevada rates adjusted for Fairbanks using R.S. Means coefficients and are included in the *Cost Data File*.

3.4.8 Rip-Rap & Rock Lining

The SRCE rates for the installation of rip-rap and rock lining are based on using R.S. Means. The associated material costs were obtained from R.S. Means 2016 Nevada rates adjusted for Fairbanks using R.S. Means coefficients.

3.4.9 HDPE Liner Installation

The SRCE cost for installation of HDPE liner is based on R.S. Means 2016 Nevada rates adjusted for Fairbanks using R.S. Means coefficients. The HDPE liner material costs were obtained from Agru America, as documented in Appendix B.

3.4.10 Production or Dewatering Well Pump Removal

The labor and equipment costs for production or dewatering well pump removal were obtained from R.S. Means 2016 Nevada rates and adjusted for Fairbanks using R.S. Means coefficients.

3.5 Indirect Costs

The indirect costs calculations were revised to reflect cost categories, percentages and calculation methods provided in the Guidelines. The following indirect costs are included in the RCE:

1. **Contractor Profit:** Calculated as 8% of the total Direct Costs
2. **Contractor Overhead:** Calculated as 6% of the total Direct Costs
3. **Performance and Payment Bond:** Calculated as 3% of the total Direct Costs
4. **Liability Insurance:** Calculated as 1.5% of the total Labor Costs
5. **Contract Administration:** Calculated as 7% of the total Direct Costs
6. **Engineering Redesign:** Calculated as 5% of the total Direct Costs
7. **Contingency:** Calculated as 8% of the total Direct Costs

The *Cost Data File* allows user inputs for indirect cost categories as line items with user-specified percentage value for each category. These percentages are applied within the SRCE model to calculate indirect costs as percentages of direct cost components. The *Cost Data File* also allows the user to define four different cost ranges for which different percentage values can be used. However, the user cannot change how the individual

indirect costs are calculated. For example, for indirect costs calculated in line item #3 above for performance and payment bond, the SRCE model will apply the percentage defined by the user to the total labor costs. The SRCE calculations cannot be modified to calculate this cost as a percentage of some other costs.

The SRCE calculates indirect costs differently from the method provided in the Guidelines and the SRCE calculations cannot be modified to use the methodology stipulated in the Guidelines. Therefore, no indirect cost line items or percentages are identified in the *Cost Data File*. Instead, new user-generated Cost Summary tables are included in the *User 2* and *User 8* SRCE worksheets.

3.6 Inflation

The inflation factor was applied to the sum of the Holding Costs, Total Direct and Total Indirect reclamation costs. The inflation rate was derived using the average Anchorage Consumer Price Index (CPI) over the past 5 years (2012 – 2016) of 1.56% and compounding it over the next 5 years. The resulting inflation rate of 8% was then added to the sum of holding and reclamation costs. The inflation factor calculations are provided on the *User 1* SRCE worksheet.

4 Cost Estimation

The SRCE cost estimate for Pogo facilities (Figure 1) is provided in Appendix A; details of the cost estimate calculations are provided below. The following sections provide the bases for cost estimates applicable to development of the Pogo RCE.

- Dry Stack Tailings Facility
- Recycle Tailings Pond
- Roads
- Quarries & Borrow Pits
- Underground Openings
- Material Haulage
- Foundations and Buildings
- Other Demolition
- Sediment and Drainage Control
- Landfill
- Yards
- Waste Disposal
- Well Abandonment
- Miscellaneous Costs
- Maintenance and Monitoring
- Construction Management and Road Maintenance
- Solution Management
- 2-Year Holding Costs
- Reclamation Quantities Summary
- Cost Schedule
- Other User
- User 1: Inflation
- User 2: Cost Summary Tables
- User 3: Haul Distances - Mine
- User 4: Power Transmission Line
- User 5: Water Treatment
- User 6: Monitoring
- User 7: Portals
- User 9: Sludge Disposal
- User 10: Equipment Mobilization/Demobilization
- User 14: Haul Distances - Mine
- User 16: Labor Rates

SRCE *User 8, User 11, User 12, User 13, User 15, User 17, User 18, User 19* and *User 20* worksheets are not used in the RCE calculations.

4.1 Dry Stack Tailings Facility

Tailings that are not placed underground are dewatered through pressure filtration and placed in the general placement area of the dry stack tailings facility (DSTF). Costs for reclamation of the planned 20 million ton DSTF (Figures 1, 2, 3 and 4) are included in the RCE. For the purposes of activity cost estimation, the DSTF was divided into three sections (Dry Stack-1, Dry Stack-2, and Dry Stack-3) and the required SRCE input data were obtained for each section, as shown on Figures 3 and 4.

The DSTF slope is constructed with a benched overall slope of 3H:1V (horizontal:vertical) and is clad with non-mineralized rocks that provide structural stability and erosion control (Figures 3 and 4). No regrading will be required for the DSTF embankment.

The general placement area of the DSTF will be regraded at closure to form a 1% slope to the closure perimeter ditches. An estimated regrade volume equivalent to one-foot of tailings over the full general placement area is included on the *Waste Rock Dumps* SRCE worksheet.

Costs are included for construction of an engineered cover consisting of 1-foot of non-mineralized development rock applied over the surface of the crowned DSTF general placement area, followed by a 6-inch sand and gravel layer and additional 6-inches of growth media. Costs for the sand and growth media hauling and placement are calculated on the *Waste Rock Dumps* SRCE worksheet. Costs for screening, hauling and placement of the 1-foot-thick rock cover over the regraded DSTF general placement area surface are calculated on the *Haul Material* SRCE worksheet.

Post-closure DSTF runoff control will include construction of perimeter ditches as shown on Figure 2. These costs are calculated on the *Sediment and Drainage Control* SRCE worksheet, as further described in the *Section 4.9: Sediment and Drainage Control*.

The non-mineralized rock and sand material will be sourced from material located at the 2150 Portal area, and growth media will be obtained from growth media stockpiles located in the DSTF vicinity (Figure 3).

Related SRCE worksheet(s): *Waste Rock Dumps, Haul Material, Sediment and Drainage Control*.

4.2 Recycle Tailings Pond

The recycle tailings pond (RTP) layout is shown on Figure 5. The following costs for RTP closure are included on the SRCE worksheets:

- Removal and disposal of RTP pumping infrastructure – *Miscellaneous Costs\Surface Pipe Removal, Foundations & Buildings*
- Excavation of the RTP dam breach – *Sediment & Drainage Control*
- Removal and disposal of exposed HDPE and clay liners – *Haul Material*
- Capping of RTP sediments with 3 feet of random fill overlain by 2 feet of armoring. The random fill and armoring assumed as sourced from the RTP dam breach excavation – *Haul Material*.
- Placement of 6 inches of growth material over the RTP impoundment area and revegetation – *Sediment & Drainage Control*

Related SRCE worksheet(s): *Miscellaneous Costs\Surface Pipe Removal, Foundations & Buildings, Sediment & Drainage Control, Haul Material*.

4.3 Roads

The 2015 aerial photograph was used to identify and measure existing road disturbance areas. The *Roads* SRCE worksheet was used to calculate costs associated with the reclamation of all roads, including regrading, cover placement, and revegetation. The road lengths were calculated by dividing measured road disturbances by standard road widths for each road (Figure 6). In order to account for removal of road berms and barriers, it was assumed that 3-foot-high soil berms are constructed on both sides and along the full length of all roads. Road reclamation costs include costs for removal and reclamation of these berms.

Related SRCE worksheet(s): *Roads*.

4.4 Quarries and Borrow Pits

The *Quarries & Borrow Pits* worksheet includes costs for reclamation of borrow areas located at Material Sites A, 1, 2 and 23 and the borrow site located at the airstrip (Figure 7). Costs were included for regrading these borrow areas.

Related SRCE worksheet(s): *Quarries & Borrow Pits*.

4.5 Underground Openings

The *Underground Openings* SRCE worksheet was used to calculate costs for placement of concrete bulkhead to block 2015 Portal's opening. The SRCE calculations assume that an 18-inch-thick concrete plug is placed over a portal. The SRCE also assumes that this plug will be placed at a user-defined distance from the portal opening and the space in front of the plug is backfilled with loose material. A plug distance of 200 feet was assumed in the calculations.

Pogo underground closure study findings were provided in a report titled "*Pogo Mine Underground Closure Study*" prepared by Tetra Tech and dated March 27, 2014. This study

provided procedures and plans for underground mine closure, including construction of portal plugs for the 1525, 1690 and 1875 portals. The study forms basis for the respective concrete plugs cost estimates that are provided on the SRCE *User 7* worksheet.

Related SRCE worksheet(s): *Underground Openings, User 7*.

4.6 Material Haulage

The Haul Material worksheet includes costs for haulage, screening, and compaction items, which include placement of non-mineralized rock over DSTF area; removal of temporary stockpiles; removal of geotextile, liners and fills; removal of RTP geosynthetic and clay liners, hauling and placement of RTP filter base and cover material for capping sediments; hauling of DSTF perimeter channel and stilling basin gravel and rip-rap layers; and similar activities.

Related SRCE worksheet(s): *Haul Material.*

4.7 Foundations and Buildings

The *Foundations and Buildings* worksheet includes costs for the demolition of buildings and structures throughout the mine site. Individual building locations are shown on Figures 12 through 24. Dimensions for each building were measured from the as-built drawings and 2015 Pogo aerial photo and are included in the SRCE worksheet together with estimated foundation wall and slab thicknesses. Costs are also included for regrading, placement of 3 feet of cover followed by 6 inches of growth material and revegetation of building footprints. Costs for regrading, cover placement, and revegetation of adjacent yards and parking areas are included in the SRCE *Yards* worksheet.

The SRCE costs, consistent with the R.S. Means approach used to estimate building demolition, include costs for dump truck hauling debris up to 20 miles to a landfill. The Reclamation Plan indicates that building demolition debris will be hauled and disposed of in the underground workings; therefore, the SRCE assumption is conservative and rates are sufficient to cover debris disposal by either method.

Related SRCE worksheet(s): *Foundations & Buildings*; *Yards*.

4.8 Other Demolition

Placeholder costs associated with other demolition activities such as removal of equipment, services, rolling stock, etc. are included on the *Other Demolition* SRCE worksheet.

Related SRCE worksheet(s): *Other Demolition*.

4.9 Sediment and Drainage Control

Stormwater diversion ditches, DSTF perimeter channel and stormwater ponds are shown on Figures 2 and 10. Reclamation and closure costs for these facilities are calculated on the SRCE *Sediment & Drainage Control* worksheet. The RCE accounts for closure and reclamation of the diversion and includes backfilling, regrading, scarification, and revegetation of facilities.

Costs for construction of DSTF perimeter channels and the stilling basin are also included on this worksheet. The facility dimensions and armoring shown on Figure 2 were obtained

from the 2014 *"Dry Stack Tailings Facility Closure Study"*. Construction costs include channel and stilling basin excavation (including over-excavation for rip-rap), installation of 60-mil HDPE liner and placement of 1.5 to 2.5 feet of rip-rap for erosion protection. Costs for placement of gravel filter layer are included on the *Haul Material* worksheet.

Costs for backfilling, growth media placement and revegetation of stormwater and sediment control ponds are also included on this worksheet. For irregular-shaped ponds, the dimensions of length and width were estimated for a similarly-sized rectangular pond.

Related SRCE worksheet(s): *Sediment and Drainage Control, Haul Material*.

4.10 Landfill

Placeholder costs for excavation of the potential future landfill are included on the SRCE *Ponds* worksheet. Costs for grading and compaction of the landfill base and sideslopes are accounted on the SRCE *Other User* worksheet.

It is anticipated that this landfill will be used for disposal of the RTP liners and sludge generated during long-term water treatment plant operation. The sludge disposal costs are included on the *Waste Disposal* worksheet. The landfill will be closed and reclaimed following completion of water treatment activities and the respective costs are included on the SRCE *Ponds* worksheet.

Related SRCE worksheet(s): *Ponds, Other User, Waste Disposal*.

4.11 Yards

The *Yard Etc.* SRCE worksheet was used to calculate costs associated with the reclamation of yards, parking areas, site clearances, footprints of growth media stockpiles, and similar disturbances (Figure 9). Closure and reclamation activities include regrading, recontouring, placement of growth media material, and revegetation, as applicable. Areas that were identified as disturbances that will revegetate naturally in the Reclamation Plan (i.e., no costs for revegetation) are also included and reflect zero costs.

Related SRCE worksheet(s): *Yards.*

4.12 Waste Disposal

The *Waste Disposal* worksheet was used to calculate costs associated with disposal of solid waste, hazardous materials, and hydrocarbon-contaminated soils. No additional costs were included for hauling and disposal of building demolition debris, as these costs are already included on the *Foundations & Buildings* SRCE worksheet.

Costs are included for disposal of an assumed quantity of solid waste generated during closure activities at the North Star Landfill. Costs for transport and incineration of the assumed quantity of hydrocarbon contaminated soils are also included.

Costs for disposal of water treatment sludge generated during anticipated water treatment plant operation on the on-site landfill are also accounted on this worksheet.

Related SRCE worksheet(s): *Waste Disposal*.

4.13 Well Abandonment

The *Well Abandonment* worksheet was used to calculate well abandonment costs. Well locations are shown on Figure 8 and respective wells construction information was obtained from as-built documentation or provided by Pogo.

Costs are based on the assumption that all holes will be grouted and perforated from the bottom to 50 feet above the top of the screen, first water encountered or original static water level, depending on vertical hydraulic gradient and well construction parameters. Inert fill (alluvium) will be used from the top of grout to within 50 feet of ground surface. A 50-foot-thick cement seal will be constructed at the top of each backfilled hole.

Related SRCE worksheet(s): *Well Abandonment*.

4.14 Miscellaneous Costs

This section discusses costs calculated under the *Misc. Costs* SRCE worksheet.

4.14.1 Fence Removal

Costs for removal of approximately 650 feet of fencing located in the mill area (Figure 9) are calculated on this worksheet.

Related SRCE worksheet(s): *Misc. Costs**Fence Removal*.

4.14.2 Culvert Removal

Culvert removal costs were estimated for the specified length of culverts removed. Additional costs for earthworks/hauling items associated with culvert removal are included on the *Haul Material* worksheet.

Related SRCE worksheet(s): *Misc. Costs**Culvert & Buried Pipe Removal; Haul Material*.

4.14.3 Surface Pipe Removal

Surface pipe removal costs were estimated using the length and diameter of surface pipelines shown on **Figure 8**. Pipeline diameters were provided by Pogo and pipeline lengths were measured from the Pogo drawings.

Related SRCE worksheet(s): *Misc. Costs**Surface Pipe Removal*.

4.14.4 Power Line and Substation Removal

The unit cost development for removal of single-pole and double-pole power lines is described on SRCE *User 4* worksheet. These unit rates were used to calculate power line demolition costs calculated on this worksheet.

The number of substations/transformers was estimated from the quantities included in the legacy spreadsheets and costs for their removal are also included on this worksheet.

Related SRCE worksheet(s): *Misc. Costs**Power Line and Substation Removal*.

4.15 Maintenance and Monitoring

The SRCE *Monitoring* worksheet was used to calculate monitoring costs for the following items:

- Revegetation maintenance
- Erosion maintenance
- Reclamation monitoring

These items are discussed in the following sections.

4.15.1 Revegetation Maintenance

Revegetation maintenance was calculated as a percentage of the total area of revegetation, assumed to be 5%. The total revegetation surface area was calculated in the SRCE model and accounts for all areas that are included in the model.

Related SRCE worksheet(s): *Monitoring\Revegetation Maintenance*.

4.15.2 Erosion Maintenance

The SRCE was used to calculate erosion maintenance costs as a percentage of growth media volume and the SRCE-calculated average cost of growth media placement. Costs for the assumed 5% of the growth media volume are included in the SRCE.

Related SRCE worksheet(s): *Monitoring\Erosion Maintenance*.

4.15.3 Reclamation Monitoring

Reclamation monitoring costs include fieldwork, reporting, and travel for a team consisting of a field geologist/engineer and a range scientist. These costs are for post-closure site-wide monitoring of the revegetation and geotechnical stability of reclaimed facilities. Estimated costs for seven monitoring events over 30 years of post-closure monitoring and the preparation of monitoring reports are included.

Related SRCE worksheet(s): *Monitoring\Reclamation Monitoring*.

The SRCE *Monitoring* worksheet was not used to calculate costs for water quality monitoring and reporting activities. These costs are provided on the *User 6* worksheet. Related SRCE worksheet(s): *User 6, Other User*.

4.16 Construction Management and Roads Maintenance

The Construction Management worksheet includes costs for full time construction management staff during an estimated 6 months of closure construction and reclamation at the mine site and an additional 6 months for the ROW facilities.

This worksheet was also used to estimate the cost of road maintenance. The road maintenance assumptions are shown in **Table 4-1** and were used to calculate average annual time required to maintain roads. Costs for a total of 12 years (2-year Holding period plus 10 years of closure and water treatment) of road maintenance are included.

Table 4-1: Road Maintenance Assumptions

Season	Hours per Round	# Rounds per Year	Notes
Summer	6.0	2	Grading only
Winter	10.0	10	Snow removal
Source: Pogo e-mail June 12, 2013.			

Related SRCE worksheet(s): *Construction Management*

4.17 Solution Management

The recycle tailings pond (RTP) receives runoff water volumes ranging between 60 and 90 million gallons of water annually. The water treatment plant process flow rate of 215 gpm that was used in the SRCE cost calculations corresponds to the treatment of 75 million gallons of water during an anticipated 8 months of operation. It is assumed that year-around operation of the water treatment plant would not be feasible due to the freezing potential. Costs for 12 years of water treatment plant operation are included in the RCE (i.e., 2-year Holding period followed by 10 years of water treatment). Assumptions and detailed water treatment cost calculations are provided on the *User 5* (water treatment) and *User 9* (sludge disposal) SRCE worksheets.

Related SRCE worksheet(s): *Solution Management, User 5, User 9*.

4.18 2-Year Holding Costs

Costs for the 2-Year Holding Period are included on the *General & Administration*, *Human Resources, Other User, Construction Management, User 6* and *User 9,* and SRCE worksheet and include costs for the following items:

- The camp rental and operation costs for the 2-Year Holding period, including heating fuel and meals
- Water treatment operation and maintenance, including sludge disposal
- Site-wide monitoring and reporting
- Snow removal and road maintenance
- Site-wide security
- Maintenance associated with providing services (e.g., water, power, sewage treatment, fuel supply, etc.)
- Maintaining Pogo gate and access control during caribou and moose hunting seasons

Related SRCE worksheet(s): *General & Administration*, *Human Resources, Other User, Construction Management, User 6, User 9*.

4.19 Reclamation Quantities Summary

The *Reclamation Quantities Summary* worksheet is generated by the SRCE model and provides a summary table with quantities and costs calculated in SRCE for each built-in worksheet.

Related SRCE worksheet(s): *Reclamation Quantities Summary*.

4.20 Cost Schedule

The *Cost Schedule* worksheet included in the SRCE model provides tools for financial analyses (e.g., inflation adjusted costs, market risk adjusted costs, net present value) of the closure costs. It allows the user to define expenditure schedule, inflation, market risk, and discount rates and include indirect costs that would be required for the LOM and ARO calculations. Although this worksheet is not typically used in the reclamation bond calculations, a tentative schedule providing undiscounted annual direct costs is provided.

Related SRCE worksheet(s): *Cost Schedule*.

4.21 Other User

The *Other User* SRCE worksheet contains costs for closure activities that are not accounted for in other SRCE worksheets or are included on the *User* SRCE worksheets and includes for the following work:

- Installation of new insulated and heat-traced pipeline for conveyance of RTP water to the water treatment facilities for Phase IV water treatment (modifications are required to the existing pipeline route to eliminate pipeline sections currently installed within the underground workings)
- Water treatment plant maintenance
- ROW disturbances hydroseeding using helicopter (no hydroseeding costs are accounted for the ROW items included on the *Roads* and *Yards, Etc.* SRCE worksheets)
- Equipment mob/demob
- Camp mob/demob
- Water quality monitoring - Holding period
- Water quality monitoring - Phase 3, Phase 4 and Phase 5
- Portals Closure
- Future landfill grading and compaction

Related SRCE worksheet(s): *Other User, Ponds, User 6, User 7, User 9, User 16.*

4.22 User 1: Inflation

The *User 1* SRCE worksheet documents inflation percentage calculations for reference purposes.

4.23 User 2: Cost Summary Tables

The *User 2* worksheet provides cost summary tables providing the direct costs calculated using the SRCE for the 2-Year Holding period, mine cost items, and the ROW cost items. Indirect costs were calculated and included for each summary table. These tables were prepared by linking direct costs from the SRCE *Cost Summary* worksheet to the respective cost items included in the tables.

The SRCE costs were then separated into Mine + ROW Cost Estimate Total, Mine – Holding Costs, Mine Cost Items and ROW cost items.

Indirect costs include contractor profit, contractor overhead, performance bond, liability insurance, contract administration, engineering redesign and contingency. The costs were calculated consistent with the Guidelines.

The inflation factor calculated on the *User 1* worksheet was applied to the sum of the Total Direct and Total Indirect reclamation costs, consistent with the Guidelines.

4.24 User 3: Haul Distances - Mine

The *User 3* SRCE worksheet provides a summary of data used for preparation of haul distance and slope calculations for the Mine facilities. This input information is used in calculations provided on SRCE worksheets for the Mine items.

4.25 User 4: Power Transmission Line

Development of the power transmission line removal unit costs per mile are documented on the SRCE *User 4* worksheet.

4.26 User 5: Water Treatment

The *User 5* worksheet provides basis for the water treatment cost estimate. Water treatment rate was calculated by dividing Pogo's 2016 water treatment operating and maintenance costs by the volume of water treated in 2016. Current water treatment plant treats the following sources:

- Mine water: approximately 90% of the water treatment costs
- RTP water: approximately 2% of the water treatment costs
- Storm Water: approximately 2% of the water treatment costs
- ORTW: approximately 6% of the water treatment costs

A 50% reduction in the current water treatment rate was conservatively assumed for the water treatment costs calculations to account for the anticipated significantly better quality of the water requiring treatment following cessation of mining activities and elimination of a the underground mine water treatment requirements.

Related SRCE worksheet(s): *Solution Management*.

4.27 User 6: Monitoring

Surface water and groundwater post-closure monitoring activities included in the "*Pogo Mine Monitoring Plan"* section of the Plan of Operations were used to prepare the SRCE inputs for the water quality monitoring costs. Calculations of the number of samples and labor hours included in the cost estimate are provided on the *User 6* worksheet together with costs allocations to Pogo-specific phases.

One sampler is assumed per event. The number of samples and costs for courier and helicopter per sampling episode are also included. The cost to purchase a total of nine water sampling pumps was also included to allow for the replacement of sampling pumps as required during the anticipated 30 years of post-closure monitoring activities.

Costs to prepare water quality monitoring reports are also included on the *User 6* worksheet and include the preparation of:

- Two annual monitoring reports during the 2-Year Holding period
- Ten annual monitoring reports during 10 years of water treatment
- Seven periodic monitoring reports during 30 years of post-closure monitoring

It was assumed that 24 hours of a consultant's time will be adequate for the preparation of each monitoring report.

Related SRCE worksheet(s): *Other User; User 6*.

4.28 User 7: Portals

The Reclamation Plan states that the access portals to the underground mine will be sealed with concrete plugs. Costs for concrete plug construction that were provided in the *"Pogo Mine Underground Closure Study"* dated March 27, 2014 were used to develop the RCE costs and calculations provided on the SRCE *User 7* worksheet. The study states that the costs estimate was prepared in general accordance with the 2013 *"Draft Mine Closure and Reclamation Cost Estimation Guidelines"*. Cost estimates were developed assuming a third-party contractor will perform the work and that no mine equipment will be available. All labor rates were fully burdened hourly rates from the 2013 *"Laborers' & Mechanics' Minimum Rates of Pay Pamphlet 600"*, published by the ADLWD. Equipment cost estimates were based on anticipated equipment rental rates in Fairbanks, plus hourly operating costs from CostMine 2013. Thus calculated direct costs were escalated from 2013 to 2016 using Consumer Price Index values as shown on the *User 7* worksheet.

Related SRCE worksheet(s): *User 7.*

4.29 User 9: Sludge Disposal

The *User 9* worksheet documents the basis for sludge disposal rates development. These rates are linked to the *Waste Disposal* SRCE worksheet and are used in the SRCE calculations. The future landfill liner construction quantities are also provided on this worksheet.

Related SRCE worksheet(s): *Waste Disposal*.

4.30 User 10: Equipment Mobilization/Demobilization

Mobilization and demobilization costs estimate is provided on the SRCE *User 10* worksheet. The costs were calculated using 2016 labor, equipment and material rates for the estimated number of equipment units. The following equipment fleet was utilized:

- D7R dozer (9) for backfilling, cover and growth media placement
- D8R dozer (2) for recontouring yards, roads and DSTF
- D9R dozer (1) for ripping roads and yards and burying broken concrete
- 14G/H grader (1) for snow removal and roads maintenance
- 345B excavator (1) for small buildings demolition
- 385BL excavator (1) for large buildings and infrastructure demolition and backfilling of stormwater ditches
- 928G loader (1) for fence and culvert removal
- 988G loader (2) for cover and growth media loading
- H-160 hydraulic hammer (1) for breaking down and rubblizing concrete foundations during buildings and infrastructure demolition
- H-180 hydraulic hammer (1) for breaking down and rubblizing concrete slabs during buildings and infrastructure demolition
- 420D 4WD backhoe (1) for buildings and infrastructure demolition
- CS533E vibratory roller (1) for buildings and infrastructure demolition
- 1.5 ton light truck (2) for active reclamation and long-term water management and treatment
- Supervisor's truck (2) for active reclamation and long-term water management and treatment
- Air compressor and tools (1) for active reclamation and long-term water management and treatment
- Welding equipment (1) for active reclamation and long-term water management and treatment
- Pump drill rig (1) for casing removal and grouting during wells abandonment
- Concrete pump (1) for grouting during wells abandonment
- HDPE Welder (1) for active reclamation and long-term water management and treatment
- Generator 5kW (1) for active reclamation and long-term water management and treatment
- 5 ton crane truck (1) for active reclamation and long-term water management and treatment
- 20 ton crane (3) for buildings and infrastructure demolition
- 740 truck (10) for transport of cover and growth material and demolition debris
- 613E water wagon (1) for active reclamation
- Dump truck 10-12 yd^3 (6) for buildings and infrastructure demolition debris removal

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- 613E water wagon (1) for active reclamation
- Dump truck 10-12 yd^3 (6) for buildings and infrastructure demolition debris removal

Related SRCE worksheet(s): *Other User, User 10.*

4.31 User 14: Haul Distances - ROW

The *User 14* SRCE worksheet was used to provide a summary of data used for preparation of haul distance and slope calculations for the ROW facilities. This input information is used in calculations provided on SRCE worksheets for the ROW items.

SRCE worksheet *User 15* was not used in the calculations.

4.32 User 16: Labor Rates

Development of hourly labor rates is documented on the *User 16* worksheet and includes a list of labor categories, basic hourly rates, fringe benefits and overtime costs. Development of the zone adjustment rates that account for camp and meals are also documented on this worksheet.

SRCE worksheets *User 17* through *User 20* were not used in the calculations.

Prepared by

Filiz Toprak

Mining Consultant

Reviewed by

Marija Jurcevic

Principal Consultant

5 References

ADNR/ADEC, 2015. *Mine Closure and Reclamation Cost Estimation Guidelines, Draft,* August 2014. State of Alaska, Department of Natural Resources & Department of Environmental Conservation.

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State of Alaska, 2016. *Laborers' & Mechanics' Minimum Rates of Pay*, Title 36. Public Contracts AS 36.05 & AS 36.10 Wage & Hour Administration Pamphlet No. 600, Issue 33, Effective September 1, 2016. State of Alaska, Department of Labor and Workforce Development, Juneau, Alaska, September 1, 2016.

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Tetra Tech, 2014. *Pogo Mine Underground Closure Study,* Tetra Tech, March 27, 2014.

Figures

Appendices

Appendix A: Pogo RCE

Enter Data Below in Green and Blue Spaces

STANDARDIZED RECLAMATION COST ESTIMATOR

Version 1.4.1
Build 016 (revised 01 Aug 2014)
NOT YET VALIDATED FOR REGULATORY USE IN NEVADA

COST DATA FILE INFORMATION

File Name:	Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Cost Data File:	Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Data Date:	February 8, 2017
Cost Data Basis:	User Data
Data Cost Units:	Imperial
Author/Source:	SMM Pogo/SRK Consulting

PROJECT INFORMATION

Property/Mine Name:	SMM Pogo
Property Code:	
Project Name:	Reclamation Cost Estimate
Date of Submittal:	February 15, 2017
Average Altitude:	1800 ft.
Units of Measure:	○ Metric (m, km, ha, etc.) ◉ Imperial (ft, mi, acres, etc.)
Select One:	○ Notice or Sm Exploration Plan ○ Lg Exploration Plan ◉ Mine Operation
Select One:	○ Private Land ◉ Public or Public/Private
Cost Estimate Type:	Surety
Cost Basis Category:	Pogo Bond 2017
Cost Basis Description:	**Equipment rental; Alaska Pamphlet 600 labor.**

☐ This project is in the State of Nevada

Project Name: Reclamation Cost Estimate
Project Date: February 15, 2017
Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Reclamation Plan

Table of Contents

Description
Inflation
Cost Summary Tables
Mine Project Haul Distances and Slopes
Power Transmission Line
Water Treatment Cost
Water Quality Monitoring
Portals Plug Construction Costs Calculations
Not in Use
Sludge Disposal Quantity
Estimate of Earthworks Equipment to be Mobilized
Not in Use
Not in Use
Not in Use
ROW Project Haul Distances and Slopes
Not in Use
Labor Rates and Camp Costs (refer to CDF)
Not in Use
Not in Use
Not in Use
Not in Use

Cost Schedule and Financial Analysis

Budget Year:	2017
First Year of Operation	2006
Operating Period	11 years
Closure Year 1:	2020
Closure Period:	1 years
Post Closure Period	10 years

Inflation Rate (r) (%):	
Market Risk (MR)(%):	
Discount Rate (i)(%):	
Closure Period:	
Post Closure Period:	

Engineering, Design and Construction Plan (%)	3%
Contingency (%)	16.5%
Contractor OH and Profit (CP)(%):	10%
Contract Administration (%)	4%

Show how many years in schedule (10 to 100): 42 Set Years

<<< Set years and click "Set Years" button

	Term (t)(years):	Total From Cost Summary	0	1	2	3	4	5	6	7	8	9	10	11	12	13
	Schedule Variance		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
A. Earthwork/Recontouring																
Exploration	$ -	$ -														
Exploration Roads & Drill Pads	$ -	$ -														
Roads	$ -	$ 312,891				$ 312,891										
Well Abandonment	$ -	$ 21,809				$ -										$ 21,809
Pits	$ -	$ -														
Quarries & Borrow Areas	$ -	$ 1,676				$ 1,676										
Underground Openings	$ -	$ 21,310				$ 21,310										
Process Ponds	$ -	$ 10,122				$ 10,122										
Heaps	$ -	$ -				$ -										
Waste Rock Dumps	$ -	$ 445,544				$ 445,544										
Landfills	$ -	$ -				$ -										
Tailings	$ -	$ -				$ -										
Foundation & Buildings Areas	$ -	$ 452,577				$ 452,577										
Yards, Etc.	$ -	$ 1,365,452				$ 1,365,452										
Drainage & Sediment Control	$ -	$ 4,536,993				$ 4,536,993										
Generic Material Hauling	$ -	$ 843,780				$ 843,780										
Other User Costs (from Other User sheet)	$ -	$ 324,866				$ 324,866										
Other**	$ -	$ -				$ -										
Mob/Demob if included in Other User sheet	$ -	$ 189,650				$ 189,650										
Mob/Demob	$ -	$ -														
Subtotal "A"	$ -	$ 8,526,670	$ -	$ -	$ -	$ 8,504,861	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 21,809
B. Revegetation/Stabilization																
Exploration	$ -	$ -				$ -										
Exploration Roads & Drill Pads	$ -	$ -				$ -										
Roads	$ -	$ 606,339				$ 606,339										
Well Abandonment		N/A														
Pits	$ -	$ -				$ -										
Quarries & Borrow Areas	$ -	$ -				$ -										
Underground Openings		N/A														
Process Ponds	$ -	$ 4,400				$ 4,400										
Heaps	$ -	$ -				$ -										
Waste Rock Dumps	$ -	$ 482,640				$ 482,640										
Landfills	$ -	$ -				$ -										
Tailings	$ -	$ -				$ -										
Foundation & Buildings Areas	$ -	$ 448,400				$ 448,400										
Yards, Etc.	$ -	$ 339,580				$ 339,580										
Drainage & Sediment Control	$ -	$ 258,912				$ 258,912										
Generic Material Hauling	$ -	$ -				$ -										
Other User Costs (from Other User sheet)	$ -	$ 1,554,352				$ 1,554,352										
Other**	$ -	$ -				$ -										
Subtotal "B"	$ -	$ 3,694,623	$ -	$ -	$ -	$ 3,694,623	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C. Detoxification/Water Treatment/Disposal of Wastes**																
Process Ponds/Sludge	$ -	$ -														
Heaps	$ -	$ -														
Dumps (Waste & Landfill)	$ -	$ -														
Tailings	$ -	$ -														
Surplus Water Disposal	$ -	$ -														
Monitoring	$ -	$ -														
Miscellaneous	$ -	$ -														
Solid Waste - On Site	$ -	$ 130,495		$ 1,373	$ 1,373	$ 115,391	$ 1,373	$ 1,373	$ 1,373	$ 1,373	$ 1,373	$ 1,373	$ 1,373	$ 1,373	$ 1,373	
Solid Waste - Off Site	$ -	$ 75,909				$ 75,909										
Hazardous Materials	$ -	$ 27,711				$ 27,711										
Hydrocarbon Contaminated Soils	$ -	$ 384,696				$ 384,696										
Pumping (from Solution Mgmt sheet)	$ -	$ -														
Evaporation (from Solution Mgmt sheet)	$ -	$ -														
Treatment (from Solution Mgmt sheet)	$ -	$ 4,693,198		$ 329,355	$ 329,355	$ 329,356	$ 329,356	$ 329,356	$ 329,356	$ 329,356	$ 329,356	$ 329,356	$ 329,356	$ 329,356	$ 329,356	$ 740,930
Decontamination (from Solution Mgmt sheet)	$ -	$ -														
Other User Costs (from Other User sheet)	$ -	$ 357,760				$ 33,280	$ 33,280	$ 33,280	$ 33,280	$ 33,280	$ 33,280	$ 33,280	$ 33,280	$ 33,280	$ 33,280	$ 24,960
Other**	$ -	$ -														
Subtotal "C"	$ -	$ 5,669,769	$ -	$ 330,728	$ 330,728	$ 966,343	$ 364,009	$ 364,009	$ 364,009	$ 364,009	$ 364,009	$ 364,009	$ 364,009	$ 364,009	$ 364,009	$ 765,890
D. Structure, Equipment and Facility Removal, and Misc.																
Foundation & Buildings Areas	$ -	$ 6,130,525				$6,130,525										
Other Demolition	$ -	$ 380,000				$380,000										
Equipment Removal	$ -	$ 300,000				$300,000										
Fence Removal	$ -	$ 4,754				$4,754										
Fence Installation	$ -	$ -				$0										
Culvert Removal	$ -	$ 317,972				$317,972										
Pipe Removal	$ -	$ 395,709				$395,709										
Powerline Removal	$ -	$ 1,374,651				$1,374,651										
Transformer Removal	$ -	$ 442,128				$442,128										
Rip-rap, rock lining, gabions	$ -	$ -				$0										
Other Misc. Costs	$ -	$ -				$0										
Other User Costs (from Other User sheet)	$ -	$ 1,056,480				$1,056,480										
Other**	$ -	$ -				$0										
Subtotal "D"	$ -	$ 10,402,219	$ -	$ -	$ -	$ 10,402,219	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E. Monitoring																
Reclamation Monitoring and Maintenance	$ -	$ 385,170				$385,170										
Ground and Surface Water Monitoring (calculated from user input in Monitoring Sheet)	$ -	$ -				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Other User Costs (from Other User sheet)	$ -	$ 1,984,480				$1,984,480										
Subtotal "E"	$ -	$ 2,369,650	$ -	$ -	$ -	$ 2,369,650	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F. Construction Management & Support																
Construction Management	$ -	$ 800,880				$800,880										
Construction Support	$ -	$ -				$0										
Road Maintenance	$ -	$ 292,568				$292,568										
Other User Costs (from Other User sheet)	$ -	$ -				$0										
Other**	$ -	$ -				$0										
Subtotal "F"	$ -	$ 1,093,448	$ -	$ -	$ -	$ 1,093,448	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G. Closure Planning, G&A, Human Resources																
Closure Planning	$ -	$ -														
General & Administration	$ -	$ 2,977,952		$429,817	$429,817	$159,970	$193,595	$193,595	$193,595	$193,595	$193,595	$193,595	$193,595	$193,595	$193,595	$215,995
Human Resources	$ -	$ 13,551,108		$1,018,602	$1,018,602	$1,085,107	$1,085,107	$1,085,107	$1,085,107	$1,085,107	$1,085,107	$1,085,107	$1,085,107	$1,085,107	$1,085,107	$662,829
Other User Costs (from Other User sheet)	$ -	$ 134,338				$134,338										
Other**	$ -	$ -														
Subtotal "G"	$ -	$ 16,663,398	$ -	$ 1,448,420	$ 1,448,420	$ 1,379,416	$ 1,278,702	$ 1,278,702	$ 1,278,702	$ 1,278,702	$ 1,278,702	$ 1,278,702	$ 1,278,702	$ 1,278,702	$ 1,278,702	$ 878,824
Subtotal Operational & Maintenance Costs																
Subtotal A through G	$ -	$ 48,419,777	$ -	$ 1,779,147	$ 1,779,147	$ 28,410,560	$ 1,642,711	$ 1,642,711	$ 1,642,711	$ 1,642,711	$ 1,642,711	$ 1,642,711	$ 1,642,711	$ 1,642,711	$ 1,642,711	$ 1,666,523

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$0	N/A	$0	$0
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$477,605	$607,171	$3,608,422	$0	$4,693,198
Decontamination	$0	$0		$0	$0
TOTALS	**$477,605**	**$607,171**	**$3,608,422**	**$0**	**$4,693,198**

Solution/Water Management - User Input - Pumping

	Description (required)	ID Code	Water Type (select)	Management Type (select)	Capital Cost $	Flow (Q) gpm	Pipeline Length ft	Static Head ft	Pipe Diameter (ID) in	Pipe Material (select)	Pump Efficiency %	Total Concentated Losses (1)	Operating Period: Hrs/Day	Operating Period: Days/ Month	Operating Period: Number of Months	User Overrides: Crew Size	User Overrides: Power Cost ($/kWh)

Notes: 1. k (total of all losses related to valves, restrictions, etc.). Typically 8 -20. Not significant for longer pipes.
2. Default crew assumes crew of two laborers required during pumping hours

Solution/Water Management - User Input - Forced Evaporation

	Description (required)	ID Code	Water Type (select)	Management Type (select)	Forced Evaporation Method (select)	Capital Cost $	Flow (Q) gpm	Pipeline Length ft	Static Head ft	Pipe Diameter (ID) in	Pipe Material (select)	Pump Efficiency %	Total Concentated Losses (1)	Required Pressure at Outlet psi	Operating Period: Hrs/Day	Operating Period: Days/Month	Operating Period: Number of Months	User Overrides: Crew Size	User Overrides: Power Cost ($/kWh)

Notes: 1. Default crew assumes crew of two laborers required during pumping hours
3. Assumes 1-1.5 ton truck for every 2 laborers

Solution/Water Management - Water Treatment

	Description (required)	ID Code	Water Type (select)	Treatment Type (select)	Treatment Method	Montly Quantity gal	Treatment Labor Crew Size per Shift	Capital Cost $	Consumable Cost/ gal $	Treatment Operating Cost/gal $	Operating Period: Number of Months	Operating Period: Hour per Day
1	**HY: Water Treatment (crew under HR)**	**HY**	**Other Water**	**Active**		**9,375,000**	**0**		**$0.00**	**$0.00**	**16.0**	**11.5**
2	**IV: Water Treatment (crew under HR)**	**P4-W**	**Other Water**	**Active**		**9,375,000**	**0**		**$0.00**	**$0.00**	**80.0**	**11.5**
3	**IV: Post Closure Reclamation**	**P4**	**Other Water**	**Active**		**9,375,000**	**2**		**$0.00**	**$0.00**	**6.0**	**11.5**

Notes:
1. Use pumping section (above) to calculate pumping costs (including groundwater pumping).
2. Include initial materials (e.g. chemicals, organic substrate, etc.) in capital cost.
3. Treatment crew includes 1 foreman (crew defined by user above), 1 light truck if crew size > 0
4. Assumes active treatement crew works 8 hr/day, 365 days/year.
5. Assumes 1 truck per each two employees per shift

See "Human Resources" for treatment crew.
Maintenance in "Other User" sheet.
See User Sheet 5 for treatment basis.
Consumable cost cents/gal is: 0.377 (half of current operational costs for all streams). The monthly maintenance cost has been divided by the monthly quantity to estimate maintenance cost by gallon and these are provided under operating cost as 0.04 cents/gal.

Solution/Water Management - User Input - Decontamation

	Description (required)	ID Code	Management Type (select)	Type	Disposal Location	Capital Cost $	Pumping Flow (Q) gpm	Pipeline Length ft	Static Head ft	Pipe Diameter (ID) in	Pipe Material (select)	Pump Efficiency %	Total Concentated Losses (1)	Operating Period: Number of Work Days days	Operating Period: Pumping Hrs/Day	User Overrides: Crew Size	User Overrides: Power Cost ($/kWh)

Notes:
1. Assumes triple rinse of all piping, tanks and vessels requiring decontamination
2. Standard crew includes 2 laborers and 1 foreman
3. Assumes 1-1.5 ton truck for every 2 laborers
4. Assumes crew works 8 hr/day

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$0	N/A	$0	$0
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$477,605	$607,171	$3,608,422	$0	$4,693,198
Decontamination	$0	$0		$0	$0
TOTALS	**$477,605**	**$607,171**	**$3,608,422**	**$0**	**$4,693,198**

Water Management - Assumptions & Calculations

Manning's Roughness Coefficient

Pipe material	Manning n
HDPE	
ID < 4" (100 mm)	0.011
ID ≥ 4 in (100 mm) < 10 in (250 mm)	0.01
ID ≥ 10 in (250 mm)	0.009
PVC	
ID < 4" (100 mm)	0.011
ID ≥ 4 in (100 mm) < 10 in (250 mm)	0.01
ID ≥ 10 in (250 mm)	0.009
Brass	0.011
Cast Iron	0.013
Smooth Steel	0.012
Asbestos Cement	0.011

Water Treatment Costs

Water treatment cost = CapEx + Labor Cost + Equipment Cost (includes Operating Cost)

CapEx = User Entered Value
Consumable costs = cost of treatment chemicals or materials based quantity treated
Labor Cost = No. Months x Days/mo. x [(Supervisor Cost x 8 hrs) + (Laborer Cost x Crew Size x Hours/day)]
Operating Cost = Fuel, power, maintenance or other costs calculated based on quantity treated
Equipment Cost = No. Months x Days/mo. x [(Supervisor Truck Cost x 8 hrs) + (Labor Truck Cost x No. Crew Trucks x Hours/day)]
No. Crew Trucks = 1 per each two laborers per shift

Solution/Water Management - Pumping

	Description (required)	Flow gpm	Manning n (see above)	Losses k	Velocity ft/sec	Friction Head ft	Total Dynamic Head ft	Pump Efficiency %	Power Required kW	Horsepower Required HP	Monthly Operating Hours hrs	Pump Capital Cost $	Total Operating Cost $	Total Labor Cost $	Total Crew Equipment Cost $	Total Cost $	Cost/ m3 $
												$0	**$0**	**$0**	**$0**	**$0**	

Notes:
1. Assumes 2 man labor crew unless user overrides default.

Solution/Water Management - Forced Evaporation

	Description (required)	Flow gpm	Manning n (see above)	Losses k	Velocity ft/sec	Friction Head ft	Total Dynamic Head ft	Pump Efficiency %	Power Required kW	Horsepower Required HP	Annual Operating Hours hrs	Evaporator/ Pump Capital Cost $	Total Labor Cost $	Total Equipment Cost $	Total Power Cost $	Total Cost $	Cost/ m3 $
												$0	**$0**	**$0**	**$0**	**$0**	

Notes:
1. Assumes 2 man labor crew unless user overrides default.

Solution/Water Management - Water Treatment

	Description (required)	Total Quantity Treated gal	Capital Cost $	Total Consumables Cost $	Total Labor Cost $	Total Equipment + Operating Cost $	Total Treatment Cost $	Cost/ m3 $
1	**HY: Water Treatment (crew under HR)**	150,000,000	$0	$566,027	$0	$92,682	$658,709	$0.004
2	**IV: Water Treatment (crew under HR)**	750,000,000	$0	$2,830,135	$0	$463,424	$3,293,559	$0.004
3	**IV: Post Closure Reclamation**	56,250,000	$0	$212,260	$477,605	$51,066	$740,930	$0.013
		956,250,000	**$0**	**$3,608,422**	**$477,605**	**$607,171**	**$4,693,198**	

Solution/Water Management - Decontamination

	Description (required)	Flow gpm	Manning n (see above)	Losses k	Velocity ft/sec	Friction Head ft	Total Dynamic Head ft	Pump Efficiency %	Power Required kW	Horsepower Required HP	Total Operating Hours hrs	Pump Capital Cost $	Total Operating Cost $	Total Labor Cost $	Total Equipment Cost $	Total Cost $
												$0	**$0**	**$0**	**$0**	**$0**

Closure Cost Estimate
Other User

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
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Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Other Cost Items Calculated Elsewhere

	Description (required)	ID Code	Facility Type	Quantity	Units	Total Capital Cost $	Material Unit Cost $	Labor Unit Cost $	Equipment/ Operating Unit Cost $	Cost Type (select)	Total Cost $	Comments
1	6" surface pipe for Phase IV water treatment	P3	Other Facilities	12,000	lf		$73.17	$10.81	$4.06	D. Facility & Equipment	$1,056,480	Ferguson quote including delivery to site.
2	Hydrocarbon sampling (total # samples from legacy)	P3	Other Facilities	15	ea		$275.00	$77.73	$6.71	E. Monitoring	$5,392	Assume 1 hr Tech & truck rental per sample; Lab cost from ARS Aleut Analytical ("SRK Project 2017
3	IV: Water Treatment - maintenance	P4-W	Other Facilities	80	months			$4,160.00		C. Water Management	$332,800	See User Sheet 5 for maintenance cost.
4	IV: Post Closure Reclamation - maintenance	P4-W	Other Facilities	6	months			$4,160.00		C. Water Management	$24,960	See User Sheet 5 for maintenance cost.
5	ROW items helicopter reseed (from "Yards" and "Roads")	ROW-P4	Other Facilities	368	acres		$4,000.00	$5.17	$220.76	B. Revegetation	$1,554,352	SRCE default for "Yards" is hydroseed; ROW items for helicopter seed included here
6	Equipment mob/demob	P3	Other Facilities	1	LS			$63,216.67	$126,433.33	Mob/Demob	$189,650	See User 10; cost divided by labor and equipment at ratio 1:2
7	Camp one-off payment	P3	Other Facilities	1	LS				$134,338.00	G. Closure Planning, G&	$134,338	User 16
8	Monitoring - Holding period	HY	Other Facilities	1	LS		$198,685.20	$119,149.86	$56,418.98	E. Monitoring	$374,254	User 6
9	Monitoring - Phases 3, 4, and 5	P4-W	Other Facilities	1	LS		$715,666.04	$715,070.68	$174,097.75	E. Monitoring	$1,604,834	User 6
10	Portals Closure	P3	Other Facilities	1	LS		$198,937.82	$49,652.85	$75,061.14	A. Earthwork	$323,652	User 7
11	Finish grading potential future landfill	P3	Other Facilities	17,250	sf			$0.03	$0.02	A. Earthwork	$863	
12	Compact potential future landfill	P3	Other Facilities	639	CY			$0.52	$0.03	A. Earthwork	$351	
						$0	$3,466,706	$1,438,488	$696,732		$5,601,926	

Notes: Capital cost is lump sum (i.e. not multiplied by the quantity).
Material, Labor and Equipment/Operating costs are unit costs (i.e. multiplied by the quantity).

Closure Cost Estimate
G & A

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General & Administration

	Totals
Property Holding Costs	$0
Security & Maintenance	$0
Administration	$2,977,952
TOTALS	**$2,977,952**

Property Holding Costs

	Description (required)	ID Code	Type (select type)	Frequency (select type)	Cost/ Payment $	Number of Payments	Total Cost $	Comments
							$0	

Notes:

Security and Maintenance

	Description (required)	ID Code	Type (select type)	Frequency (select type)	Cost/ Payment $	Number of Payments	Total Cost $	Comments
							$0	

Notes:

Administration

	Description (required)	ID Code	Type (select type)	Frequency (select type)	Cost/ Payment $	Number of Payments	Total Cost $	Comments
1	**HY Camp costs**	**HY**	**Misc. Administrat**	**Annual**	**$356,357**	**2**	$712,714	**Taiga 2-sleeper quote**
2	**HY - Heating Fuel (avg. 400 gal/mo. prorated for reduced crew)**	**HY**	**Misc. Administrat**	**Annual**	**$177**	**24**	$4,257	**2 camp sleepers during holding period as opposed to 12 during active closure**
3	**P3 - Heating Fuel (avg. 400 gal per month)**	**P3**	**Misc. Administrat**	**Annual**	**$1,064**	**6**	$6,385	
4	**P4 - Heating Fuel (avg. 400 gal per month)**	**P4**	**Misc. Administrat**	**Annual**	**$1,064**	**6**	$6,385	
5	**P4-W - Heating Fuel (avg. 400 gal/mo. prorated for reduced crew**	**P4-W**	**Misc. Administrat**	**Annual**	**$89**	**120**	$10,642	**1 camp sleeper during holding period as opposed to 12 during active closure**
6	**P4-W - Camp operation**	**P4-W**	**Misc. Administrat**	**Annual**	**$178,179**	**10**	$1,781,785	**Water treatment for 10 years; assume half of Holding Period costs.**
7	**ROW HY - lock Pogo gate**	**ROW-HY**	**Misc. Administrat**	**One-time**	**$1,000**	**1**	$1,000	
8	**ROW HY - maintain access control**	**ROW-HY**	**Misc. Administrat**	**One-time**	**$35,000**	**1**	$35,000	**During caribou and moose hunting seasons**
9	**ROW HY - respond to road access issues as required**	**ROW-HY**	**Misc. Administrat**	**One-time**	**$5,000**	**1**	$5,000	
10	**ROW P4 Turnaround cost**	**ROW-P4**	**Misc. Administrat**	**One-time**	**$14**	**1,600**	$22,400	
11	**HY truck rental in lieu of Solution Management equipment**	**HY**	**Misc. Administrat**	**One-time**	**$8**	**3,200**	$24,864	
12	**Phase 4 W truck rental in lieu of Solution Management equipmen**	**P4-W**	**Misc. Administrat**	**One-time**	**$8**	**16,000**	$124,320	
13	**HY Turnaround costs**	**HY**	**Misc. Administrat**	**One-time**	**$1,600**	**48**	$76,800	**Assumed 2 weeks turnaround, 2 years holding period**
14	**P3 Turnaround costs**	**P3**	**Misc. Administrat**	**One-time**	**$1,600**	**12**	$19,200	**Assumed 2 weeks turnaround, 6 mths active reclamation**
15	**P4-W Turnaround costs**	**P4-W**	**Misc. Administrat**	**One-time**	**$1,600**	**12**	$19,200	**Assumed 2 weeks turnaround, 6 mths active reclamation**
16	**P4 Turnaround costs**	**P4**	**Misc. Administrat**	**One-time**	**$1,600**	**80**	$128,000	**Assumed monthly turnaround, 8 mth per year operation, 10 years water treatment period**
							$2,977,952	

Notes: **Vehicles assumed shared with water treatment crew.**
Active closure camp operation costs included in equipment operator, laborer, and salaried groups' labor rates.

Closure Cost Estimate
Human Resources

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
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Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
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Human Resources	Totals
Salaries & Benefits	$13,551,108
Severance & Relocation	$0
TOTALS	$13,551,108

Human Resources - Salary & Benefits

	Job Description (required)	Avg. Annual Salary (incl. benefits) $	Type	Closure Year 1 #	Closure Year 2 #	Closure Year 3 #	Closure Year 4 #	Closure Year 5 #	Closure Year 6 #	Closure Year 7 #	Closure Year 8 #	Closure Year 9 #	Closure Year 10 #	Closure Year 11 #	Closure Year 12 #	Closure Year 13 #
1	HY: Water trtmnt - crew laborer (hrly rate+meals)	$281,444	H2O Treat Sys Constr - Active	0.67	0.67											
2	HY: Water trtmnt - Mechanic (hrly rate+meals)	$333,325	H2O Treat Sys Constr - Active	0.67	0.67											
3	HY: Water Treatment - foreman (hrly rate+meals)	$342,644	H2O Treat Sys Constr - Active	0.67	0.67											
4	HY - Security (hrly rate+meals)	$281,444	Closure G & A	1.34	1.34											
5	P4-W - treatment crew (2 people, 8 mo/year, + meals)	$329,504	Closure G & A			1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	
6	P4-W - water mechanic (1 mechanic, 8 months per ye	$320,185	H2O Treat Sys Constr - Active			0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	
7	P4 + P4-W - Security (hrly rate+meals)	$320,185	H2O Treat Sys Constr - Active			1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	
8	ROW Foreman (hrly rate+meals)	$342,644	Closure G & A													1
9	ROW Security (hrly rate+meals)	$320,185	Closure G & A													1
		SUBTOTAL		$ 1,018,602	$ 1,018,602	$ 1,085,107	$ 1,085,107	$ 1,085,107	$ 1,085,107	$ 1,085,107	$ 1,085,107	$ 1,085,107	$ 1,085,107	$ 1,085,107	$ 1,085,107	$ 662,829

Notes:
All average annual salaries are based on 365 days. Man-hours in respective years reflected by proportioning number of months of year reclamation and closure activities take place.
These rates do include meal costs per person per hour and no camp costs; camp costs are included as single-line items in G&A for the corresponding phases.

Human Resources - Severance & Outplacement Benefits

	Job Description	Severance & Outplacement Cost $		Closure Year 1 #	Closure Year 2 #	Closure Year 3 #	Closure Year 4 #	Closure Year 5 #	Closure Year 6 #	Closure Year 7 #	Closure Year 8 #	Closure Year 9 #	Closure Year 10 #	Closure Year 11 #	Closure Year 12 #	Closure Year 13 #
1	HY: Water trtmnt - crew laborer (hrly rate+meals)				0.7											
2	HY: Water trtmnt - Mechanic (hrly rate+meals)				0.7											
3	HY: Water Treatment - foreman (hrly rate+meals)				0.7											
4	HY - Security (hrly rate+meals)				1.3											
5	P4-W - treatment crew (2 people, 8 mo/year, + meals)														1.3	
6	P4-W - water mechanic (1 mechanic, 8 months per year, + meals)														0.7	
7	P4 + P4-W - Security (hrly rate+meals)														1.3	
8	ROW Foreman (hrly rate+meals)															1.0
9	ROW Security (hrly rate+meals)															1.0
			SUBTOTAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Notes:
1. Assumes Severance + Outplacement

Closure Cost Estimate
Reclamation Quantities

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Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Data Cost File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Reclamation Quantity Summary

												Unit Costs					
	Description	Total Regrade or Haul Volume cy	Total Regrade or Haul Cost $	Total Cover Volume cy	Cover Placement Cost $	Total Growth Media Volume cy	Growth Media Placement Cost $	Total Surface Area acres	Total Scarify Cost $	Total Revegetation Cost $	TOTALS $	Regrade Unit Cost $/CY	Material Haul or Backfill Unit Cost $/CY	Cover Unit Cost $/CY	Growth Media Unit Cost $/CY	Scarify Unit Cost $/CY	Area Unit Cost $/acre
1	Waste Rock Dumps	117,800	$ 16,518	64,888	$ 210,956	64,888	$ 209,840	80.44	$ 8,230	$ 482,640	$ 928,184	$0.14	N/A	$3.25	$3.23	$102.31	$11,538.84
2	Tailings Impoundments		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
3	Heap Leach Pads		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
5	Open Pits		$ -							$ -	$ -		N/A				
4	Quarries & Borrow Pits	14,029	$ 1,676		$ -		$ -	37.82394858	$ -	$ -	$ 1,676	$0.12	N/A			$0.00	$44.31
6	Roads	135,326	$ 186,892			43,855	$ 105,380	328.51	$ 20,619	$ 606,339	$ 919,230	$1.38	N/A		$2.40	$62.77	$2,798.18
7	Landfills		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
8	Buildings			39,219	$ 202,621	6,540	$ 215,558	21.1	$ 34,398	$ 448,400	$ 900,977		N/A	$5.17	$32.96	$1,630.24	$42,700.33
9	Yards	582,563	$ 1,137,789		$ -	75,446	$ 172,025	389.61	$ 55,638	$ 339,580	$ 1,705,032	$1.95	N/A		$2.28	$142.80	$4,376.25
10	Ponds	8,502	$ 4,102			2,593	$ 6,020	1.2		$ 4,400	$ 14,522	N/A	$0.48		$2.32		$12,101.67
11	Exploration Roads		$ -				$ -		$ -	$ -	$ -		N/A				
12	Exploration Trenches		$ -							$ -	$ -		N/A				
13	Diversion Ditches		$ 80,145					30.8		$ 39,912	$ 120,057		N/A				$3,897.95
14	Sediment Ponds	286,724	$ 469,224	19,309			$ 42,952	35.94	$ -	$ 219,000	$ 731,176	$1.64	$0.04			$0.00	$20,344.35
15	Generic Haulage/Backfill	164,466	$ 843,780		$ -		$ -	1.6	$ -	$ -	$ 843,780	N/A	$5.13			$0.00	#########
16	Adit/Decline Backfilling1		$ -								$ -	N/A					
17	Shaft Backfilling		$ -								$ -	N/A					
	TOTALS	1,309,411	$ 2,740,126	123,416	$ 413,577	193,322	$ 751,775	927.02	$ 118,885	$ 2,140,271	$ 6,164,634						
	Average Costs	per CY	$2.09	per CY	$3.35	per CY	$3.89	per acre	$128.24	$18.00	$6,650	per acre					

Closure Cost Estimate
Waste Rock Dumps

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Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$6,288	$10,230	N/A	$16,518
Cover Placement Cost	$73,511	$137,445	N/A	$210,956
Topsoil Placement Cost	$73,066	$136,774	N/A	$209,840
Ripping/Scarifying Cost	$4,010	$4,220	N/A	$8,230
Subtotal Earthworks	**$156,875**	**$288,669**	**$0**	**$445,544**
Revegetation Cost	$80,440	$80,440	$321,760	$482,640
TOTALS	**$237,315**	**$369,109**	**$321,760**	**$928,184**

Waste Rock Dumps - User Input

You must fill in ALL green cells in this section for each dump, lift or dump category

	Facility Description			Physical - MANDATORY									Cover				Growth Media			
	Description (required)	ID Code	Type	Underlying Ground Slope % Grade	Ungraded Slope _H:1V	Final Slope _H:1V	Final Top Slope % Grade	Lift (dump) Height ft	Mid-Bench Length ft	Average Flat Area Long Dimension (ripping distance) ft	Final (Regraded) Dump Footprint acres	Regrade Volume (1) (if calculated elsewhere) cy	Cover Thickness Slopes in	Cover Thickness Flat Areas in	Distance from Cover Borrow ft	Slope from Dump to Cover Borrow % grade	Slope Growth Media Thickness in	Flat Area Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Dump to Stockpile % grade
1	N18 - Dry Stack-1 - sand and growth media	P3	Ore Stockpile	0.0	3.0	3.0	1.0	174	1,098	1,000	56.71	91500	6.0	6.0	6,520	-4.3	6.0	6.0	4,234	-9.0
2	N18 - Dry Stack-2 - sand and growth media	P3	Ore Stockpile	0.0	3.0	3.0	1.0	19	930	900	6.74	10900	6.0	6.0	4,986	-5.6	6.0	6.0	2,168	-17.5
3	N18 - Dry Stack-3 - sand and growth media	P3	Ore Stockpile	0.0	3.0	3.0	1.0	289	729	700	9.57	15400	6.0	6.0	4,745	-5.9	6.0	6.0	1,887	-20.0

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Assume regrade volume of approximately 1 ft over footprint area.

Waste Rock Dumps - User Input (cont.)

You must fill in ALL green cells and relevant blue cells in this section for each dump, lift or dump category

		Grading				Cover		Growth Media		Revegetation								
	Description (required)	Dozing Material Condition (select)	Dump Material Type (select)	Grading Equipment Fleet (select)	Slot/Side-by-Side (select)	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Growth Media Material Type (select)	Growth Media Equipment Fleet (select)	Seed Mix Slopes (select)	Seed Mix Flat Areas (select)	Mulch Slopes (select)	Mulch Flat Areas (select)	Fertilizer Slopes (select)	Fertilizer Flat Areas (select)	Slope Scarify/ Rip? (select)	Flat Area Scarify/ Rip? (select)	Scarify/ Ripping Fleet (select)
1	N18 - Dry Stack-1 - sand and growth media	1	Stone - crushed	Med	Yes	Stone - crush	Large Truck	Topsoil	Large Truck	Mix 1	Mix 1	None	None	None	None	No	Yes	Small Dozer
2	N18 - Dry Stack-2 - sand and growth media	1	Stone - crushed	Med	Yes	Stone - crush	Large Truck	Topsoil	Large Truck	Mix 1	Mix 1	None	None	None	None	No	Yes	Small Dozer
3	N18 - Dry Stack-3 - sand and growth media	1	Stone - crushed	Med	Yes	Stone - crush	Large Truck	Topsoil	Large Truck	Mix 1	Mix 1	None	None	None	None	No	Yes	Small Dozer

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Closure Cost Estimate
Waste Rock Dumps

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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$6,288	$10,230	N/A	$16,518
Cover Placement Cost	$73,511	$137,445	N/A	$210,956
Topsoil Placement Cost	$73,066	$136,774	N/A	$209,840
Ripping/Scarifying Cost	$4,010	$4,220	N/A	$8,230
Subtotal Earthworks	**$156,875**	**$288,669**	**$0**	**$445,544**
Revegetation Cost	$80,440	$80,440	$321,760	$482,640
TOTALS	**$237,315**	**$369,109**	**$321,760**	**$928,184**

Waste Rock Dumps - Calculations

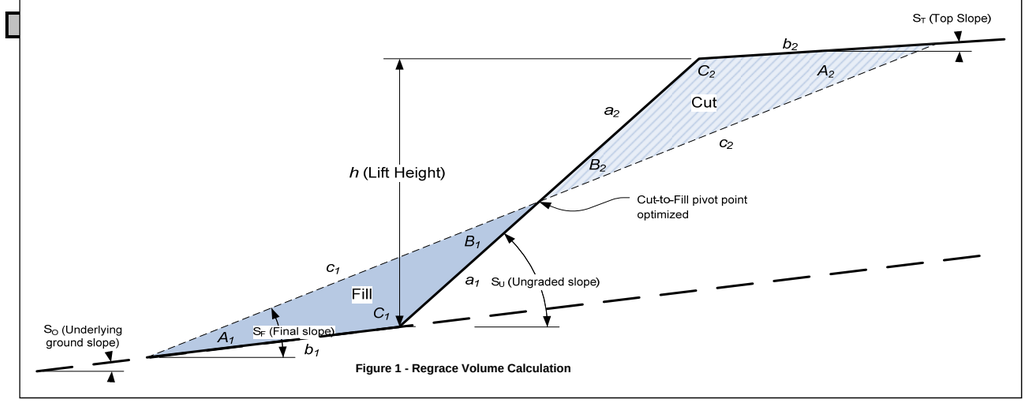

Figure 1 - Regrace Volume Calculation

Final slope length = $c_1 + c_2$
Final slope area = Final slope length *x* Mid-bench Length
Final lift height (h_{final}) = $(c_1 + c_2)$ *x* sin(Final slope)
Final slope width (d) = $(c_1 + c_2)$ *x* cos(Final slope)
Final slope footprint = Final slope width *x* Mid-bench Length
Final flat area = Final footprint – Final slope footprint

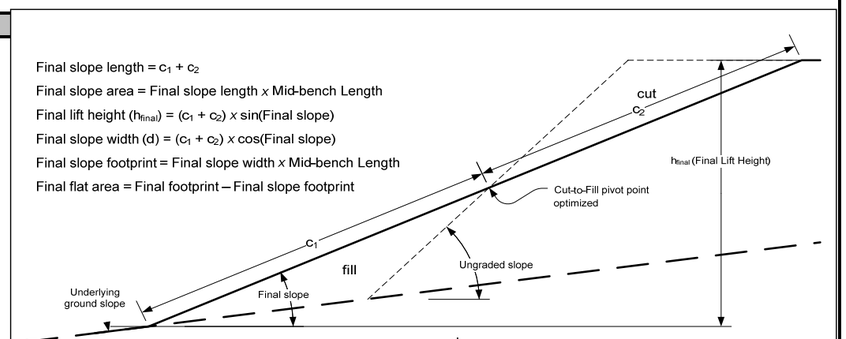

Figure 3 - Final Slope Area and Footprint Area Calculation

Regrading Push Distance Calculation

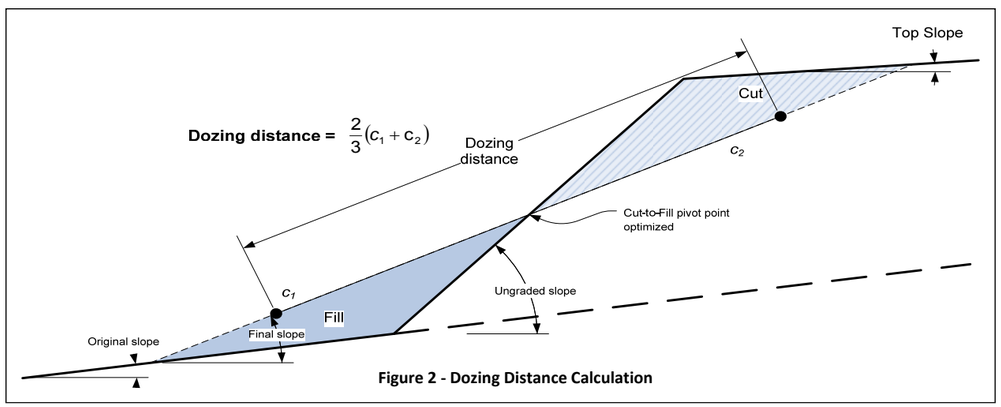

Figure 2 - Dozing Distance Calculation

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per dump

Slopes:
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Mid-bench length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
Minimum 1 hr

Flat Areas:
Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Revegetation: Minimum 1 acre revegetation crew time per area

Closure Cost Estimate
Waste Rock Dumps

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Waste Rock Dumps - Cost Summary

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Topsoil Placement Cost	$73,066	$136,774	N/A	$209,840
Ripping/Scarifying Cost	$4,010	$4,220	N/A	$8,230
Subtotal Earthworks	**$156,875**	**$288,669**	**$0**	**$445,544**
Revegetation Cost	$80,440	$80,440	$321,760	$482,640
TOTALS	**$237,315**	**$369,109**	**$321,760**	**$928,184**

Waste Rock Dumps - Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side) x (Altitude Deration)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity cy/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**N18 - Dry Stack-1 - sand and growth media**	91,500	50	D8R	1,677	1.6	1.0	0.85	1.2	1,704	54	$4,921	$8,006	$12,927
2	**N18 - Dry Stack-2 - sand and growth media**	10,900	50	D8R	1,677	1.6	1.0	0.85	1.2	1,704	6	$547	$890	$1,437
3	**N18 - Dry Stack-3 - sand and growth media**	15,400	50	D8R	1,677	1.6	1.0	0.85	1.2	1,704	9	$820	$1,334	$2,154
		117,800									69	**$6,288**	**$10,230**	**$16,518**

Waste Rock Dumps - Cover and Growth Media Costs

		Cover (lower layer)								Growth Media Placement							
	Description (required)	Cover Volume cy	Cover Replacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Cover Labor Cost $	Cover Equipment Cost $	Total Cover Cost $	Growth Media Volume cy	Growth Media Replacement Fleet	Fleet Productivity BCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**N18 - Dry Stack-1 - sand and growth media**	46,673	740/988G	552	5	84	$53,232	$99,529	$152,761	46,673	740/988G	540	5	87	$55,133	$103,084	$158,217
2	**N18 - Dry Stack-2 - sand and growth media**	5,873	740/988G	569	5	11	$6,971	$13,034	$20,005	5,873	740/988G	525	4	11	$5,978	$11,230	$17,208
3	**N18 - Dry Stack-3 - sand and growth media**	12,342	740/988G	585	5	21	$13,308	$24,882	$38,190	12,342	740/988G	571	4	22	$11,955	$22,460	$34,415
		64,888				116	**$73,511**	**$137,445**	**$210,956**	64,888				120	**$73,066**	**$136,774**	**$209,840**

Waste Rock Dumps - Scarifying/Revegetation Costs

	Description (required)	Slope Area acres	Flat Area acres	Total Surface Area acres	Final Slope Length ft	Flat Area Long Dimension ft	Ripping/ Scarifying Fleet	Slope Scarifying/ Ripping Hours hrs	Flat Area Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**N18 - Dry Stack-1 - sand and growth media**	13.86	44.00	57.86	550	1,000	D6R		38	$3,463	$3,729	$7,192	$57,860	$57,860	$231,440	$347,160
2	**N18 - Dry Stack-2 - sand and growth media**	1.28	6.00	7.28	60	900	D6R		5	$456	$491	$947	$7,280	$7,280	$29,120	$43,680
3	**N18 - Dry Stack-3 - sand and growth media**	15.30		15.30	914	700	D6R			$91	$0	$91	$15,300	$15,300	$61,200	$91,800
		30.44	50.00	80.44					43	**$4,010**	**$4,220**	**$8,230**	**$80,440**	**$80,440**	**$321,760**	**$482,640**

Notes: 1) Minimum total ripping hours = 1 (i.e. If total ripping hrs (slope + flat) < 1, then one hour of fleet time is assumed, regardless of acres shown in in scarifying table.)
2) Assumes 50min/hr equipment availability

Closure Cost Estimate
Roads

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$67,340	$119,552	N/A	$186,892
Cover Placement Cost	$37,427	$67,953	N/A	$105,380
Ripping/Scarifying Cost	$9,928	$10,691	N/A	$20,619
Subtotal Earthworks	**$114,695**	**$198,196**		**$312,891**
Revegetation Cost	$106,949	$106,949	$392,441	$606,339
TOTALS	**$221,644**	**$305,145**	**$392,441**	**$919,230**

Roads - User Input

You must fill in ALL green cells and relevant blue cells in this section for each road

	Facility Description			Physical (1) - MANDATORY						User Overrides		Growth Media		
	Description (required)	ID Code	Type	Underlying Ground Slope % grade	Ungraded Slope _H:1V	Cut Slope degrees	Road Width ft	Road Length ft	Slope Replacement Percent %	Regrade Volume (if calculated elsewhere) cy	Disturbed Area (if calculated elsewhere) acres	Growth Media Thickness in	Haul Distance from Growth Media Stockpile ft	Slope from Road to Stockpile % grade
1	E01-1 - 1525 Portal Access Road #8-1	P3	Access Road	2.0	1.5	60.0	15.0	3,355	100%		3.85	0.0		
2	E01-2 - 1525 Portal Access Road #8-2	P3	Access Road	2.0	1.5	60.0	15.0	487	100%		0.56	0.0		
3	E01-3 - 1525 Portal Access Road #8-3	P3	Access Road	2.0	1.5	60.0	15.0	1,187	100%		1.36	0.0		
4	E01-4 - 1525 Portal Access Road #8-4	P3	Access Road	2.0	1.5	60.0	15.0	969	100%		1.11	0.0		
5	E01-5 - 1525 Portal Access Road #8-5	P3	Access Road	2.0	1.5	60.0	15.0	564	100%		0.65	0.0		
6	E01-6 - 1525 Portal Access Road #8-6	P3	Access Road	2.0	1.5	60.0	15.0	121	100%		0.14	0.0		
7	E01-7 - 1525 Portal Access Road #8-7	P3	Access Road	2.0	1.5	60.0	15.0	941	100%		1.08	0.0		
8	E06-1 Access road Goodpaster bridge to construction camp	P4	Access Road	2.0	1.5	60.0	15.0	313	100%		0.21	6.0	1,000	0%
9	N03-1 - Access Road #7-1	P3	Access Road	4.0	1.5	60.0	25.0	1,212	100%		0.64	0.0		
10	N03-2 - Access Road #7-2	P3	Access Road	4.0	1.5	60.0	25.0	9,599	100%		5.10	0.0		
11	N03-3 - Access Road #7-3	P3	Access Road	4.0	1.5	60.0	25.0	332	100%		0.18	0.0		
12	N03-4 - Access Road #7-4	P3	Access Road	4.0	1.5	60.0	25.0	659	100%		0.35	0.0		
13	N03-5 - Access Road #7-5	P3	Access Road	4.0	1.5	60.0	25.0	855	100%		0.45	0.0		
14	N03-6 - Access Road #7-6	P3	Access Road	4.0	1.5	60.0	25.0	617	100%		0.33	0.0		
15	N03-7 - Access Road #7-7	P3	Access Road	4.0	1.5	60.0	50.0	358	100%		0.38	0.0		
16	N03-8 - Access Road #7-8+ N94 Access Road #7 Clearance	P3	Access Road	4.0	1.5	60.0	25.0	380	100%		3.55	0.0		
17	N06-1 - GM+seed on road #6 from GM 16 and GM 17+ N94 -	P4	Access Road	4.0	1.5	60.0	25.0	289	100%		12.22	6.0	6,915	14%
18	N13-1 - Access Road #1-1	P4	Access Road	10.0	1.5	60.0	30.0	3,479	100%		4.84	6.0	4,788	5%
19	N13-2 - Access Road #1-2	P4	Access Road	10.0	1.5	60.0	30.0	597	100%		0.83	6.0	4,788	0%
20	N13-3 - Access Road #1-3	P4	Access Road	10.0	1.5	60.0	30.0	1,971	100%		2.74	6.0	4,788	0%
21	N13-4 - Access Road #1-4	P4	Access Road	10.0	1.5	60.0	30.0	442	100%		0.62	6.0	4,788	0%
22	N13-5 - Access Road #1-5+N94 - Access Road #1 Clearance	P4	Access Road	10.0	1.5	60.0	30.0	86	100%		0.17	6.0	4,788	9%
23	N15-1 - Road Mill to Main Camp-1 (half seeded)	P3	Haul Road	10.0	1.5	60.0	33.0	1,175	100%		3.55	3.0	3,731	-4%
24	N15-2 - Road Mill to Main Camp-2 (half seeded)	P3	Access Road	8.0	1.5	60.0	40.0	3,341	100%		12.25	3.0	3,731	-4%
25	N15R-1 - Access RTP to Dry Stack-5	P3	Haul Road	12.0	1.5	60.0	33.0	1,389	100%		3.31	6.0	3,731	-4%
26	N15R-2 - Access RTP to Dry Stack-6	P3	Haul Road	12.0	1.5	60.0	33.0	455	100%		1.08	6.0	3,731	-4%
27	N15R-3 - Access RTP to Dry Stack-1	P3	Haul Road	12.0	1.5	60.0	33.0	3,986	100%		9.49	6.0	3,731	-4%
28	N15R-4 - Access RTP to Dry Stack-2	P3	Haul Road	12.0	1.5	60.0	33.0	2,773	100%		6.60	6.0	3,731	-4%
29	N15R-5 - Access RTP to Dry Stack-3	P3	Haul Road	12.0	1.5	60.0	33.0	710	100%		1.69	6.0	3,731	-4%
30	N15R-6 - Access RTP to Dry Stack-4	P3	Haul Road	12.0	1.5	60.0	33.0	433	100%		1.03	6.0	3,731	-4%
31	N20-1 - RTP Access - 1	P3	Access Road	8.0	1.5	60.0	20.0	1,345	100%		1.20	6.0	9,657	1%
32	N20-2 - RTP Access - 2	P3	Access Road	8.0	1.5	60.0	20.0	411	100%		0.37	6.0	9,657	1%
33	N20-3 - RTP Access - 3	P3	Access Road	8.0	1.5	60.0	20.0	86	100%		0.08	6.0	9,657	1%
34	N23 - Dry Stack Diversion Channel	P3	Project Road	20.9	1.5	60.0	0.0	2,812	0%		0.93			
35	N23 - Dry Stack Diversion Channel	P3	Project Road	52.7	1.5	60.0	0.0	2,655	0%		2.21			
36	N23 - Dry Stack Diversion Channel	P3	Project Road	40.8	1.5	60.0	0.0	5,850	0%		0.65			
37	N23 - Dry Stack Diversion Channel	P3	Project Road	6.2	1.5	60.0	0.0	2,334	0%		0.54			
38	N31-1 - ORTW-1	P3	Access Road	8.0	1.5	60.0	20.0	1,680	100%			0.0		
39	N31-2 - ORTW-2	P3	Haul Road	8.0	1.5	60.0	20.0	1,403	100%			0.0		
40	N31-3 - ORTW-3	P3	Haul Road	8.0	1.5	60.0	20.0	378	100%			0.0		
41	N36-1 - Access to GM-1 & MS-1	P3	Access Road	8.0	1.5	60.0	20.0	90	100%			0.0		
42	N36-2 - Access to GM-2 & MS-2	P3	Access Road	8.0	1.5	60.0	20.0	2,545	100%			0.0		
43	N92-1 - Diversion Channel Access Road	P3	Access Road	0.0	1.5	60.0	15.0	2,746	100%	1.24		0.0		
44	N97-1 - Dry Stack Diversion Channel Access Road-1	P3	Access Road	0.0	1.5	60.0	10.0	2,886	100%		7.41	0.0		
45	N97-2 - Dry Stack Diversion Channel Access Road-2	P3	Access Road	0.0	1.5	60.0	10.0	7,791	100%		20.01	0.0		
46	N97-3 - Dry Stack Diversion Channel Access Road-3	P3	Access Road	0.0	1.5	60.0	10.0	732	100%		1.88	0.0		
47	N97-4 - Dry Stack Diversion Channel Access Road-4	P3	Access Road	0.0	1.5	60.0	10.0	369	100%		0.95	0.0		
48	N-02 - Outfall 002 Path	P3	Access Road	0.0	1.5	60.0	10.0	1,206	100%	0.55		0.0		
49	ROW-A1 - Access Road Centerline (Public) - no reclamation	-	Access Road											
50	ROW-A1 - Access Road Centerline (Private)	ROW-P4	Access Road	0.0	1.5	60.0	30.0	162,711	0%		132.44			
51	ROW-A2 - Access Road Centerline (Public) - no reclamation	-	Access Road											
52	ROW-A2 - Access Road Centerline (Private)	ROW-P4	Access Road	0.0	1.5	60.0	30.0	7,481	0%		75.13			

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Because the work required for building roads with a dozer is similar to that required to regrade a road with a dozer, this sheet could be used to provide a rough estimate of road construction costs if a dozer is selected as the grading fleet.

147900.150-ROW_CL_ft_20170207.xlsx
147900.150-ROW_DISTURBANCE_ft_20170207.xlsx

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
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TOTALS	**$221,644**	**$305,145**	**$392,441**	**$919,230**

Roads - User Input (cont.)

		Haul Road Safety Berms				
	Description (required)	Berm Length ft	Berm Height ft	Berm Base Width ft	Berm Sideslope Angle _H:1V	Number of Berms (2) (1 or 2 sides)
1	E01-1 - 1525 Portal Access Road #8-1	3,355.0	3.0	9.0	1.5	1
2	E01-2 - 1525 Portal Access Road #8-2	487.0	3.0	9.0	1.5	1
3	E01-3 - 1525 Portal Access Road #8-3	1,187.0	3.0	9.0	1.5	1
4	E01-4 - 1525 Portal Access Road #8-4	969.0	3.0	9.0	1.5	1
5	E01-5 - 1525 Portal Access Road #8-5	564.0	3.0	9.0	1.5	1
6	E01-6 - 1525 Portal Access Road #8-6	121.0	3.0	9.0	1.5	1
7	E01-7 - 1525 Portal Access Road #8-7	941.0	3.0	9.0	1.5	1
8	E06-1 Access road Goodpaster bridge to construction camp	313.0	3.0	9.0	1.5	1
9	N03-1 - Access Road #7-1	1,211.5	3.0	9.0	1.5	1
10	N03-2 - Access Road #7-2	9,599.0	3.0	9.0	1.5	1
11	N03-3 - Access Road #7-3	331.5	3.0	9.0	1.5	1
12	N03-4 - Access Road #7-4	659.0	3.0	9.0	1.5	1
13	N03-5 - Access Road #7-5	854.9	3.0	9.0	1.5	1
14	N03-6 - Access Road #7-6	616.6	3.0	9.0	1.5	1
15	N03-7 - Access Road #7-7	358.4	3.0	9.0	1.5	1
16	N03-8 - Access Road #7-8+ N94 Access Road #7 Clearance	380.2	3.0	9.0	1.5	1
17	N06-1 - GM+seed on road #6 from GM 16 and GM 17+ N94 -	289.0	3.0	9.0	1.5	1
18	N13-1 - Access Road #1-1	3,479.0	3.0	9.0	1.5	1
19	N13-2 - Access Road #1-2	597.0	3.0	9.0	1.5	1
20	N13-3 - Access Road #1-3	1,971.1	3.0	9.0	1.5	1
21	N13-4 - Access Road #1-4	442.1	3.0	9.0	1.5	1
22	N13-5 - Access Road #1-5+N94 - Access Road #1 Clearance	86.4	3.0	9.0	1.5	1
23	N15-1 - Road Mill to Main Camp-1 (half seeded)	1,175.0	3.0	9.0	1.5	1
24	N15-2 - Road Mill to Main Camp-2 (half seeded)	3,341.0	3.0	9.0	1.5	1
25	N15R-1 - Access RTP to Dry Stack-5	1,389.0	3.0	9.0	1.5	1
26	N15R-2 - Access RTP to Dry Stack-6	455.0	3.0	9.0	1.5	1
27	N15R-3 - Access RTP to Dry Stack-1	3,986.0	3.0	9.0	1.5	1
28	N15R-4 - Access RTP to Dry Stack-2	2,773.0	3.0	9.0	1.5	1
29	N15R-5 - Access RTP to Dry Stack-3	710.0	3.0	9.0	1.5	1
30	N15R-6 - Access RTP to Dry Stack-4	433.0	3.0	9.0	1.5	1
31	N20-1 - RTP Access - 1	1,344.6	3.0	9.0	1.5	1
32	N20-2 - RTP Access - 2	410.6	3.0	9.0	1.5	1
33	N20-3 - RTP Access - 3	86.4	3.0	9.0	1.5	1
34	N23 - Dry Stack Diversion Channel					
35	N23 - Dry Stack Diversion Channel					
36	N23 - Dry Stack Diversion Channel					
37	N23 - Dry Stack Diversion Channel					
38	N31-1 - ORTW-1	1,680.0	3.0	9.0	1.5	1
39	N31-2 - ORTW-2	1,403.0	3.0	9.0	1.5	1
40	N31-3 - ORTW-3	378.0	3.0	9.0	1.5	1
41	N36-1 - Access to GM-1 & MS-1	90.5	3.0	9.0	1.5	1
42	N36-2 - Access to GM-2 & MS-2	2,544.5	3.0	9.0	1.5	1
43	N92-1 - Diversion Channel Access Road	2,746.4	3.0	9.0	1.5	1
44	N97-1 - Dry Stack Diversion Channel Access Road-1	2,886.0	3.0	9.0	1.5	1
45	N97-2 - Dry Stack Diversion Channel Access Road-2	7,791.0	3.0	9.0	1.5	1
46	N97-3 - Dry Stack Diversion Channel Access Road-3	732.0	3.0	9.0	1.5	1
47	N97-4 - Dry Stack Diversion Channel Access Road-4	369.0	3.0	9.0	1.5	1
48	N-02 - Outfall 002 Path					
49	ROW-A1 - Access Road Centerline (Public) - no reclamation					
50	ROW-A1 - Access Road Centerline (Private)	162,711.0	3.0	9.0	1.5	1
51	ROW-A2 - Access Road Centerline (Public) - no reclamation					
52	ROW-A2 - Access Road Centerline (Private)	7,481.0	3.0	9.0	1.5	1

(2) Enter 1 if berm on only one side of road, 2 if both sides of road are bermed.

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$67,340	$119,552	N/A	$186,892
Cover Placement Cost	$37,427	$67,953	N/A	$105,380
Ripping/Scarifying Cost	$9,928	$10,691	N/A	$20,619
Subtotal Earthworks	**$114,695**	**$198,196**		**$312,891**
Revegetation Cost	$106,949	$106,949	$392,441	$606,339
TOTALS	**$221,644**	**$305,145**	**$392,441**	**$919,230**

Roads - User Input (cont.)

You must fill in ALL green cells and relevant blue cells in this section for each road

		Grading				Growth Media			Revegetation				
	Description (required)	Dozing Material Condition (select)	Cut Material Type (select)	Recontouring Equipment Fleet[2] (select)	No. of Excavators if grade >30% (select)	Growth Media Material Type (select)	Cover Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarifying/ Ripping? (select)	Ripping Fleet (select)
1	E01-1 - 1525 Portal Access Road #8-1	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	Yes	Small Dozer
2	E01-2 - 1525 Portal Access Road #8-2	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	Yes	Small Dozer
3	E01-3 - 1525 Portal Access Road #8-3	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	Yes	Small Dozer
4	E01-4 - 1525 Portal Access Road #8-4	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	Yes	Small Dozer
5	E01-5 - 1525 Portal Access Road #8-5	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	Yes	Small Dozer
6	E01-6 - 1525 Portal Access Road #8-6	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	Yes	Small Dozer
7	E01-7 - 1525 Portal Access Road #8-7	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	Yes	Small Dozer
8	E06-1 Access road Goodpaster bridge to construction camp	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	Yes	Small Dozer
9	N03-1 - Access Road #7-1	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
10	N03-2 - Access Road #7-2	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
11	N03-3 - Access Road #7-3	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
12	N03-4 - Access Road #7-4	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
13	N03-5 - Access Road #7-5	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
14	N03-6 - Access Road #7-6	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
15	N03-7 - Access Road #7-7	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
16	N03-8 - Access Road #7-8+ N94 Access Road #7 Clearance	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
17	N06-1 - GM+seed on road #6 from GM 16 and GM 17+ N94 -	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	Yes	Small Dozer
18	N13-1 - Access Road #1-1	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
19	N13-2 - Access Road #1-2	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
20	N13-3 - Access Road #1-3	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
21	N13-4 - Access Road #1-4	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
22	N13-5 - Access Road #1-5+N94 - Access Road #1 Clearance	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
23	N15-1 - Road Mill to Main Camp-1 (half seeded)	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
24	N15-2 - Road Mill to Main Camp-2 (half seeded)	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
25	N15R-1 - Access RTP to Dry Stack-5	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
26	N15R-2 - Access RTP to Dry Stack-6	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
27	N15R-3 - Access RTP to Dry Stack-1	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
28	N15R-4 - Access RTP to Dry Stack-2	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
29	N15R-5 - Access RTP to Dry Stack-3	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
30	N15R-6 - Access RTP to Dry Stack-4	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
31	N20-1 - RTP Access - 1	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
32	N20-2 - RTP Access - 2	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
33	N20-3 - RTP Access - 3	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
34	N23 - Dry Stack Diversion Channel	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	No	
35	N23 - Dry Stack Diversion Channel	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	No	
36	N23 - Dry Stack Diversion Channel	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	No	
37	N23 - Dry Stack Diversion Channel	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	No	
38	N31-1 - ORTW-1	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
39	N31-2 - ORTW-2	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
40	N31-3 - ORTW-3	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
41	N36-1 - Access to GM-1 & MS-1	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	No	
42	N36-2 - Access to GM-2 & MS-2	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	No	
43	N92-1 - Diversion Channel Access Road	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
44	N97-1 - Dry Stack Diversion Channel Access Road-1	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
45	N97-2 - Dry Stack Diversion Channel Access Road-2	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
46	N97-3 - Dry Stack Diversion Channel Access Road-3	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
47	N97-4 - Dry Stack Diversion Channel Access Road-4	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		Mix 1	None	None	Yes	Small Dozer
48	N-02 - Outfall 002 Path	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	No	
49	ROW-A1 - Access Road Centerline (Public) - no reclamation												
50	ROW-A1 - Access Road Centerline (Private)	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	No	
51	ROW-A2 - Access Road Centerline (Public) - no reclamation												
52	ROW-A2 - Access Road Centerline (Private)	1	Alluvium	Med Excavator	1	Topsoil	Med Truck		None	None	None	No	

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table
2. If original slope >30% only excavators are allowed.

Closure Cost Estimate
Roads

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Roads - Cost Summary	Labor	Equipment	Materials	Totals
Grading Costs	$67,340	$119,552	N/A	$186,892
Cover Placement Cost	$37,427	$67,953	N/A	$105,380
Ripping/Scarifying Cost	$9,928	$10,691	N/A	$20,619
Subtotal Earthworks	**$114,695**	**$198,196**		**$312,891**
Revegetation Cost	$106,949	$106,949	$392,441	$606,339
TOTALS	**$221,644**	**$305,145**	**$392,441**	**$919,230**

Roads - Calculations

Regrading Volume and Footprint Volume

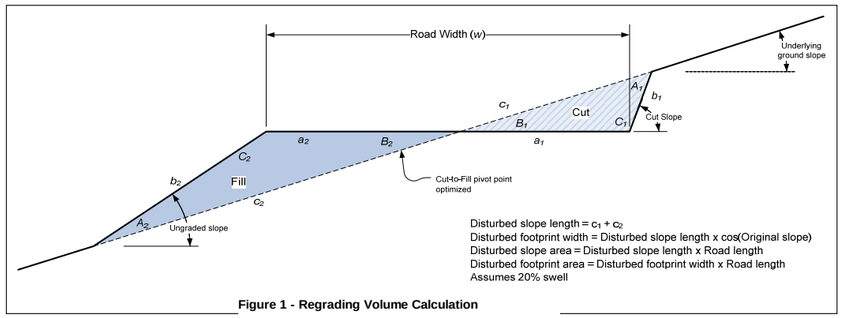


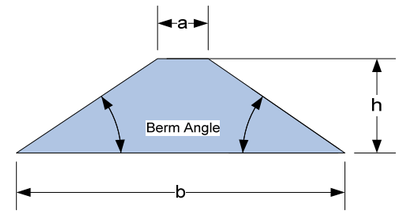
Figure 1 - Regrading Volume Calculation

Will not allow dozer for slopes greater than 30%
For dozer regrading push distance = road width
Assumes dozer push is uphill
Assumes minimum push distance of 100 ft

Safety Berm Volume Calculation

Cross Sectional Area = $\frac{(a+b)}{2} \times h$

Berm Volume = Berm Length x Cross Sectional Area x No. Sides



Total berm volume doubled if both sides of road are bermed.
If length of berm on each side of road is different, input total length of both berms and input 1 for number of sides

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per area
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Road length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
For dozer regrading assumes push distance = 3 x road width

Revegetation Calculations

Minimum of 1 acre crew time per area

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$67,340	$119,552	N/A	$186,892
Cover Placement Cost	$37,427	$67,953	N/A	$105,380
Ripping/Scarifying Cost	$9,928	$10,691	N/A	$20,619
Subtotal Earthworks	**$114,695**	**$198,196**		**$312,891**
Revegetation Cost	$106,949	$106,949	$392,441	$606,339
TOTALS	**$221,644**	**$305,145**	**$392,441**	**$919,230**

Roads - Regrading Costs

	Description (required)	Regrading Volume cy	Recontouring Fleet	Fleet Productivity cy/hr	Total Fleet Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**E01-1 - 1525 Portal Access Road #8-1**	1,756	345B	369	5	$900	$1,598	$2,498
2	**E01-2 - 1525 Portal Access Road #8-2**	255	345B	369	1	$180	$320	$500
3	**E01-3 - 1525 Portal Access Road #8-3**	622	345B	369	2	$360	$639	$999
4	**E01-4 - 1525 Portal Access Road #8-4**	507	345B	369	1	$180	$320	$500
5	**E01-5 - 1525 Portal Access Road #8-5**	295	345B	369	1	$180	$320	$500
6	**E01-6 - 1525 Portal Access Road #8-6**	64	345B	369	1	$180	$320	$500
7	**E01-7 - 1525 Portal Access Road #8-7**	493	345B	369	1	$180	$320	$500
8	**E06-1 Access road Goodpaster bridge to construction camp**	164	345B	369	1	$180	$320	$500
9	**N03-1 - Access Road #7-1**	766	345B	369	2	$360	$639	$999
10	**N03-2 - Access Road #7-2**	6,068	345B	369	16	$2,881	$5,114	$7,995
11	**N03-3 - Access Road #7-3**	210	345B	369	1	$180	$320	$500
12	**N03-4 - Access Road #7-4**	416	345B	369	1	$180	$320	$500
13	**N03-5 - Access Road #7-5**	540	345B	369	1	$180	$320	$500
14	**N03-6 - Access Road #7-6**	389	345B	369	1	$180	$320	$500
15	**N03-7 - Access Road #7-7**	368	345B	369	1	$180	$320	$500
16	**N03-8 - Access Road #7-8+ N94 Access Road #7 Clearance**	240	345B	369	1	$180	$320	$500
17	**N06-1 - GM+seed on road #6 from GM 16 and GM 17+ N94 -**	183	345B	369	1	$180	$320	$500
18	**N13-1 - Access Road #1-1**	3,513	345B	369	10	$1,801	$3,196	$4,997
19	**N13-2 - Access Road #1-2**	603	345B	369	2	$360	$639	$999
20	**N13-3 - Access Road #1-3**	1,991	345B	369	5	$900	$1,598	$2,498
21	**N13-4 - Access Road #1-4**	446	345B	369	1	$180	$320	$500
22	**N13-5 - Access Road #1-5+N94 - Access Road #1 Clearance**	87	345B	369	1	$180	$320	$500
23	**N15-1 - Road Mill to Main Camp-1 (half seeded)**	1,313	345B	369	4	$720	$1,279	$1,999
24	**N15-2 - Road Mill to Main Camp-2 (half seeded)**	4,036	345B	369	11	$1,981	$3,516	$5,497
25	**N15R-1 - Access RTP to Dry Stack-5**	1,749	345B	369	5	$900	$1,598	$2,498
26	**N15R-2 - Access RTP to Dry Stack-6**	573	345B	369	2	$360	$639	$999
27	**N15R-3 - Access RTP to Dry Stack-1**	5,016	345B	369	14	$2,521	$4,475	$6,996
28	**N15R-4 - Access RTP to Dry Stack-2**	3,490	345B	369	9	$1,621	$2,877	$4,498
29	**N15R-5 - Access RTP to Dry Stack-3**	894	345B	369	2	$360	$639	$999
30	**N15R-6 - Access RTP to Dry Stack-4**	545	345B	369	1	$180	$320	$500
31	**N20-1 - RTP Access - 1**	910	345B	369	2	$360	$639	$999
32	**N20-2 - RTP Access - 2**	278	345B	369	1	$180	$320	$500
33	**N20-3 - RTP Access - 3**	58	345B	369	1	$180	$320	$500
34	**N23 - Dry Stack Diversion Channel**	0				$0	$0	$0
35	**N23 - Dry Stack Diversion Channel**	0				$0	$0	$0
36	**N23 - Dry Stack Diversion Channel**	0				$0	$0	$0
37	**N23 - Dry Stack Diversion Channel**	0				$0	$0	$0
38	**N31-1 - ORTW-1**	1,137	345B	369	3	$540	$959	$1,499
39	**N31-2 - ORTW-2**	950	345B	369	3	$540	$959	$1,499
40	**N31-3 - ORTW-3**	256	345B	369	1	$180	$320	$500
41	**N36-1 - Access to GM-1 & MS-1**	61	345B	369	1	$180	$320	$500
42	**N36-2 - Access to GM-2 & MS-2**	1,722	345B	369	5	$900	$1,598	$2,498
43	**N92-1 - Diversion Channel Access Road**	1,374	345B	369	4	$720	$1,279	$1,999
44	**N97-1 - Dry Stack Diversion Channel Access Road-1**	1,443	345B	369	4	$720	$1,279	$1,999
45	**N97-2 - Dry Stack Diversion Channel Access Road-2**	3,896	345B	369	11	$1,981	$3,516	$5,497
46	**N97-3 - Dry Stack Diversion Channel Access Road-3**	366	345B	369	1	$180	$320	$500
47	**N97-4 - Dry Stack Diversion Channel Access Road-4**	185	345B	369	1	$180	$320	$500
48	**N-02 - Outfall 002 Path**	1	345B	369	1	$180	$320	$500
49	**ROW-A1 - Access Road Centerline (Public) - no reclamation**	0				$0	$0	$0
50	**ROW-A1 - Access Road Centerline (Private)**	81,356	345B	369	220	$39,613	$70,321	$109,934
51	**ROW-A2 - Access Road Centerline (Public) - no reclamation**	0				$0	$0	$0
52	**ROW-A2 - Access Road Centerline (Private)**	3,741	345B	369	10	$1,801	$3,196	$4,997
		135,326			374	**$67,340**	**$119,552**	**$186,892**

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$67,340	$119,552	N/A	$186,892
Cover Placement Cost	$37,427	$67,953	N/A	$105,380
Ripping/Scarifying Cost	$9,928	$10,691	N/A	$20,619
Subtotal Earthworks	**$114,695**	**$198,196**		**$312,891**
Revegetation Cost	$106,949	$106,949	$392,441	$606,339
TOTALS	**$221,644**	**$305,145**	**$392,441**	**$919,230**

Roads - Growth Media Costs

	Description (required)	Growth Media Volume cy	Growth Media Replacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**E01-1 - 1525 Portal Access Road #8-1**						$0	$0	$0
2	**E01-2 - 1525 Portal Access Road #8-2**						$0	$0	$0
3	**E01-3 - 1525 Portal Access Road #8-3**						$0	$0	$0
4	**E01-4 - 1525 Portal Access Road #8-4**						$0	$0	$0
5	**E01-5 - 1525 Portal Access Road #8-5**						$0	$0	$0
6	**E01-6 - 1525 Portal Access Road #8-6**						$0	$0	$0
7	**E01-7 - 1525 Portal Access Road #8-7**						$0	$0	$0
8	**E06-1 Access road Goodpaster bridge to construction camp**	169	740/988G	546	2	1	$363	$659	$1,022
9	**N03-1 - Access Road #7-1**						$0	$0	$0
10	**N03-2 - Access Road #7-2**						$0	$0	$0
11	**N03-3 - Access Road #7-3**						$0	$0	$0
12	**N03-4 - Access Road #7-4**						$0	$0	$0
13	**N03-5 - Access Road #7-5**						$0	$0	$0
14	**N03-6 - Access Road #7-6**						$0	$0	$0
15	**N03-7 - Access Road #7-7**						$0	$0	$0
16	**N03-8 - Access Road #7-8+ N94 Access Road #7 Clearance**						$0	$0	$0
17	**N06-1 - GM+seed on road #6 from GM 16 and GM 17+ N94 -**	9,857	740/988G	456	3	22	$9,969	$18,099	$28,068
18	**N13-1 - Access Road #1-1**	3,905	740/988G	538	3	7	$3,172	$5,759	$8,931
19	**N13-2 - Access Road #1-2**	670	740/988G	538	3	1	$453	$823	$1,276
20	**N13-3 - Access Road #1-3**	2,212	740/988G	538	3	4	$1,813	$3,291	$5,104
21	**N13-4 - Access Road #1-4**	496	740/988G	538	3	1	$453	$823	$1,276
22	**N13-5 - Access Road #1-5+N94 - Access Road #1 Clearance**	137	740/988G	538	3	1	$453	$823	$1,276
23	**N15-1 - Road Mill to Main Camp-1 (half seeded)**	1,433	740/988G	585	3	2	$906	$1,645	$2,551
24	**N15-2 - Road Mill to Main Camp-2 (half seeded)**	4,939	740/988G	585	3	8	$3,625	$6,581	$10,206
25	**N15R-1 - Access RTP to Dry Stack-5**	2,667	740/988G	585	3	5	$2,266	$4,113	$6,379
26	**N15R-2 - Access RTP to Dry Stack-6**	874	740/988G	585	3	1	$453	$823	$1,276
27	**N15R-3 - Access RTP to Dry Stack-1**	7,654	740/988G	585	3	13	$5,891	$10,695	$16,586
28	**N15R-4 - Access RTP to Dry Stack-2**	5,325	740/988G	585	3	9	$4,078	$7,404	$11,482
29	**N15R-5 - Access RTP to Dry Stack-3**	1,363	740/988G	585	3	2	$906	$1,645	$2,551
30	**N15R-6 - Access RTP to Dry Stack-4**	831	740/988G	585	3	1	$453	$823	$1,276
31	**N20-1 - RTP Access - 1**	966	740/988G	511	4	2	$1,087	$1,973	$3,060
32	**N20-2 - RTP Access - 2**	295	740/988G	511	4	1	$543	$987	$1,530
33	**N20-3 - RTP Access - 3**	62	740/988G	511	4	1	$543	$987	$1,530
34	**N23 - Dry Stack Diversion Channel**						$0	$0	$0
35	**N23 - Dry Stack Diversion Channel**						$0	$0	$0
36	**N23 - Dry Stack Diversion Channel**						$0	$0	$0
37	**N23 - Dry Stack Diversion Channel**						$0	$0	$0
38	**N31-1 - ORTW-1**						$0	$0	$0
39	**N31-2 - ORTW-2**						$0	$0	$0
40	**N31-3 - ORTW-3**						$0	$0	$0
41	**N36-1 - Access to GM-1 & MS-1**						$0	$0	$0
42	**N36-2 - Access to GM-2 & MS-2**						$0	$0	$0
43	**N92-1 - Diversion Channel Access Road**						$0	$0	$0
44	**N97-1 - Dry Stack Diversion Channel Access Road-1**						$0	$0	$0
45	**N97-2 - Dry Stack Diversion Channel Access Road-2**						$0	$0	$0
46	**N97-3 - Dry Stack Diversion Channel Access Road-3**						$0	$0	$0
47	**N97-4 - Dry Stack Diversion Channel Access Road-4**						$0	$0	$0
48	**N-02 - Outfall 002 Path**						$0	$0	$0
49	**ROW-A1 - Access Road Centerline (Public) - no reclamation**						$0	$0	$0
50	**ROW-A1 - Access Road Centerline (Private)**						$0	$0	$0
51	**ROW-A2 - Access Road Centerline (Public) - no reclamation**						$0	$0	$0
52	**ROW-A2 - Access Road Centerline (Private)**						$0	$0	$0
		43,855				82	**$37,427**	**$67,953**	**$105,380**

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$67,340	$119,552	N/A	$186,892
Cover Placement Cost	$37,427	$67,953	N/A	$105,380
Ripping/Scarifying Cost	$9,928	$10,691	N/A	$20,619
Subtotal Earthworks	**$114,695**	**$198,196**		**$312,891**
Revegetation Cost	$106,949	$106,949	$392,441	$606,339
TOTALS	**$221,644**	**$305,145**	**$392,441**	**$919,230**

Roads - Scarifying/Revegetation Costs

	Description (required)	Total Surface Area acres	Final Slope Length ft	Ripping Hours hrs	Ripping Labor Costs $	Ripping Equipment Cost $	Total Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**E01-1 - 1525 Portal Access Road #8-1**	3.85	50.0	3	$273	$294	$567	$0	$0	$0	$0
2	**E01-2 - 1525 Portal Access Road #8-2**	0.56	50.0	1	$91	$98	$189	$0	$0	$0	$0
3	**E01-3 - 1525 Portal Access Road #8-3**	1.36	50.0	1	$91	$98	$189	$0	$0	$0	$0
4	**E01-4 - 1525 Portal Access Road #8-4**	1.11	50.0	1	$91	$98	$189	$0	$0	$0	$0
5	**E01-5 - 1525 Portal Access Road #8-5**	0.65	50.0	1	$91	$98	$189	$0	$0	$0	$0
6	**E01-6 - 1525 Portal Access Road #8-6**	0.14	50.0	1	$91	$98	$189	$0	$0	$0	$0
7	**E01-7 - 1525 Portal Access Road #8-7**	1.08	50.0	1	$91	$98	$189	$0	$0	$0	$0
8	**E06-1 Access road Goodpaster bridge to construction camp**	0.21	29.0	1	$91	$98	$189	$0	$0	$0	$0
9	**N03-1 - Access Road #7-1**	0.64	23.0	1	$91	$98	$189	$1,000	$1,000	$2,577	$4,577
10	**N03-2 - Access Road #7-2**	5.10	23.0	4	$365	$393	$758	$5,104	$5,104	$20,415	$30,623
11	**N03-3 - Access Road #7-3**	0.18	23.0	1	$91	$98	$189	$1,000	$1,000	$705	$2,705
12	**N03-4 - Access Road #7-4**	0.35	23.0	1	$91	$98	$189	$1,000	$1,000	$1,402	$3,402
13	**N03-5 - Access Road #7-5**	0.45	23.0	1	$91	$98	$189	$1,000	$1,000	$1,818	$3,818
14	**N03-6 - Access Road #7-6**	0.33	23.0	1	$91	$98	$189	$1,000	$1,000	$1,311	$3,311
15	**N03-7 - Access Road #7-7**	0.38	46.0	1	$91	$98	$189	$1,000	$1,000	$1,524	$3,524
16	**N03-8 - Access Road #7-8+ N94 Access Road #7 Clearance**	3.55	407.0	3	$273	$294	$567	$3,552	$3,552	$14,209	$21,313
17	**N06-1 - GM+seed on road #6 from GM 16 and GM 17+ N94 -**	12.22	1,842.0	11	$1,002	$1,079	$2,081	$0	$0	$0	$0
18	**N13-1 - Access Road #1-1**	4.84	61.0	4	$365	$393	$758	$4,841	$4,841	$19,364	$29,046
19	**N13-2 - Access Road #1-2**	0.83	61.0	1	$91	$98	$189	$1,000	$1,000	$3,323	$5,323
20	**N13-3 - Access Road #1-3**	2.74	61.0	2	$182	$196	$378	$2,743	$2,743	$10,971	$16,457
21	**N13-4 - Access Road #1-4**	0.62	61.0	1	$91	$98	$189	$1,000	$1,000	$2,461	$4,461
22	**N13-5 - Access Road #1-5+N94 - Access Road #1 Clearance**	0.17	86.0	1	$91	$98	$189	$1,000	$1,000	$681	$2,681
23	**N15-1 - Road Mill to Main Camp-1 (half seeded)**	3.55	132.0	3	$273	$294	$567	$3,553	$3,553	$14,213	$21,319
24	**N15-2 - Road Mill to Main Camp-2 (half seeded)**	12.25	160.0	10	$911	$981	$1,892	$12,247	$12,247	$48,987	$73,481
25	**N15R-1 - Access RTP to Dry Stack-5**	3.31	104.0	3	$273	$294	$567	$3,306	$3,306	$13,226	$19,838
26	**N15R-2 - Access RTP to Dry Stack-6**	1.08	104.0	1	$91	$98	$189	$1,083	$1,083	$4,332	$6,498
27	**N15R-3 - Access RTP to Dry Stack-1**	9.49	104.0	8	$729	$785	$1,514	$9,489	$9,489	$37,954	$56,932
28	**N15R-4 - Access RTP to Dry Stack-2**	6.60	104.0	6	$547	$589	$1,136	$6,601	$6,601	$26,404	$39,606
29	**N15R-5 - Access RTP to Dry Stack-3**	1.69	104.0	2	$182	$196	$378	$1,690	$1,690	$6,761	$10,141
30	**N15R-6 - Access RTP to Dry Stack-4**	1.03	104.0	1	$91	$98	$189	$1,031	$1,031	$4,123	$6,185
31	**N20-1 - RTP Access - 1**	1.20	39.0	1	$91	$98	$189	$1,197	$1,197	$4,790	$7,184
32	**N20-2 - RTP Access - 2**	0.37	39.0	1	$91	$98	$189	$1,000	$1,000	$1,462	$3,462
33	**N20-3 - RTP Access - 3**	0.08	39.0	1	$91	$98	$189	$1,000	$1,000	$308	$2,308
34	**N23 - Dry Stack Diversion Channel**	0.93	14.0		$0	$0	$0	$1,000	$1,000	$3,720	$5,720
35	**N23 - Dry Stack Diversion Channel**	2.21	36.0		$0	$0	$0	$2,210	$2,210	$8,840	$13,260
36	**N23 - Dry Stack Diversion Channel**	0.65	5.0		$0	$0	$0	$1,000	$1,000	$2,600	$4,600
37	**N23 - Dry Stack Diversion Channel**	0.54	10.0		$0	$0	$0	$1,000	$1,000	$2,160	$4,160
38	**N31-1 - ORTW-1**	0.85	22.0	1	$91	$98	$189	$1,000	$1,000	$3,400	$5,400
39	**N31-2 - ORTW-2**	0.71	22.0	1	$91	$98	$189	$1,000	$1,000	$2,840	$4,840
40	**N31-3 - ORTW-3**	0.19	22.0	1	$91	$98	$189	$1,000	$1,000	$760	$2,760
41	**N36-1 - Access to GM-1 & MS-1**	0.10	22.0		$0	$0	$0	$0	$0	$0	$0
42	**N36-2 - Access to GM-2 & MS-2**	1.28	22.0		$0	$0	$0	$0	$0	$0	$0
43	**N92-1 - Diversion Channel Access Road**	0.95	15.0	1	$91	$98	$189	$1,000	$1,000	$3,800	$5,800
44	**N97-1 - Dry Stack Diversion Channel Access Road-1**	7.41	112.0	6	$547	$589	$1,136	$7,412	$7,412	$29,649	$44,473
45	**N97-2 - Dry Stack Diversion Channel Access Road-2**	20.01	112.0	16	$1,458	$1,570	$3,028	$20,010	$20,010	$80,040	$120,060
46	**N97-3 - Dry Stack Diversion Channel Access Road-3**	1.88	112.0	2	$182	$196	$378	$1,880	$1,880	$7,520	$11,280
47	**N97-4 - Dry Stack Diversion Channel Access Road-4**	0.95	112.0	1	$91	$98	$189	$1,000	$1,000	$3,791	$5,791
48	**N-02 - Outfall 002 Path**	0.28	10.0		$0	$0	$0	$0	$0	$0	$0
49	**ROW-A1 - Access Road Centerline (Public) - no reclamation**		0.0		$0	$0	$0	$0	$0	$0	$0
50	**ROW-A1 - Access Road Centerline (Private)**	132.44	35.0		$0	$0	$0	$0	$0	$0	$0
51	**ROW-A2 - Access Road Centerline (Public) - no reclamation**		0.0		$0	$0	$0	$0	$0	$0	$0
52	**ROW-A2 - Access Road Centerline (Private)**	75.13	437.0		$0	$0	$0	$0	$0	$0	$0
		328.51		109	**$9,928**	**$10,691**	**$20,619**	**$106,949**	**$106,949**	**$392,441**	**$606,339**

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Quarries and Borrow Areas - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$637	$1,039	N/A	$1,676
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost		$0	N/A	$0
Safety Berm Construction Cost	$0	$0	N/A	$0
Subtotal Earthwork	**$637**	**$1,039**	**$0**	**$1,676**
Revegetation Cost	$0	$0	$0	$0
Safety Berm Revegetation Cost	$0	$0	$0	$0
	$0	**$0**	**$0**	**$0**
TOTALS	**$637**	**$1,039**	**$0**	**$1,676**

Quarries & Borrow Pits - User Input

You must fill in ALL green cells in this section for each dump, lift or dump category

	Facility Description			Physical - MANDATORY								Cover				Growth Media			
	Description (required)	ID Code	Type	Underlying Ground Slope % Grade	Ungraded Slope _H:1V	Final Slope _H:1V	Final Top Slope % Grade	Bench or Highwall Height ft	Mid-Bench Length ft	Average Flat Area Long Dimension (ripping distance) ft	Final (Regraded) Footprint acres	Regrade Volume (1) (if calculated elsewhere) cy	Cover Thickness Slopes in	Cover Thickness Flat Areas in	Distance from Cover Borrow ft	Slope from Dump to Cover Borrow % grade	Slope Growth Media Thickness in	Flat Area Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Dump to Stockpile % grade
1	N28A - Mat. Site A	P4	Borrow Pit	0.0	1.5	2.5	1.0	20	1,000	200	2.06						0.0	0.0		
2	Material Site 1 (assume same midbenches as Site 23)	P4	Borrow Pit	0.0	1.5	2.5	1.0	20	2,192	500	12.24									
3	Material Site 2 (assume same midbenches as Site 23)	P4	Borrow Pit	0.0	1.5	2.5	1.0	20	2,192	500	15.98									
4	Material Site 23 (measured from aerial)	P4	Borrow Pit	0.0	1.5	2.5	1.0	20	2,192	500	6.84									

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Quarries & Borrow Pits - User Input (cont.)

You must fill in ALL green cells and relevant blue cells in this section for each dump, lift or dump category

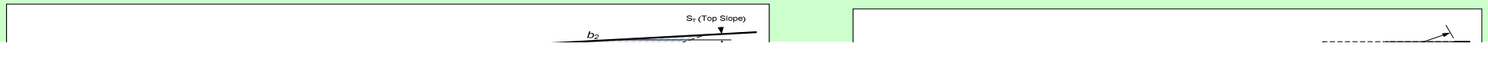
		Grading				Cover		Growth Media		Revegetation								
	Description (required)	Dozing Material Condition (select)	Highwall Material Type (select)	Grading Equipment Fleet (select)	Slot/Side-by-Side (select)	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Growth Media Material Type (select)	Growth Media Equipment Fleet (select)	Seed Mix Slopes (select)	Seed Mix Flat Areas (select)	Mulch Slopes (select)	Mulch Flat Areas (select)	Fertilizer Slopes (select)	Fertilizer Flat Areas (select)	Slope Scarify/ Rip? (select)	Flat Area Scarify/ Rip? (select)	Scarify/ Ripping Fleet (select)
1	N28A - Mat. Site A	1	Shale	Med				Alluvium	Med Truck	None	None	None	None	None	None	No	No	
2	Material Site 1 (assume same midbenches as Site 23)	1	Shale	Med				Alluvium	Med Truck	None	None	None	None	None	None	No	No	
3	Material Site 2 (assume same midbenches as Site 23)	1	Shale	Med				Alluvium	Med Truck	None	None	None	None	None	None	No	No	
4	Material Site 23 (measured from aerial)	1	Shale	Med				Alluvium	Med Truck	None	None	None	None	None	None	No	No	

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Quarries & Borrow Pits - User Input (cont.)

	Facility Description	Highwall Berms					Berm Construction		Excavate or Doze	Hauling (if selected method)				Revegetation		
	Description (required)	Berm (or Highwall) Length ft	Berm Height ft	Berm Base Width ft	Berm Sideslope Angle _H:1V	Volume (if calculated elsewhere) cy	Construction Method (select)	Berm Material Type (select)	Berm Construction Equipment Fleet (select)	Berm Hauling Fleet (select)	Distance to Borrow Source ft	Slope to Borrow Source % grade	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)
1	N28A - Mat. Site A															
2	Material Site 1 (assume same midbenches as Site 23)															
3	Material Site 2 (assume same midbenches as Site 23)															
4	Material Site 23 (measured from aerial)															

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table



Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Quarries and Borrow Areas - Cost Summary				
	Labor	Equipment	Materials	Totals
Grading Costs	$637	$1,039	N/A	$1,676
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost		$0	N/A	$0
Safety Berm Construction Cost	$0	$0	N/A	$0
Subtotal Earthwork	**$637**	**$1,039**	**$0**	**$1,676**
Revegetation Cost	$0	$0	$0	$0
Safety Berm Revegetation Cost	$0	$0	$0	$0
	$0	**$0**	**$0**	**$0**
TOTALS	**$637**	**$1,039**	**$0**	**$1,676**

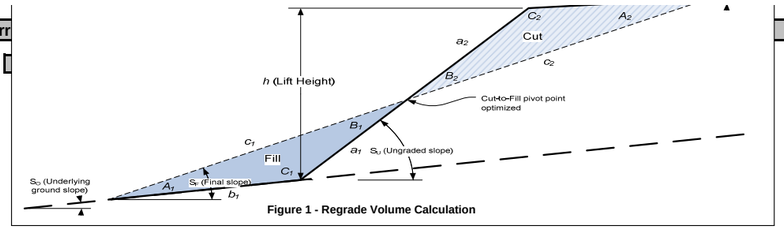


Figure 1 - Regrade Volume Calculation

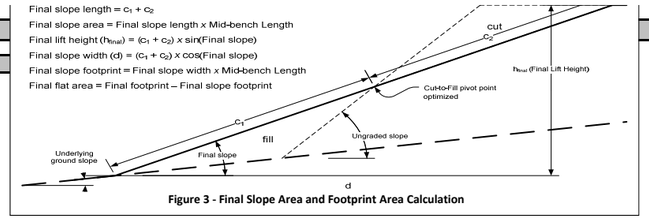


Figure 3 - Final Slope Area and Footprint Area Calculation

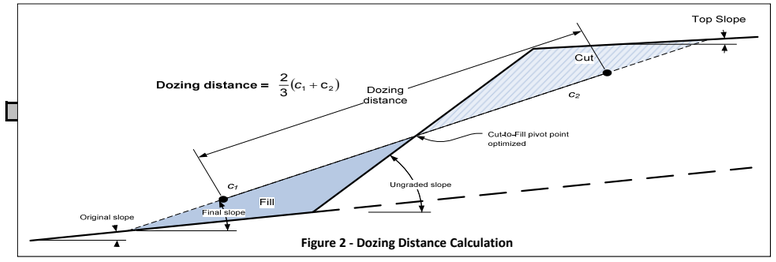
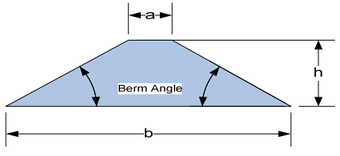


Figure 2 - Dozing Distance Calculation

Cross Sectional Area = $\frac{(a+b)}{2} \times h$

Berm Volume = Berm Length x Cross Sectional Area



Safety Berm Volume Calculation

Dozer productivity assumes push distance of:
100 feet

Dozer:
Length x (Berm Base Width + Dozer Push Distance) - accounts for disturbance created in borrow area

Excavator:
Length x (Berm Base Width + (2 x Excavator Track Width) - accounts for disturbance created in borrow area

Haul & Place:
Length x Berm Base Width - if necessary use Yards sheet to account for disturbance created in borrow area

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying time per dump

Slopes:
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Mid-bench length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
Minimum 1 hr

Flat Areas:
Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Revegetation: Minimum 1 acre revegetation crew time per area

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Model Version: Version 1.4.1
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Quarries and Borrow Areas - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$637	$1,039	N/A	$1,676
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost		$0	N/A	$0
Safety Berm Construction Cost	$0	$0	N/A	$0
Subtotal Earthwork	**$637**	**$1,039**	**$0**	**$1,676**
Revegetation Cost	$0	$0	$0	$0
Safety Berm Revegetation Cost	$0	$0	$0	$0
	$0	**$0**	**$0**	**$0**
TOTALS	**$637**	**$1,039**	**$0**	**$1,676**

Quarries & Borrow Pits - Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side) x (Altitude Deration)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity cy/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**N28A - Mat. Site A**	1,852	50	D8R	1,677	1.6	1.0	1.10	1.0	1,837	1	$91	$148	$239
2	**Material Site 1 (assume same midbenches as Site 23)**	4,059	50	D8R	1,677	1.6	1.0	1.10	1.0	1,837	2	$182	$297	$479
3	**Material Site 2 (assume same midbenches as Site 23)**	4,059	50	D8R	1,677	1.6	1.0	1.10	1.0	1,837	2	$182	$297	$479
4	**Material Site 23 (measured from aerial)**	4,059	50	D8R	1,677	1.6	1.0	1.10	1.0	1,837	2	$182	$297	$479
		14,029									7	**$637**	**$1,039**	**$1,676**

Quarries & Borrow Pits - Cover and Growth Media Costs

		Cover (lower layer)								Growth Media Placement							
	Description (required)	Cover Volume cy	Cover Replacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Cover Labor Cost $	Cover Equipment Cost $	Total Cover Cost $	Growth Media Volume cy	Growth Media Replacement Fleet	Fleet Productivity BCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**N28A - Mat. Site A**						$0	$0	$0	0					$0	$0	$0
2	**Material Site 1 (assume same midbenches as Site 23)**						$0	$0	$0						$0	$0	$0
3	**Material Site 2 (assume same midbenches as Site 23)**						$0	$0	$0						$0	$0	$0
4	**Material Site 23 (measured from aerial)**						$0	$0	$0						$0	$0	$0
							$0	**$0**	**$0**						**$0**	**$0**	**$0**

Quarries & Borrow Pits - Scarifying/Revegetation Costs

	Description (required)	Slope Area acres	Flat Area acres	Total Surface Area acres	Final Slope Length ft	Flat Area Long Dimension ft	Ripping/ Scarifying Fleet	Slope Scarifying/ Ripping Hours hrs	Flat Area Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**N28A - Mat. Site A**	1.24	0.91	2.15	54					$0	$0	$0	$0	$0	$0	$0
2	**Material Site 1 (assume same midbenches as Site 23)**	2.72	9.72	12.44	54					$0	$0	$0	$0	$0	$0	$0
3	**Material Site 2 (assume same midbenches as Site 23)**	2.72	13.46	16.18	54					$0	$0	$0	$0	$0	$0	$0
4	**Material Site 23 (measured from aerial)**	2.72	4.32	7.04	54					$0	$0	$0	$0	$0	$0	$0
		9.40	28.42	37.82							**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Notes: 1) Minimum total ripping hours = 1 (i.e. If total ripping hrs (slope + flat) < 1, then one hour of fleet time is assumed, regardless of acres shown in in scarifying table.)
2) Assumes 50min/hr equipment availability

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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Underground Openings Cost Summary

	Labor	Equipment	Materials	Totals
Adits, Portals & Declines Plugging	$16,907	$556	$3,847	$21,310
Shaft Backfill/Cover	$0	$0	N/A	$0
Shaft Capping	$0	$0	$0	$0
TOTALS	**$16,907**	**$556**	**$3,847**	**$21,310**

Adits, Portals & Declines - User Input

	Facility Description		Physical Characteristics				Backfill Material			
	Description (required)	ID Code	Height ft	Width ft	Backfill/ Plug Type	Distance to Bulkhead ft	Backfill Material Condition (select)	Backfill Material Type (select)	Distance to Backfill Borrow ft	Slope from Adit to Borrow Area % grade
1	2150 Portal - concrete bulkhead only	P3	22.0	20.0	Concrete Bul	100	1	Shale	200	0.0

Notes: 1) Foam (adit) option is for smaller openings that can be plugged with simple forms and a 5 ft thick plug.
2) Foam (production) option is for larger production openings (declines, etc.) and requires larger form construction and minimum 10 ft thick plug.
3) All foam plugs include minimum 15ft of backfill from opening to plug.
4) Bat gate option is for small openings and the material cost is the same for any size opening.
5) Backfilling assumes that small dozer will push material from nearby stockpile or dump
6) Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Shaft Openings - User Input — You must fill in ALL green cells and relevant blue cells in this section for each shaft

	Facility Description		Physical Characteristics			Backfill or Foundation Cover					
	Description (required)	ID Code	Diameter ft	Shaft Depth (for backfill method) ft	Backfill/ Plug Type (select)	Backfill Material Type (select)	Cover/ Backfill Fleet (select)	Thickness (if not complete backfill) ft	Distance to Backfill Borrow ft	Slope from Shaft to Borrow Area % grade	Maximum Fleet Size (user override)

Notes:
1. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
2. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Closure Cost Estimate
Underground Openings

Project Name: Reclamation Cost Estimate - Reclamation Plan
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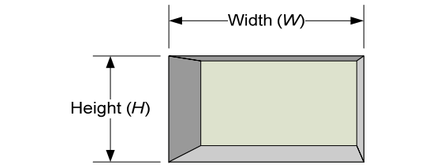
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

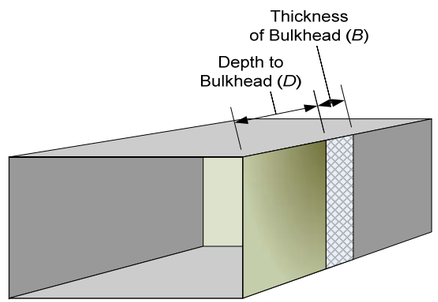
Underground Openings Cost Summary

	Labor	Equipment	Materials	Totals
Adits, Portals & Declines Plugging	$16,907	$556	$3,847	$21,310
Shaft Backfill/Cover	$0	$0	N/A	$0
Shaft Capping	$0	$0	$0	$0
TOTALS	**$16,907**	**$556**	**$3,847**	**$21,310**

Underground Openings - Calculations

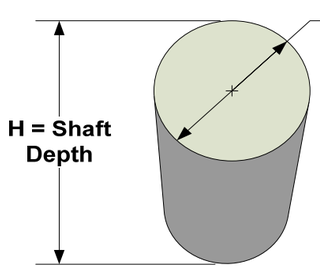
Adits, Declines and Portals - Volume Calculations





Cross-Sectional Area (A) = *W* x *H*
Volume of Concrete Bulkhead = *A* x *B*
Volume of Backfill = *A* x *D*

Shaft Volume Calculations



Radius (r) = ½d
Cross-Sectional Area (A) = πr^2
Volume = A x H

Concrete Cover/Bulkhead Volume Calculation

Using Means Heavy Construction Cost Data (2004)
- Estimage cover/bulkhead thickness
- Assumes that all concrete works are reinforced
- Productivity for crew from Means Heavy Construction Cost Data (2004) adjusted for supervision (addressed in Misc. Costs) and Davis-Bacon Wage Rates
- Assumes 18 in thick slab

Backfill Calculations

Uses 1 large and 1 small dozer for adit backfill
- Assumes max 400 foot push
- Assumes average operator and 50 min/hr availability

Uses truck & loader load, haul place fleets for shafts
- Concrete cap will be 1.5 feet thick, reinforced, structually supported.
- If concrete cap is used, assume 10 feet of rock backfill on top of cap.
- Assumes that all concrete works are reinforced
- If backfill is used, assume overfill by 5 feet

Carpenter rate incl Fringe: 0 per hour

Closure Cost Estimate
Underground Openings

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Underground Openings Cost Summary

	Labor	Equipment	Materials	Totals
Adits, Portals & Declines Plugging	$16,907	$556	$3,847	$21,310
Shaft Backfill/Cover	$0	$0	N/A	$0
Shaft Capping	$0	$0	$0	$0
TOTALS	**$16,907**	**$556**	**$3,847**	**$21,310**

Adits, Portals & Declines Plugging

Uses RS Means Heavy Construction Cost Data for bulkhead production rate, material costs and crews

				Bulkhead Construction				Backfill or Foam (1)				Bat Gate or Culvert (2,3,4)				Total Costs			
	Description (required)	Bulkhead Volume cy	Backfill (rock) Volume cy	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Bulkhead Cost $	Total Labor Cost $	Total Equipment Cost $	Material (Foam) Cost $	Total Backfill Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Bat Gate Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Plugging Costs $
1	**2150 Portal - concrete bulkhead only**	24		$16,907	$556	$3,847	$21,310	$0	$0	$0	$0	$0	$0	$0	$0	$16,907	$556	$3,847	**$21,310**
		24		**$16,907**	**$556**	**$3,847**	**$21,310**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$16,907**	**$556**	**$3,847**	**$21,310**

Notes:
1) Foam costs include 1 hour move to and setup + 1 hr. minimum crew time
2) Assumes 1 hr walk-in/walk-out time for equipment
3) Batgate assumes 8 hr install time each
4) Bat culvert backfill costs based on one 8-hr day (i.e. backfilling hours = 8 hrs).

Shaft Plugging

			Cover/Cap				Backfill/Cover		
	Description (required)	Cover Area ft2	Backfill or Cover Volume cy	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Shaft Cap Cost $	Total Labor Cost $	Total Equipment Cost $	Total Backfill Cost $
				$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

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Generic Material Hauling - Cost Summary

	Labor	Equipment	Materials	Totals
Hauling/Crush/Screen/Compact	$277,394	$566,386	N/A	$843,780
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$277,394**	**$566,386**	**$0**	**$843,780**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$277,394**	**$566,386**	**$0**	**$843,780**

Generic Material Hauling - User Input

	Facility Description			Physical		Hauled Material			Crushing & Screening					Cover			Growth Media		
	Description (required)	ID Code	Type	Final Surface Area acres	Average Ripping Distance ft	Material Volume Required cy	Distance from Borrow Source (1) ft	Slope to Borrow Source % grade	Crush Material	Screen Material	Loss to Crushing/ Screening %	Distance to Placement Location (2) ft	Slope to Placement % grade	Cover Thickness in	Distance to Cover Borrow ft	Slope to Borrow % grade	Growth Media Thickness in	Distance to Growth Material Stockpile ft	Slope to Stockpile % grade
1	N18 - Drystack - non-mineralized rock (top area)	P3	Other Facilities			80,667	6,520	-4.3		Yes									
2	N30 - Temporary stockpile removal	P2	Other Facilitie	0.00	0	20,000	20,560	-3.4											
3	N30 - Temporary stockpile liner excavate 3 ft and haul	P2	Other Facilities			6,679	20,120	-3.5											
4	N25 Stormwater pond liner (excavate 3ft) to 2150 portal	P3	Other Facilities			3,582	5,464	8.8											
5	N17 - RTP - Place filter base material for capping runoff sed	P4	Other Facilities			5,000	100	0.0											
6	N17 - RTP - HDPE excavated and removed	P4	Other Facilities			8,500	2,144	-3.3											
7	N17 - RTP - Remove Geosynthetic Clay Liner to DSTF	P4	Other Facilities			8,500	2,144	-3.3											
8	N98 - Drystack Perimeter Chnl - A - gravel filter layer	P3	Other Facilities			2,029	5,000	-5.0											
9	N98 - Drystack Perimeter Chnl - B - gravel filter layer	P3	Other Facilities			2,223	5,000	-5.0											
10	N98 - Drystack Perimeter Chnl - C - gravel filter layer	P3	Other Facilities			2,398	5,000	-5.0											
11	N98 - Drystack Perimeter Chnl - D - gravel filter layer	P3	Other Facilities			1,933	5,000	-5.0											
12	N98 - Drystack Perimeter Chnl - A - riprap	P3	Other Facilities			4,059	21,120	-4.7											
13	N98 - Drystack Perimeter Chnl - B - riprap	P3	Other Facilities			7,409	21,120	-4.7											
14	N98 - Drystack Perimeter Chnl - C - riprap	P3	Other Facilities			4,797	21,120	-4.7											
15	N98 - Drystack Perimeter Chnl - D - riprap	P3	Other Facilities			6,443	21,120	-4.7											
16	N98 - Drystack Perimeter Chnl - Stilling Basin riprap	P3	Other Facilities			248	21,120	-4.7											

Notes:
1. Input distance to crusher if material to be crushed
2. Input distance from crusher to placement if material to be crushed
3. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Generic Material Hauling - User Input (cont.)

		Hauling Material				Cover			Growth Media			Revegetation				
	Description (required)	Haul Material Type (select)	Material Hauling Fleet (select)	Each Fleet Size (from/to crusher) (user override)	Compact After Placement?	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Growth Media Material Type (select)	Growth Media Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch Type (select)	Fertilizer Type (select)	Scarify/ Rip? (select)	Scarifying/ Ripping Fleet (select)
1	N18 - Drystack - non-mineralized rock (top area)	Shale	Med Truck	4												
2	N30 - Temporary stockpile removal	Shale	Med Truck	3	Yes											
3	N30 - Temporary stockpile liner excavate 3 ft and haul	Shale	Med Truck	4												
4	N25 Stormwater pond liner (excavate 3ft) to 2150 portal	Shale	Large Truck	4												
5	N17 - RTP - Place filter base material for capping runoff sed	Shale	Med Truck	2												
6	N17 - RTP - HDPE excavated and removed	Shale	Med Truck	2												
7	N17 - RTP - Remove Geosynthetic Clay Liner to DSTF	Shale	Large Truck	2												
8	N98 - Drystack Perimeter Chnl - A - gravel filter layer	Shale	Med Truck		Yes											
9	N98 - Drystack Perimeter Chnl - B - gravel filter layer	Shale	Med Truck		Yes											
10	N98 - Drystack Perimeter Chnl - C - gravel filter layer	Shale	Med Truck		Yes											
11	N98 - Drystack Perimeter Chnl - D - gravel filter layer	Shale	Med Truck		Yes											
12	N98 - Drystack Perimeter Chnl - A - riprap	Shale	Med Truck	4												
13	N98 - Drystack Perimeter Chnl - B - riprap	Shale	Med Truck	4												
14	N98 - Drystack Perimeter Chnl - C - riprap	Shale	Med Truck	4												
15	N98 - Drystack Perimeter Chnl - D - riprap	Shale	Med Truck	4												
16	N98 - Drystack Perimeter Chnl - Stilling Basin riprap	Shale	Med Truck	4												

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Generic Material Hauling - Cost Summary

	Labor	Equipment	Materials	Totals
Hauling/Crush/Screen/Compact	$277,394	$566,386	N/A	$843,780
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$277,394**	**$566,386**	**$0**	**$843,780**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$277,394**	**$566,386**	**$0**	**$843,780**

Generic Material Hauling - Load, Haul, Place and Grade

		Material Haulage								Crush and/or Compact			
	Description (required)	Material Volume to Crusher cy	Final Material Volume cy	Material Haulage Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Hauling Labor Cost $	Hauling Equipment Cost $	Total Crush/ Screen Cost $	Compact Labor Cost $	Compact Equipment Cost $	Total Load/Haul/ Place Cost $
1	**N18 - Drystack - non-mineralized rock (top area)**	80,667	80,667	740/988G	442	4	183	$99,628	$180,882	$87,927	$0	$0	$368,437
2	**N30 - Temporary stockpile removal**	20,000	20,000	740/988G	182	3	110	$49,844	$90,495	$0	$10,400	$600	$151,339
3	**N30 - Temporary stockpile liner excavate 3 ft and haul**	6,679	6,679	740/988G	246	4	27	$14,672	$26,639	$0	$0	$0	$41,311
4	**N25 Stormwater pond liner (excavate 3ft) to 2150 portal**	3,582	3,582	740/988G	465	4	8	$4,347	$8,167	$0	$0	$0	$12,514
5	**N17 - RTP - Place filter base material for capping runoff sec**	5,000	5,000	740/988G	646	2	8	$2,903	$5,270	$0	$0	$0	$8,173
6	**N17 - RTP - HDPE excavated and removed**	8,500	8,500	740/988G	428	2	20	$7,257	$13,175	$0	$0	$0	$20,432
7	**N17 - RTP - Remove Geosynthetic Clay Liner to DSTF**	8,500	8,500	740/988G	428	2	20	$7,257	$13,861	$0	$0	$0	$21,118
8	**N98 - Drystack Perimeter Chnl - A - gravel filter layer**	2,029	2,029	740/988G	521	4	4	$2,174	$3,946	$0	$1,055	$61	$7,236
9	**N98 - Drystack Perimeter Chnl - B - gravel filter layer**	2,223	2,223	740/988G	521	4	4	$2,174	$3,946	$0	$1,156	$67	$7,342
10	**N98 - Drystack Perimeter Chnl - C - gravel filter layer**	2,398	2,398	740/988G	521	4	5	$2,717	$4,933	$0	$1,247	$72	$8,969
11	**N98 - Drystack Perimeter Chnl - D - gravel filter layer**	1,933	1,933	740/988G	521	4	4	$2,174	$3,946	$0	$1,005	$58	$7,183
12	**N98 - Drystack Perimeter Chnl - A - riprap**	4,059	4,059	740/988G	183	4	22	$11,955	$21,706	$0	$0	$0	$33,661
13	**N98 - Drystack Perimeter Chnl - B - riprap**	7,409	7,409	740/988G	183	4	40	$21,737	$39,465	$0	$0	$0	$61,202
14	**N98 - Drystack Perimeter Chnl - C - riprap**	4,797	4,797	740/988G	183	4	26	$14,129	$25,652	$0	$0	$0	$39,781
15	**N98 - Drystack Perimeter Chnl - D - riprap**	6,443	6,443	740/988G	183	4	35	$19,020	$34,532	$0	$0	$0	$53,552
16	**N98 - Drystack Perimeter Chnl - Stilling Basin riprap**	248	248	740/988G	183	4	1	$543	$987	$0	$0	$0	$1,530
		164,466	164,466				517	**$262,531**	**$477,602**	**$87,927**	**$14,863**	**$857**	**$843,780**

Notes: Final Material Volume includes allowance for additional material hauled to crushing/screening plant based on Loss to Crushing/Screening input above.

Generic Material Hauling - Cover and Growth Media Costs

		Cover Placement								Growth Media Placement							
	Description (required)	Cover Volume cy	Cover Placement Fleet	Cover Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Placement Cost $	Growth Media Volume cy	Growth Media Placement Fleet	Growth Media Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoil Placement Cost $
1	**N18 - Drystack - non-mineralized rock (top area)**						$0	$0	$0	0					$0	$0	$0
2	**N30 - Temporary stockpile removal**						$0	$0	$0	0					$0	$0	$0
3	**N30 - Temporary stockpile liner excavate 3 ft and haul**						$0	$0	$0	0					$0	$0	$0
4	**N25 Stormwater pond liner (excavate 3ft) to 2150 portal**						$0	$0	$0	0					$0	$0	$0
5	**N17 - RTP - Place filter base material for capping runoff sec**						$0	$0	$0	0					$0	$0	$0
6	**N17 - RTP - HDPE excavated and removed**						$0	$0	$0	0					$0	$0	$0
7	**N17 - RTP - Remove Geosynthetic Clay Liner to DSTF**						$0	$0	$0	0					$0	$0	$0
8	**N98 - Drystack Perimeter Chnl - A - gravel filter layer**						$0	$0	$0	0					$0	$0	$0
9	**N98 - Drystack Perimeter Chnl - B - gravel filter layer**						$0	$0	$0	0					$0	$0	$0
10	**N98 - Drystack Perimeter Chnl - C - gravel filter layer**						$0	$0	$0	0					$0	$0	$0
11	**N98 - Drystack Perimeter Chnl - D - gravel filter layer**						$0	$0	$0	0					$0	$0	$0
12	**N98 - Drystack Perimeter Chnl - A - riprap**						$0	$0	$0	0					$0	$0	$0
13	**N98 - Drystack Perimeter Chnl - B - riprap**						$0	$0	$0	0					$0	$0	$0
14	**N98 - Drystack Perimeter Chnl - C - riprap**						$0	$0	$0	0					$0	$0	$0
15	**N98 - Drystack Perimeter Chnl - D - riprap**						$0	$0	$0	0					$0	$0	$0
16	**N98 - Drystack Perimeter Chnl - Stilling Basin riprap**						$0	$0	$0	0					$0	$0	$0
							$0	**$0**	**$0**						**$0**	**$0**	**$0**

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Generic Material Hauling - Cost Summary

	Labor	Equipment	Materials	Totals
Hauling/Crush/Screen/Compact	$277,394	$566,386	N/A	$843,780
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$277,394**	**$566,386**	**$0**	**$843,780**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$277,394**	**$566,386**	**$0**	**$843,780**

Generic Material Hauling - Scarifying/Revegetation Costs

	Description (required)	Total Surface Area acres	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Cost $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Cost $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**N18 - Drystack - non-mineralized rock (top area)**	0.10		$0	$0	$0	$0	$0	$0	$0
2	**N30 - Temporary stockpile removal**	0.10		$0	$0	$0	$0	$0	$0	$0
3	**N30 - Temporary stockpile liner excavate 3 ft and haul**	0.10		$0	$0	$0	$0	$0	$0	$0
4	**N25 Stormwater pond liner (excavate 3ft) to 2150 portal**	0.10		$0	$0	$0	$0	$0	$0	$0
5	**N17 - RTP - Place filter base material for capping runoff sec**	0.10		$0	$0	$0	$0	$0	$0	$0
6	**N17 - RTP - HDPE excavated and removed**	0.10		$0	$0	$0	$0	$0	$0	$0
7	**N17 - RTP - Remove Geosynthetic Clay Liner to DSTF**	0.10		$0	$0	$0	$0	$0	$0	$0
8	**N98 - Drystack Perimeter Chnl - A - gravel filter layer**	0.10		$0	$0	$0	$0	$0	$0	$0
9	**N98 - Drystack Perimeter Chnl - B - gravel filter layer**	0.10		$0	$0	$0	$0	$0	$0	$0
10	**N98 - Drystack Perimeter Chnl - C - gravel filter layer**	0.10		$0	$0	$0	$0	$0	$0	$0
11	**N98 - Drystack Perimeter Chnl - D - gravel filter layer**	0.10		$0	$0	$0	$0	$0	$0	$0
12	**N98 - Drystack Perimeter Chnl - A - riprap**	0.10		$0	$0	$0	$0	$0	$0	$0
13	**N98 - Drystack Perimeter Chnl - B - riprap**	0.10		$0	$0	$0	$0	$0	$0	$0
14	**N98 - Drystack Perimeter Chnl - C - riprap**	0.10		$0	$0	$0	$0	$0	$0	$0
15	**N98 - Drystack Perimeter Chnl - D - riprap**	0.10		$0	$0	$0	$0	$0	$0	$0
16	**N98 - Drystack Perimeter Chnl - Stilling Basin riprap**	0.10		$0	$0	$0	$0	$0	$0	$0
		1.60		**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

Buildings & Foundation - User Input

You must fill in ALL green cells and relevant blue cells in this section for each building or facility

	Facility Description			Physical - MANDATORY								Foundation Cover (1)			Growth Media (1) (entire footprint)		
	Description (required)	ID Code	Type	Length ft	Width ft	Eve Height ft	Slab Thickness in	Foundation Wall Thickness in	Foundation Wall Height ft	Average Flat Area Long Dimension (ripping distance) ft	Building Area Footprint (including surrounding facilities) acres	Foundation Cover Thickness in	Distance from Foundation Cover Borrow Area ft	Slope from Facility to Borrow Area % grade	Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Facility to Stockpile % grade
1	# 1 - Mill - Job Trailer	P3	Site Facilities - Buildings	19	10	8	0	0	0	19	0.00	36	1,000	-5.0	6	3,000	-5.0
2	# 2 - Mill - Connex	P3	Site Facilities - Buildings	25	9	8	0	0	0	25	0.01	36	1,000	-5.0	6	3,000	-5.0
3	# 3 - Mill - Connex	P3	Site Facilities - Buildings	25	9	8	0	0	0	25	0.01	36	1,000	-5.0	6	3,000	-5.0
4	# 4 - Mill - Tent Building	P3	Site Facilities - Buildings	35	17	15	0	0	0	35	0.01	36	1,000	-5.0	6	3,000	-5.0
5	# 5 - Mill - Electrical Module	P3	Site Facilities - Buildings	31	17	12	4	12	2	31	0.01	36	1,000	-5.0	6	3,000	-5.0
6	# 6 - Mill - Microwave Tower	P3	Site Facilities - Buildings	15	15	8	4	12	2	15	0.01	36	1,000	-5.0	6	3,000	-5.0
7	# 7 - Mill - Electrical Module (ER-1)	P3	Site Facilities - Buildings	50	20	12	4	12	2	50	0.02	36	1,000	-5.0	6	3,000	-5.0
8	# 8 - Mill - Bag House	P3	Site Facilities - Buildings	32	12	20	4	12	2	32	0.01	36	1,000	-5.0	6	3,000	-5.0
9	# 9 - Mill - Assay Lab	P3	Site Facilities - Buildings	76	50	15	8	12	2	76	0.09	36	1,000	-5.0	6	3,000	-5.0
10	# 10 - Mill - Reagent Loadout Area (Slab+Roof Only)	P3	Site Facilities - Buildings	112	37	15	4	0	0	112	0.10	36	1,000	-5.0	6	3,000	-5.0
11	# 11 - Mill - Reagent Storage Area	P3	Site Facilities - Buildings	78	36	15	4	12	2	78	0.06	36	1,000	-5.0	6	3,000	-5.0
12	# 12 - Mill - CN Recovery Thickener	P3	Site Facilities - Buildings	37	34	15	4	12	2	37	0.03	36	1,000	-5.0	6	3,000	-5.0
13	# 13 - Mill - Reagent Handling	P3	Site Facilities - Buildings	133	89	50	12	12	2	133	0.27	36	1,000	-5.0	6	3,000	-5.0
14	# 14 - Mill - CN Leach Tanks	P3	Site Facilities - Buildings	90	54	12	4	12	2	90	0.11	36	1,000	-5.0	6	3,000	-5.0
15	# 15 - Mill - Flotation	P3	Site Facilities - Buildings	141	48	50	12	12	2	141	0.16	36	1,000	-5.0	6	3,000	-5.0
16	# 16 - Mill - Refinery	P3	Site Facilities - Buildings	144	41	50	12	12	2	144	0.14	36	1,000	-5.0	6	3,000	-5.0
17	# 17 - Mill - Flotation Thickener	P3	Site Facilities - Buildings	33	29	40	12	12	2	33	0.02	36	1,000	-5.0	6	3,000	-5.0
18	# 18 - Mill - Process Water Tank Area	P3	Site Facilities - Buildings	17	15	15	4	12	2	17	0.01	36	1,000	-5.0	6	3,000	-5.0
19	# 19 - Mill - Grinding Water Tank	P3	Site Facilities - Buildings	29	26	20	8	12	2	29	0.02	36	1,000	-5.0	6	3,000	-5.0
20	# 20 - Mill - Building	P3	Site Facilities - Buildings	48	35	40	12	12	2	48	0.04	36	1,000	-5.0	6	3,000	-5.0
21	# 21 - Mill - Gravity	P3	Site Facilities - Buildings	43	35	60	12	12	2	43	0.03	36	1,000	-5.0	6	3,000	-5.0
22	# 22 - Mill - Grinding	P3	Site Facilities - Buildings	90	86	60	12	12	2	90	0.18	36	1,000	-5.0	6	3,000	-5.0
23	# 23 - Mill - Backup Generator Connex	P3	Site Facilities - Buildings	32	9	8	0	0	0	32	0.01	36	1,000	-5.0	6	3,000	-5.0
24	# 24 - Mill - Backup Generator Connex	P3	Site Facilities - Buildings	32	9	8	0	0	0	32	0.01	36	1,000	-5.0	6	3,000	-5.0
25	# 25 - Mill - Electrical Module ER-4	P3	Site Facilities - Buildings	47	29	12	4	12	2	47	0.03	36	1,000	-5.0	6	3,000	-5.0
26	# 26 - Mill - Sloping Conveyor Building	P3	Site Facilities - Buildings	26	20	40	12	12	2	26	0.01	36	1,000	-5.0	6	3,000	-5.0
27	# 27 - Mill - Cold Weather Parts Laydown	P3	Site Facilities - Buildings	39	9	0	0	0	0	39	0.01	36	1,000	-5.0	6	3,000	-5.0
28	# 28 - Mill - Small Shop	P3	Site Facilities - Buildings	40	40	18	4	12	2	40	0.04	36	1,000	-5.0	6	3,000	-5.0
29	# 29 - Mill - Connexes (2) Stacked - Parts Storage	P3	Site Facilities - Buildings	40	9	18	0	0	0	40	0.01	36	1,000	-5.0	6	3,000	-5.0
30	# 30 - Mill - Sloping Conveyor Gallery	P3	Site Facilities - Buildings	194	26	26	8	12	2	194	0.12	36	1,000	-5.0	6	3,000	-5.0
31	# 31 - Mill - AST-02 Fuel Tank	P3	Site Facilities - Buildings	42	13	0	4	12	2	42	0.01	36	1,000	-5.0	6	3,000	-5.0
32	# 32 - Mill - Connexes (2) Side by Side - Storage	P3	Site Facilities - Buildings	17	15	8	0	0	0	17	0.01	36	1,000	-5.0	6	3,000	-5.0
33	# 33 - Mill - Office	P3	Site Facilities - Buildings	100	30	20	8	12	2	100	0.07	36	1,000	-5.0	6	3,000	-5.0
34	# 34 - Mill - Coarse Ore Bin Area	P3	Site Facilities - Buildings	39	33	15	8	12	2	39	0.03	36	1,000	-5.0	6	3,000	-5.0
35	# 35 - Mill - Coarse Ore Bin	P3	Site Facilities - Buildings	36	36	50	24	12	2	36	0.03	36	1,000	-5.0	6	3,000	-5.0
36	# 36 - Mill - Reclaim Hopper Area	P3	Site Facilities - Buildings	48	28	40	12	12	2	48	0.03	36	1,000	-5.0	6	3,000	-5.0
37	# 37 - Mill - Conveyor (Legs on Concrete Piers/Large Blocks	P3	Site Facilities - Buildings	1431	9	10				1,431	0.30	36	1,000	-5.0	6	3,000	-5.0
38	# 38 - Mill - New CIP Tailings Storage Tank	P3	Site Facilities - Buildings	50	50	46	16	12	2	50	0.06	36	1,000	-5.0	6	3,000	-5.0
39	# 39 - Mill - Old CIP Tailings Storage Tank	P3	Site Facilities - Buildings	47	47	40	12	12	2	47	0.05	36	1,000	-5.0	6	3,000	-5.0
40	# 40 - Mill - Flotation Tailings Thickener	P3	Site Facilities - Buildings	36	36	20	8	12	2	36	0.03	36	1,000	-5.0	6	3,000	-5.0
41	# 41 - Mill - Cement Storage Trailers (Bulk Load Tankers) or	P3	Site Facilities - Buildings	48	12	0	0	0	0	48	0.01	36	1,000	-5.0	6	3,000	-5.0
42	# 42 - Mill - Cement Storage Trailers (Bulk Load Tankers) or	P3	Site Facilities - Buildings	48	12	0	0	0	0	48	0.01	36	1,000	-5.0	6	3,000	-5.0
43	# 43 - Mill - Cement Silo	P3	Site Facilities - Buildings	22	20	40	8	12	2	22	0.01	36	1,000	-5.0	6	3,000	-5.0
44	# 44 - Mill - Backfill Paste Plant	P3	Site Facilities - Buildings	165	74	40	12	12	2	165	0.28	36	1,000	-5.0	6	3,000	-5.0
45	# 45 - Mill - Backfill Water Dilution Tank	P3	Site Facilities - Buildings	35	35	30	12	12	2	35	0.03	36	1,000	-5.0	6	3,000	-5.0
46	# 46 - Mill - Filter Feed Tank	P3	Site Facilities - Buildings	35	35	25	12	12	2	35	0.03	36	1,000	-5.0	6	3,000	-5.0

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

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TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

47	# 47 - Mill - Electrical Control Module	P3	Site Facilities - Buildings	52	14	12	4	12	2	52	0.02	36	1,000	-5.0	6	3,000	-5.0
48	# 48 - Mill - Compressor Room	P3	Site Facilities - Buildings	50	22	12	4	12	2	50	0.03	36	1,000	-5.0	6	3,000	-5.0
49	# 49 - Mill - Tailings Building	P3	Site Facilities - Buildings	55	44	40	12	12	2	55	0.06	36	1,000	-5.0	6	3,000	-5.0
50	# 50 - Mill - Conveyor Enclosure	P3	Site Facilities - Buildings	71	36	30	12	12	2	71	0.06	36	1,000	-5.0	6	3,000	-5.0
51	# 51 - Mill - Flotation Tailings Storage	P3	Site Facilities - Buildings	139	77	40	12	12	2	139	0.25	36	1,000	-5.0	6	3,000	-5.0
52	# 52 - 1690 Portal - SW Pond Pumphouse	P3	Site Facilities - Buildings	41	13	12	12	12	2	41	0.01	36	1,000	-5.0	6	3,000	-5.0
53	# 53 - 1690 Portal - Entrance Structure - Portal Steel Sets (N	P3	Site Facilities - Buildings	78	20	20	0	0	0	78	0.04	36	1,000	-5.0	6	3,000	-5.0
54	# 54 - Main Camp - AST-01 Fuel Tank (2 Concrete Pads that	P3	Site Facilities - Buildings	36	8	0				36	0.01	36	1,000	-5.0	6	3,000	-5.0
55	# 55 - Main Camp - Connexes (2) - Side by Side	P3	Site Facilities - Buildings	20	17	8	0	0	0	20	0.01	36	1,000	-5.0	6	3,000	-5.0
56	# 56 - Main Camp - Potable Water Treatment	P3	Site Facilities - Buildings	48	10	10	4	12	2	48	0.01	36	1,000	-5.0	6	3,000	-5.0
57	# 57 - Main Camp - Potable Water Tank	P3	Site Facilities - Buildings	40	7	8	4	12	2	40	0.01	36	1,000	-5.0	6	3,000	-5.0
58	# 58 - Main Camp - Fire Water Pumphouse	P3	Site Facilities - Buildings	34	15	10	4	12	2	34	0.01	36	1,000	-5.0	6	3,000	-5.0
59	# 59 - Main Camp - Fire Water Tank	P3	Site Facilities - Buildings	30	27	33	4	12	2	30	0.02	36	1,000	-5.0	6	3,000	-5.0
60	# 60 - Main Camp - Dorms (A-Wing, B-Wing, Rec Area)	P3	Site Facilities - Buildings	353	87	30	12	12	2	353	0.71	36	1,000	-5.0	6	3,000	-5.0
61	# 61 - Main Camp - Kitchen	P3	Site Facilities - Buildings	82	60	20	4	12	2	82	0.11	36	1,000	-5.0	6	3,000	-5.0
62	# 62 - Main Camp - Dorms (C-Wing)	P3	Site Facilities - Buildings	308	17	20	4	12	2	308	0.12	36	1,000	-5.0	6	3,000	-5.0
63	# 63 - Main Camp - Administrative Offices	P3	Site Facilities - Buildings	167	81	30	12	12	2	167	0.31	36	1,000	-5.0	6	3,000	-5.0
64	# 64 - Main Camp - Shops & Warehouse	P3	Site Facilities - Buildings	206	121	40	12	12	2	206	0.57	36	1,000	-5.0	6	3,000	-5.0
65	# 65 - Main Camp - Fuel Tank	P3	Site Facilities - Buildings	44	13	4	4	12	2	44	0.01	36	1,000	-5.0	6	3,000	-5.0
66	# 66 - Main Camp - Fuel Tank	P3	Site Facilities - Buildings	44	13	4	4	12	2	44	0.01	36	1,000	-5.0	6	3,000	-5.0
67	# 67 - Main Camp - Propane Storage Tank Foundations	P3	Site Facilities - Buildings	48	12	2	4	12	2	48	0.01	36	1,000	-5.0	6	3,000	-5.0
68	# 68 - Main Camp - Propane Storage Tank Foundations	P3	Site Facilities - Buildings	48	12	2	4	12	2	48	0.01	36	1,000	-5.0	6	3,000	-5.0
69	# 69 - 1875 Portal - Portal Heaters (Concrete Slab with Equi	P3	Site Facilities - Buildings	31	20	12	6	12	2	31	0.01	36	1,000	-5.0	6	3,000	-5.0
70	# 70 - 1875 Portal - Entrance Structure - Portal Steel Sets (N	P3	Site Facilities - Buildings	34	22	22	0	0	0	34	0.02	36	1,000	-5.0	6	3,000	-5.0
71	# 71 - 1875 Portal - Storage Connex for Drill Bits	P3	Site Facilities - Buildings	40	15	0	0	0	0	40	0.01	36	1,000	-5.0	6	3,000	-5.0
72	# 72 - 1875 Portal - Shop (On Concrete Slab)	P3	Site Facilities - Buildings	81	39	20	6	12	2	81	0.07	36	1,000	-5.0	6	3,000	-5.0
73	# 73 - 1875 Portal - Shop (Concrete Slab Only)	P3	Site Facilities - Buildings	27	20	0	4	12	2	27	0.01	36	1,000	-5.0	6	3,000	-5.0
74	# 74 - RTP - Pump House / Electrical - Connex	P3	Site Facilities - Buildings	20	10	0	0	0	0	20	0.00	36	1,000	-5.0	6	3,000	-5.0
75	# 75 - RTP - Electrical Module	P3	Site Facilities - Buildings	16	13	12	4	12	2	16	0.00	36	1,000	-5.0	6	3,000	-5.0
76	# 76 - RTP - Primary RTP Head Tank (Water Tank)	P3	Site Facilities - Buildings	21	21	20	12	12	2	21	0.01	36	1,000	-5.0	6	3,000	-5.0
77	# 77 - RTP - Secondary RTP Head Tank (Water Tank)	P3	Site Facilities - Buildings	14	14	20	12	12	2	14	0.00	36	1,000	-5.0	6	3,000	-5.0
78	# 78 - 2150 Portal - Raise Bore - Tank (no top or bottom) Co	P3	Site Facilities - Buildings	12	12	15	12	12	2	12	0.00	36	1,000	-5.0	6	3,000	-5.0
79	# 79 - 2150 Portal - Electrical Module	P3	Site Facilities - Buildings	28	25	12	4	12	2	28	0.02	36	1,000	-5.0	6	3,000	-5.0
80	# 80 - 2150 Portal - Transformers	P3	Site Facilities - Buildings	25	14	0	4	12	2	25	0.01	36	1,000	-5.0	6	3,000	-5.0
81	# 81 - 2150 Portal - Air Compressor Module	P3	Site Facilities - Buildings	33	17	12	4	12	2	33	0.01	36	1,000	-5.0	6	3,000	-5.0
82	# 82 - 2150 Portal - Air Compressor Module	P3	Site Facilities - Buildings	33	17	12	4	12	2	33	0.01	36	1,000	-5.0	6	3,000	-5.0
83	# 83 - 2150 Portal - Entrance Structure Portal Steel Sets (Me	P3	Site Facilities - Buildings	33	22	22	0	0	0	33	0.02	36	1,000	-5.0	6	3,000	-5.0
84	# 84 - 2150 Portal - Portal Heaters (Concrete Slab with Equi	P3	Site Facilities - Buildings	31	19	12	6	12	2	31	0.01	36	1,000	-5.0	6	3,000	-5.0
85	# 85 - 2150 Portal - Propane Vaporizors for the 2150 Mine F	P3	Site Facilities - Buildings	22	12	8	4	12	2	22	0.01	36	1,000	-5.0	6	3,000	-5.0
86	# 86 - 2150 Portal - Propane Tank - Concrete Foundation St	P3	Site Facilities - Buildings	64	9	5	12	12	2	64	0.01	36	1,000	-5.0	6	3,000	-5.0
87	# 87 - 2150 Portal - Propane Tank - Concrete Foundation St	P3	Site Facilities - Buildings	64	9	5	12	12	2	64	0.01	36	1,000	-5.0	6	3,000	-5.0
88	# 88 - Exploration - Old Exploration Core Shack - Wooden S	P3	Site Facilities - Buildings	31	30	0	0	0	0	31	0.02	36	1,000	-5.0	6	3,000	-5.0
89	# 89 - Exploration - Old Exploration Office Building - Woode	P3	Site Facilities - Buildings	42	26	0	0	0	0	42	0.03	36	1,000	-5.0	6	3,000	-5.0
90	# 90 - Pump Building / Electrical Module	P3	Site Facilities - Buildings	31	12	8	4	12	2	31	0.01	36	1,000	-5.0	6	3,000	-5.0
91	# 91 - Connexes (4) with a Tent Building on Top of Them - N	P3	Site Facilities - Buildings	61	48	25	0	0	0	61	0.07	36	1,000	-5.0	6	3,000	-5.0
92	# 92 - Outfall Building - Concrete Below Ground Structure	P3	Site Facilities - Buildings	13	11	12	36	12	12	13	0.00	36	1,000	-5.0	6	3,000	-5.0
93	# 93 - Connex / Wood Frame HDPE Pipe Welding Shack - N	P3	Site Facilities - Buildings	21	18	8	0	0	0	21	0.01	36	1,000	-5.0	6	3,000	-5.0
94	# 94 - Tire Farm - Tent Building - No Foundation	P3	Site Facilities - Buildings	56	32	0	0	0	0	56	0.04	36	1,000	-5.0	6	3,000	-5.0
95	# 95 - Wire Farm - Connexes for Storage - No Foundation	P3	Site Facilities - Buildings	98	24	8	8	8	8	98	0.05	36	1,000	-5.0	6	3,000	-5.0
96	# 96 - Heat Trace Control Building - No Foundation	P3	Site Facilities - Buildings	9	7	0	0	0	0	9	0.00	36	1,000	-5.0	6	3,000	-5.0
97	# 97 - Electrical Module	P3	Site Facilities - Buildings	15	12	8	6	12	2	15	0.00	36	1,000	-5.0	6	3,000	-5.0
98	# 98 - D-Wing - ATCO-like Dorm Module	P3	Site Facilities - Buildings	65	59	10	12	12	2	65	0.09	36	1,000	-5.0	6	3,000	-5.0
99	# 99 - D-Wing - ATCO-like Dorm Module	P3	Site Facilities - Buildings	178	30	10	12	12	2	178	0.12	36	1,000	-5.0	6	3,000	-5.0
100	# 100 - D-Wing - ATCO-like Dorm Module	P3	Site Facilities - Buildings	293	30	10	12	12	2	293	0.20	36	1,000	-5.0	6	3,000	-5.0
101	# 101 - D-Wing - Job Trailers for Contractors - No Foundatio	P3	Site Facilities - Buildings	20	12	0				20	0.01	36	1,000	-5.0	6	3,000	-5.0

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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

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Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
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Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

102	# 102 - D-Wing - Job Trailers for Contractors - No Foundatic	P3	Site Facilities - Buildings	20	12	0				20	0.01	36	1,000	-5.0	6	3,000	-5.0
103	# 103 - D-Wing - Job Trailers for Contractors - No Foundatic	P3	Site Facilities - Buildings	20	12	0				20	0.01	36	1,000	-5.0	6	3,000	-5.0
104	# 104 - D-Wing - Mine Dry and Laundry Facilities	P3	Site Facilities - Buildings	128	64	10	12	12	2	128	0.19	36	1,000	-5.0	6	3,000	-5.0
105	# 105 - D-Wing - ATCO-like Hallway Modules	P3	Site Facilities - Buildings	86	11	10	12	12	2	86	0.02	36	1,000	-5.0	6	3,000	-5.0
106	# 106 - D-Wing - ATCO-like Kitched / Rec Room	P3	Site Facilities - Buildings	144	61	10	12	12	2	144	0.20	36	1,000	-5.0	6	3,000	-5.0
107	# 107 - D-Wing - Connexes (2) Side by Side - No Foundatior	P3	Site Facilities - Buildings	38	16	0	0	0	0	38	0.01	36	1,000	-5.0	6	3,000	-5.0
108	# 108 - Incinerator - Concrete Apron & Concrete Secondary	P3	Site Facilities - Buildings	46	13	2	6	8	8	46	0.01	36	1,000	-5.0	6	3,000	-5.0
109	# 109 - Incinerator - Monolithic Dome Structure with Signifi	P3	Site Facilities - Buildings	38	38	30	36	12	24	38	0.03	36	1,000	-5.0	6	3,000	-5.0
110	# 110 - Vaporizer Shack & Propane Tank	P3	Site Facilities - Buildings	33	11	0	0	0	0	33	0.01	36	1,000	-5.0	6	3,000	-5.0
111	# 111 - Laydown #1 - Small Wooden Storage Shed - No Fou	P3	Site Facilities - Buildings	20	13	0	0	0	0	20	0.01	36	1,000	-5.0	6	3,000	-5.0
112	# 112 - Lower Camp - Ozone System for PWTP#3	P3	Site Facilities - Buildings	13	9	8	4	12	2	13	0.00	36	1,000	-5.0	6	3,000	-5.0
113	# 113 - Lower Camp - Potable Water Treatment Plant #3 (PV	P3	Site Facilities - Buildings	48	11	10	4	12	2	48	0.01	36	1,000	-5.0	6	3,000	-5.0
114	# 114 - Lower Camp - Potable Water Storage Tank	P3	Site Facilities - Buildings	26	10	10	4	12	2	26	0.01	36	1,000	-5.0	6	3,000	-5.0
115	# 115 - Lower Camp - Connexes (2x20') Side by Side - No F	P3	Site Facilities - Buildings	21	16	0	0	0	0	21	0.01	36	1,000	-5.0	6	3,000	-5.0
116	# 116 - Lower Camp - Warehouse Warm Storage no Concre	P3	Site Facilities - Buildings	41	40	20	4	12	2	41	0.04	36	1,000	-5.0	6	3,000	-5.0
117	# 117 - Lower Camp - Environmental Field Lab - ATCO Unit	P3	Site Facilities - Buildings	46	12	9	4	12	2	46	0.01	36	1,000	-5.0	6	3,000	-5.0
118	# 118 - Lower Camp - Connexes (2x20') Side by Side - No F	P3	Site Facilities - Buildings	21	16	0	0	0	0	21	0.01	36	1,000	-5.0	6	3,000	-5.0
119	# 119 - Lower Camp - Connex (40') Storage - No Foundatior	P3	Site Facilities - Buildings	39	8	0	0	0	0	39	0.01	36	1,000	-5.0	6	3,000	-5.0
120	# 120 - Lower Camp - Connex Electrical Module - No Found	P3	Site Facilities - Buildings	41	10	0	0	0	0	41	0.01	36	1,000	-5.0	6	3,000	-5.0
121	# 121 - Lower Camp - Lower Warehouse - Steel Building	P3	Site Facilities - Buildings	101	42	20	4	12	2	101	0.10	36	1,000	-5.0	6	3,000	-5.0
122	# 122 - Lower Camp - Connex Storage Warehouse - No Fou	P3	Site Facilities - Buildings	39	9	0	0	0	0	39	0.01	36	1,000	-5.0	6	3,000	-5.0
123	# 123 - Lower Camp - Front Porch of Redpath Office - No F	P3	Site Facilities - Buildings	17	10	0	0	0	0	17	0.00	36	1,000	-5.0	6	3,000	-5.0
124	# 124 - Lower Camp - Red Path Office ATCO Structure	P3	Site Facilities - Buildings	51	31	9	4	12	2	51	0.04	36	1,000	-5.0	6	3,000	-5.0
125	# 125 - Lower Camp - Red Path Office ATCO Structure	P3	Site Facilities - Buildings	55	11	9	4	12	2	55	0.01	36	1,000	-5.0	6	3,000	-5.0
126	# 126 - Lower Camp - Dormitory E Wing ATCO Structure	P3	Site Facilities - Buildings	182	28	10	4	12	2	182	0.12	36	1,000	-5.0	6	3,000	-5.0
127	# 127 - Lower Camp - Dormitory E Wing Entrance / Laundry	P3	Site Facilities - Buildings	31	22	0	0	0	0	31	0.02	36	1,000	-5.0	6	3,000	-5.0
128	# 128 - Lower Camp - Rec Room Yurt - No Foundation	P3	Site Facilities - Buildings	20	20	0				20	0.01	36	1,000	-5.0	6	3,000	-5.0
129	# 129 - Lower Camp - Fire Water Building for E-Wing - On G	P3	Site Facilities - Buildings	12	12	0	0	0	0	12	0.00	36	1,000	-5.0	6	3,000	-5.0
130	# 130 - Lower Camp - Electrical Module / Transformer	P3	Site Facilities - Buildings	12	8	6	4	0	0	12	0.00	36	1,000	-5.0	6	3,000	-5.0
131	# 131 - Lower Camp - Sewage Treatment Plant (STP) - Meta	P3	Site Facilities - Buildings	102	42	20	4	6	6	102	0.10	36	1,000	-5.0	6	3,000	-5.0
132	# 132 - Lower Camp - STP Office - Framed - No Foundation	P3	Site Facilities - Buildings	33	12	0	0	0	0	33	0.01	36	1,000	-5.0	6	3,000	-5.0
133	# 133 - Lower Camp - Concrete Pad in Front of Doorway	P3	Site Facilities - Buildings	8	7	0	4	0	0	8	0.00	36	1,000	-5.0	6	3,000	-5.0
134	# 134 - Lower Camp - Concrete Pad in Front of Doorway	P3	Site Facilities - Buildings	8	7	0	4	0	0	8	0.00	36	1,000	-5.0	6	3,000	-5.0
135	# 135 - Lower Camp - Old Incinerator Building - Metal on Sl	P3	Site Facilities - Buildings	24	21	15	4	0	0	24	0.01	36	1,000	-5.0	6	3,000	-5.0
136	# 136 - Lower Camp - Connexes (2x20') Side by Side - No F	P3	Site Facilities - Buildings	37	16	0	0	0	0	37	0.01	36	1,000	-5.0	6	3,000	-5.0
137	# 137 - Lower Camp - Large Tent/Shop for Core Shack - No	P3	Site Facilities - Buildings	50	26	15	0	0	0	50	0.03	36	1,000	-5.0	6	3,000	-5.0
138	# 138 - Lower Camp - Wooden Framed Storage Shed - No F	P3	Site Facilities - Buildings	27	14	8	0	0	0	27	0.01	36	1,000	-5.0	6	3,000	-5.0
139	# 139 - Lower Camp - Large Tent/Shop for Core Shack - No	P3	Site Facilities - Buildings	50	26	15	0	0	0	50	0.03	36	1,000	-5.0	6	3,000	-5.0
140	# 140 - Lower Camp - Core Processing Facility (CPF)	P3	Site Facilities - Structures	62	44	15	6	6	6	62	0.06	36	1,000	-5.0	6	3,000	-5.0
141	# 141 - Lower Camp - CPF Office - Wooden Framed Buildin	P3	Site Facilities - Buildings	21	20	8	0	0	0	21	0.01	36	1,000	-5.0	6	3,000	-5.0
142	# 142 - Lower Camp - Drillers Shop - Framed Roof over Cor	P3	Site Facilities - Buildings	61	36	12	4	0	0	61	0.05	36	1,000	-5.0	6	3,000	-5.0
143	# 143 - Lower Camp - Drillers Storage Shed - Framed - No F	P3	Site Facilities - Structures	41	18	8	0	0	0	41	0.02	36	1,000	-5.0	6	3,000	-5.0
144	# 144 - Lower Camp - Connexes (2x20') Side by Side - No F	P3	Site Facilities - Buildings	21	16	9	0	0	0	21	0.01	36	1,000	-5.0	6	3,000	-5.0
145	# 145 - Lower Camp - Connexes (2x20') Side by Side - No F	P3	Site Facilities - Buildings	25	16	9	0	0	0	25	0.01	36	1,000	-5.0	6	3,000	-5.0
146	# 146 - Lower Camp - Drillers Building - Framed - No Found	P3	Site Facilities - Buildings	28	20	8	0	0	0	28	0.01	36	1,000	-5.0	6	3,000	-5.0
147	# 147 - Lower Camp - Drillers Office - Framed - No Foundati	P3	Site Facilities - Buildings	23	22	8	0	0	0	23	0.01	36	1,000	-5.0	6	3,000	-5.0
148	# 148 - Lower Camp - Basketball Court	P3	Site Facilities - Structures	66	39	0	4	0	0	66	0.06	36	1,000	-5.0	6	3,000	-5.0
149	# 149 - Lower Camp - Tent / Shop - No Foundation	P3	Site Facilities - Buildings	38	20	15	0	0	0	38	0.02	36	1,000	-5.0	6	3,000	-5.0
150	# 150 - Lower Camp - Contractor Office Building - Framed -	P3	Site Facilities - Buildings	26	23	0	0	0	0	26	0.01	36	1,000	-5.0	6	3,000	-5.0
151	# 151 - Lower Camp - Main Hazardous Waste Containment	P3	Site Facilities - Buildings	38	22	10	6	8	20	38	0.02	36	1,000	-5.0	6	3,000	-5.0
152	# 152 - Lower Camp - Quanset Hut / Storage Shed - No Fou	P3	Site Facilities - Buildings	32	15	0	0	0	0	32	0.01	36	1,000	-5.0	6	3,000	-5.0
153	# 153 - Lower Camp - Heli Pad Fuel Tank - In Containment -	P3	Site Facilities - Buildings	29	10	0	0	0	0	29	0.01	36	1,000	-5.0	6	3,000	-5.0
154	# 154 - Lower Camp - Heli Pad Fuel Tank - In Containment -	P3	Site Facilities - Buildings	29	11	0	0	0	0	29	0.01	36	1,000	-5.0	6	3,000	-5.0
155	# 155 - Lower Camp - Helipad - Wooden Structure - No Fou	P3	Site Facilities - Structures	27	22	0	0	0	0	27	0.01	36	1,000	-5.0	6	3,000	-5.0
156	# 156 - Lower Camp - Old Metal Skid with small Shack on i	P3	Site Facilities - Structures	11	9	0	0	0	0	11	0.00	36	1,000	-5.0	6	3,000	-5.0

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TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

157	# 157 - Lower Camp - Fuel Island - Fuel Tank	P3	Site Facilities - Structures	37	11	0	0	0	0	37	0.01	36	1,000	-5.0	6	3,000	-5.0
158	# 158 - Lower Camp - Fuel Island - Fuel Tank	P3	Site Facilities - Buildings	37	11	0	0	0	0	37	0.01	36	1,000	-5.0	6	3,000	-5.0
159	# 159 - Lower Camp - Fuel Island - Fuel Tank	P3	Site Facilities - Buildings	37	11	0	0	0	0	37	0.01	36	1,000	-5.0	6	3,000	-5.0
160	# 160 - Lower Camp - Fuel Island - Fuel Tank	P3	Site Facilities - Buildings	37	11	0	0	0	0	37	0.01	36	1,000	-5.0	6	3,000	-5.0
161	# 161 - Lower Camp - Electrical Module - No Foundation	P3	Site Facilities - Buildings	21	13	10	0	0	0	21	0.01	36	1,000	-5.0	6	3,000	-5.0
162	# 162 - Lower Camp - Electrical Building - Metal Building or	P3	Site Facilities - Buildings	26	21	15	4	6	6	26	0.01	36	1,000	-5.0	6	3,000	-5.0
163	# 163 - Lower Camp - Wooden Shed - No Foundation	P3	Site Facilities - Buildings	16	8	0	0	0	0	16	0.00	36	1,000	-5.0	6	3,000	-5.0
164	# 164 - Lower Camp - Wooden Shed - No Foundation	P3	Site Facilities - Buildings	7	7	0	0	0	0	7	0.00	36	1,000	-5.0	6	3,000	-5.0
165	# 165 - 1525 Portal - Propane Tank for the Portal Heaters	P3	Site Facilities - Buildings	48	12	0	4	8	12	48	0.01	36	1,000	-5.0	6	3,000	-5.0
166	# 166 - 1525 Portal - Propane Tank for the Portal Heaters	P3	Site Facilities - Buildings	48	12	0	4	8	12	48	0.01	36	1,000	-5.0	6	3,000	-5.0
167	# 167 - 1525 Portal - Propane Vaporizer	P3	Site Facilities - Buildings	19	7	6	4	0	0	19	0.00	36	1,000	-5.0	6	3,000	-5.0
168	# 168 - 1525 Portal - Propane Vaporizer	P3	Site Facilities - Buildings	19	7	6	4	0	0	19	0.00	36	1,000	-5.0	6	3,000	-5.0
169	# 169 - 1525 Portal - Storage Connexes (2) - No Foundation	P3	Site Facilities - Structures	26	20	8	0	0	0	26	0.01	36	1,000	-5.0	6	3,000	-5.0
170	# 170 - 1525 Portal - Storage Connexes (2) - No Foundation	P3	Site Facilities - Structures	28	20	8	0	0	0	28	0.01	36	1,000	-5.0	6	3,000	-5.0
171	# 171 - 1525 Portal - Portal Heater Building	P3	Site Facilities - Structures	32	22	10	4	0	0	32	0.02	36	1,000	-5.0	6	3,000	-5.0
172	# 172 - 1525 Portal - Entrance Structure - Steel on Conc. Sla	P3	Site Facilities - Buildings	39	21	18	4	0	0	39	0.02	36	1,000	-5.0	6	3,000	-5.0
173	# 173 - 1525 Portal - Red Path Maintenance Shop	P3	Site Facilities - Buildings	80	63	25	6	6	6	80	0.12	36	1,000	-5.0	6	3,000	-5.0
174	# 174 - 1525 Portal - Maintenance Room - Framed - No Four	P3	Site Facilities - Buildings	38	17	8	0	0	0	38	0.01	36	1,000	-5.0	6	3,000	-5.0
175	# 175 - 1525 Portal - Compressor Room / Electrical Module	P3	Site Facilities - Buildings	43	23	12	6	4	4	43	0.02	36	1,000	-5.0	6	3,000	-5.0
176	# 176 - 1525 Portal - Water Treatment Plant #2	P3	Site Facilities - Buildings	143	60	40	12	12	12	143	0.20	36	1,000	-5.0	6	3,000	-5.0
177	# 177 - 1525 Portal - Filter Cake Loading Bay (Same Structu	P3	Site Facilities - Buildings	26	23	40	12	12	12	26	0.01	36	1,000	-5.0	6	3,000	-5.0
178	# 178 - 1525 Portal - Water Treatment Plant #3	P3	Site Facilities - Buildings	162	82	55	12	12	12	162	0.30	36	1,000	-5.0	6	3,000	-5.0
179	N00 Liese Creek Bridge	P4	Site Facilities - Buildings	107	18	0	12	0	0	107	0.04	0			0		
180	N00 Goodpaster Bridge	P4	Site Facilities - Buildings	500	20	0	12	0	0	500	0.23	0			0		
181	N00 ROW Keystone Bridge	P4	Site Facilities - Buildings	100	18	0	12	0	0	100	0.04	0			0		
182	N00 ROW Shaw Creek Bridge	P4	Site Facilities - Buildings	100	18	0	12	0	0	100	0.04	0			0		

Notes:
1. Foundation cover only calculated to cover slab. Growth media estimated over entire footprint area
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

147900.150-BUILDINGS_ft_20170207.xlsx
The 20-mile haul per RS Means is considered sufficient to cover cost of hauling and disposing of debris in the drystack.

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Buildings & Foundation - User Input (cont.)

You must fill in ALL green cells and relevant blue cells in this section for each building or facility

		Construction Materials		Slab Demolition		Foundation Cover			Growth Media			Revegetation				
	Description (required)	Building Type (select)	Foundation Wall Type (select)	Slab Demo Method (select)	Slab Breaking Equipment Fleet (select)	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Growth Media Material Type (select)	Growth Media Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarify/ Rip? (select)	Ripping Fleet (select)
1	# 1 - Mill - Job Trailer	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
2	# 2 - Mill - Connex	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
3	# 3 - Mill - Connex	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
4	# 4 - Mill - Tent Building	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
5	# 5 - Mill - Electrical Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
6	# 6 - Mill - Microwave Tower	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
7	# 7 - Mill - Electrical Module (ER-1)	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
8	# 8 - Mill - Bag House	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
9	# 9 - Mill - Assay Lab	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
10	# 10 - Mill - Reagent Loadout Area (Slab+Roof Only)	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
11	# 11 - Mill - Reagent Storage Area	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
12	# 12 - Mill - CN Recovery Thickener	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
13	# 13 - Mill - Reagent Handling	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
14	# 14 - Mill - CN Leach Tanks	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
15	# 15 - Mill - Flotation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
16	# 16 - Mill - Refinery	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
17	# 17 - Mill - Flotation Thickener	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
18	# 18 - Mill - Process Water Tank Area	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
19	# 19 - Mill - Grinding Water Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
20	# 20 - Mill - Building	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
21	# 21 - Mill - Gravity	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
22	# 22 - Mill - Grinding	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
23	# 23 - Mill - Backup Generator Connex	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
24	# 24 - Mill - Backup Generator Connex	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
25	# 25 - Mill - Electrical Module ER-4	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
26	# 26 - Mill - Sloping Conveyor Building	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
27	# 27 - Mill - Cold Weather Parts Laydown	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
28	# 28 - Mill - Small Shop	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
29	# 29 - Mill - Connexes (2) Stacked - Parts Storage	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
30	# 30 - Mill - Sloping Conveyor Gallery	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
31	# 31 - Mill - AST-02 Fuel Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
32	# 32 - Mill - Connexes (2) Side by Side - Storage	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
33	# 33 - Mill - Office	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
34	# 34 - Mill - Coarse Ore Bin Area	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
35	# 35 - Mill - Coarse Ore Bin	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
36	# 36 - Mill - Reclaim Hopper Area	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
37	# 37 - Mill - Conveyor (Legs on Concrete Piers/Large Block	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
38	# 38 - Mill - New CIP Tailings Storage Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
39	# 39 - Mill - Old CIP Tailings Storage Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
40	# 40 - Mill - Flotation Tailings Thickener	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
41	# 41 - Mill - Cement Storage Trailers (Bulk Load Tankers) o	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
42	# 42 - Mill - Cement Storage Trailers (Bulk Load Tankers) o	Lg. steel				Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
43	# 43 - Mill - Cement Silo	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
44	# 44 - Mill - Backfill Paste Plant	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
45	# 45 - Mill - Backfill Water Dilution Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
46	# 46 - Mill - Filter Feed Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
47	# 47 - Mill - Electrical Control Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

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Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

48	# 48 - Mill - Compressor Room	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
49	# 49 - Mill - Tailings Building	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
50	# 50 - Mill - Conveyor Enclosure	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
51	# 51 - Mill - Flotation Tailings Storage	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
52	# 52 - 1690 Portal - SW Pond Pumphouse	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
53	# 53 - 1690 Portal - Entrance Structure - Portal Steel Sets (N	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
54	# 54 - Main Camp - AST-01 Fuel Tank (2 Concrete Pads that	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
55	# 55 - Main Camp - Connexes (2) - Side by Side	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
56	# 56 - Main Camp - Potable Water Treatment	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
57	# 57 - Main Camp - Potable Water Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
58	# 58 - Main Camp - Fire Water Pumphouse	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
59	# 59 - Main Camp - Fire Water Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
60	# 60 - Main Camp - Dorms (A-Wing, B-Wing, Rec Area)	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
61	# 61 - Main Camp - Kitchen	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
62	# 62 - Main Camp - Dorms (C-Wing)	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
63	# 63 - Main Camp - Administrative Offices	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
64	# 64 - Main Camp - Shops & Warehouse	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
65	# 65 - Main Camp - Fuel Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
66	# 66 - Main Camp - Fuel Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
67	# 67 - Main Camp - Propane Storage Tank Foundations	Lg. concrete	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
68	# 68 - Main Camp - Propane Storage Tank Foundations	Lg. concrete				Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
69	# 69 - 1875 Portal - Portal Heaters (Concrete Slab with Equi	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
70	# 70 - 1875 Portal - Entrance Structure - Portal Steel Sets (N	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
71	# 71 - 1875 Portal - Storage Connex for Drill Bits	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
72	# 72 - 1875 Portal - Shop (On Concrete Slab)	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
73	# 73 - 1875 Portal - Shop (Concrete Slab Only)	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
74	# 74 - RTP - Pump House / Electrical - Connex	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
75	# 75 - RTP - Electrical Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
76	# 76 - RTP - Primary RTP Head Tank (Water Tank)	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
77	# 77 - RTP - Secondary RTP Head Tank (Water Tank)	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
78	# 78 - 2150 Portal - Raise Bore - Tank (no top or bottom) Co	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
79	# 79 - 2150 Portal - Electrical Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
80	# 80 - 2150 Portal - Transformers	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
81	# 81 - 2150 Portal - Air Compressor Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
82	# 82 - 2150 Portal - Air Compressor Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
83	# 83 - 2150 Portal - Entrance Structure Portal Steel Sets (Me	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
84	# 84 - 2150 Portal - Portal Heaters (Concrete Slab with Equi	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
85	# 85 - 2150 Portal - Propane Vaporizors for the 2150 Mine P	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
86	# 86 - 2150 Portal - Propane Tank - Concrete Foundation St	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
87	# 87 - 2150 Portal - Propane Tank - Concrete Foundation St	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
88	# 88 - Exploration - Old Exploration Core Shack - Wooden S	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
89	# 89 - Exploration - Old Exploration Office Building - Wood	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
90	# 90 - Pump Building / Electrical Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
91	# 91 - Connexes (4) with a Tent Building on Top of Them - N	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
92	# 92 - Outfall Building - Concrete Below Ground Structure	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
93	# 93 - Connex / Wood Frame HDPE Pipe Welding Shack - N	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
94	# 94 - Tire Farm - Tent Building - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
95	# 95 - Wire Farm - Connexes for Storage - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
96	# 96 - Heat Trace Control Building - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
97	# 97 - Electrical Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
98	# 98 - D-Wing - ATCO-like Dorm Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
99	# 99 - D-Wing - ATCO-like Dorm Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
100	# 100 - D-Wing - ATCO-like Dorm Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
101	# 101 - D-Wing - Job Trailers for Contractors - No Foundati	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
102	# 102 - D-Wing - Job Trailers for Contractors - No Foundati	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer

Project Name: Reclamation Cost Estimate - Reclamation Plan
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Model Version: Version 1.4.1
Cost Data: User Data
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

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103	# 103 - D-Wing - Job Trailers for Contractors - No Foundati	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
104	# 104 - D-Wing - Mine Dry and Laundry Facilities	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
105	# 105 - D-Wing - ATCO-like Hallway Modules	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
106	# 106 - D-Wing - ATCO-like Kitched / Rec Room	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
107	# 107 - D-Wing - Connexes (2) Side by Side - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
108	# 108 - Incinerator - Concrete Apron & Concrete Secondary	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
109	# 109 - Incinerator - Monolithic Dome Structure with Signifi	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
110	# 110 - Vaporizer Shack & Propane Tank	Lg. steel				Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
111	# 111 - Laydown #1 - Small Wooden Storage Shed - No Fou	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
112	# 112 - Lower Camp - Ozone System for PWTP#3	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
113	# 113 - Lower Camp - Potable Water Treatment Plant #3 (PV	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
114	# 114 - Lower Camp - Potable Water Storage Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
115	# 115 - Lower Camp - Connexes (2x20') Side by Side - No F	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
116	# 116 - Lower Camp - Warehouse Warm Storage no Concre	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
117	# 117 - Lower Camp - Environmental Field Lab - ATCO Unit	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
118	# 118 - Lower Camp - Connexes (2x20') Side by Side - No F	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
119	# 119 - Lower Camp - Connex (40') Storage - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
120	# 120 - Lower Camp - Connex Electrical Module - No Found	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
121	# 121 - Lower Camp - Lower Warehouse - Steel Building	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
122	# 122 - Lower Camp - Connex Storage Warehouse - No Fou	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
123	# 123 - Lower Camp - Front Porch of Redpath Office - No F	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
124	# 124 - Lower Camp - Red Path Office ATCO Structure	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
125	# 125 - Lower Camp - Red Path Office ATCO Structure	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
126	# 126 - Lower Camp - Dormitory E Wing ATCO Structure	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
127	# 127 - Lower Camp - Dormitory E Wing Entrance / Laundry	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
128	# 128 - Lower Camp - Rec Room Yurt - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
129	# 129 - Lower Camp - Fire Water Building for E-Wing - On G	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
130	# 130 - Lower Camp - Electrical Module / Transformer	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
131	# 131 - Lower Camp - Sewage Treatment Plant (STP) - Meta	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
132	# 132 - Lower Camp - STP Office - Framed - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
133	# 133 - Lower Camp - Concrete Pad in Front of Doorway	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
134	# 134 - Lower Camp - Concrete Pad in Front of Doorway	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
135	# 135 - Lower Camp - Old Incinerator Building - Metal on Sl	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
136	# 136 - Lower Camp - Connexes (2x20') Side by Side - No F	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
137	# 137 - Lower Camp - Large Tent/Shop for Core Shack - No	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
138	# 138 - Lower Camp - Wooden Framed Storage Shed - No F	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
139	# 139 - Lower Camp - Large Tent/Shop for Core Shack - No	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
140	# 140 - Lower Camp - Core Processing Facility (CPF)	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
141	# 141 - Lower Camp - CPF Office - Wooden Framed Buildin	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
142	# 142 - Lower Camp - Drillers Shop - Framed Roof over Cor	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
143	# 143 - Lower Camp - Drillers Storage Shed - Framed - No F	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
144	# 144 - Lower Camp - Connexes (2x20') Side by Side - No F	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
145	# 145 - Lower Camp - Connexes (2x20') Side by Side - No F	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
146	# 146 - Lower Camp - Drillers Building - Framed - No Found	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
147	# 147 - Lower Camp - Drillers Office - Framed - No Foundat	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
148	# 148 - Lower Camp - Basketball Court	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
149	# 149 - Lower Camp - Tent / Shop - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
150	# 150 - Lower Camp - Contractor Office Building - Framed -	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
151	# 151 - Lower Camp - Main Hazardous Waste Containment	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
152	# 152 - Lower Camp - Quanset Hut / Storage Shed - No Fou	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
153	# 153 - Lower Camp - Heli Pad Fuel Tank - In Containment -	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
154	# 154 - Lower Camp - Heli Pad Fuel Tank - In Containment -	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
155	# 155 - Lower Camp - Helipad - Wooden Structure - No Fou	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
156	# 156 - Lower Camp - Old Metal Skid with small Shack on i	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
157	# 157 - Lower Camp - Fuel Island - Fuel Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer

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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

158	# 158 - Lower Camp - Fuel Island - Fuel Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
159	# 159 - Lower Camp - Fuel Island - Fuel Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
160	# 160 - Lower Camp - Fuel Island - Fuel Tank	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
161	# 161 - Lower Camp - Electrical Module - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
162	# 162 - Lower Camp - Electrical Building - Metal Building on	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
163	# 163 - Lower Camp - Wooden Shed - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
164	# 164 - Lower Camp - Wooden Shed - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
165	# 165 - 1525 Portal - Propane Tank for the Portal Heaters	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
166	# 166 - 1525 Portal - Propane Tank for the Portal Heaters	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
167	# 167 - 1525 Portal - Propane Vaporizer	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
168	# 168 - 1525 Portal - Propane Vaporizer	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
169	# 169 - 1525 Portal - Storage Connexes (2) - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
170	# 170 - 1525 Portal - Storage Connexes (2) - No Foundation	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
171	# 171 - 1525 Portal - Portal Heater Building	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
172	# 172 - 1525 Portal - Entrance Structure - Steel on Conc. Sla	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
173	# 173 - 1525 Portal - Red Path Maintenance Shop	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
174	# 174 - 1525 Portal - Maintenance Room - Framed - No Foun	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
175	# 175 - 1525 Portal - Compressor Room / Electrical Module	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
176	# 176 - 1525 Portal - Water Treatment Plant #2	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
177	# 177 - 1525 Portal - Filter Cake Loading Bay (Same Structu	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
178	# 178 - 1525 Portal - Water Treatment Plant #3	Lg. steel	Conc 12 in (300 mm) thick	Break & bury	Lg Excavator	Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
179	N00 Liese Creek Bridge					Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
180	N00 Goodpaster Bridge					Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
181	N00 ROW Keystone Bridge					Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer
182	N00 ROW Shaw Creek Bridge					Alluvium	Small Truck		Alluvium	Small Truck		Mix 1	None	None	Yes	Small Dozer

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

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Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
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Buildings & Foundation - Calculations

Building Volume Calculations

Using Means Heavy Construction Cost Data (2004) calculates cubic feet from building dimensions
Estimage slab thickness and wall thickness if not known
Assumes that all concrete slabs are reinforced
Productivity for crew from Means Heavy Construction Cost Data (2004) adjusted for supervision
(addressed in Misc. Costs) and Davis-Bacon Wage Rates
Demolition costs do not include hauling or disposing if debris - Use Waste Disposal module

Slab Demolition Calculations

Minimum 1 hr excavator time for slab demolition

Cover Volume Calculation

Foundation area x cover thickness
If "Bury in Place" is selected as slab demolition method, cover thickness is adjusted such that
total cover (cover + growth media) equals value entered in "Minimum thickness of cover over unbroken slab" cell above

Ripping/Scarifying Calculations

Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Revegetation

Minimum 1 acre revegetation crew time per area

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Building & Foundation Demolition Costs

Uses RS Means Heavy Construction Cost Data for building and wall demolition cost calculations. Uses CAT Handbook for slab breaking production.

								Building Demolition			Wall Demolition			Slab Demolition			Total Costs		
	Description (required)	Building Footprint (slab area) sqft	Building Volume cu ft	Wall Length ft	Wall Area sq ft	Slab Demolition Fleet	Slab Volume cy	Total Labor Cost $	Total Equipment Cost $	Total Building Demolition Cost $	Total Labor Cost $	Total Equipment Cost $	Total Wall Demolition Cost $	Total Labor Cost $	Total Equipment Cost $	Total Slab Breaking Cost $	Total Labor Cost $	Total Equipment Cost $	Total Demolition Costs $
1	**# 1 - Mill - Job Trailer**	190	1,520	58	0	385BL	0	$350	$167	$517	$0	$0	$0	$0	$0	$0	$350	$167	$517
2	**# 2 - Mill - Connex**	225	1,800	68	0	385BL	0	$414	$198	$612	$0	$0	$0	$0	$0	$0	$414	$198	$612
3	**# 3 - Mill - Connex**	225	1,800	68	0	385BL	0	$414	$198	$612	$0	$0	$0	$0	$0	$0	$414	$198	$612
4	**# 4 - Mill - Tent Building**	595	8,925	104	0	385BL	0	$2,053	$982	$3,035	$0	$0	$0	$0	$0	$0	$2,053	$982	$3,035
5	**# 5 - Mill - Electrical Module**	527	6,324	96	192	385BL	7	$1,455	$696	$2,151	$8,561	$159	$8,720	$180	$511	$691	$10,196	$1,366	$11,562
6	**# 6 - Mill - Microwave Tower**	225	1,800	60	120	385BL	3	$414	$198	$612	$5,351	$100	$5,451	$180	$511	$691	$5,945	$809	$6,754
7	**# 7 - Mill - Electrical Module (ER-1)**	1,000	12,000	140	280	385BL	12	$2,760	$1,320	$4,080	$12,485	$232	$12,717	$180	$511	$691	$15,425	$2,063	$17,488
8	**# 8 - Mill - Bag House**	384	7,680	88	176	385BL	5	$1,766	$845	$2,611	$7,848	$146	$7,994	$180	$511	$691	$9,794	$1,502	$11,296
9	**# 9 - Mill - Assay Lab**	3,800	57,000	252	504	385BL	94	$13,110	$6,270	$19,380	$22,473	$418	$22,891	$180	$511	$691	$35,763	$7,199	$42,962
10	**# 10 - Mill - Reagent Loadout Area (Slab+Roof Only)**	4,144	62,160	298	0	385BL	51	$14,297	$6,838	$21,135	$0	$0	$0	$180	$511	$691	$14,477	$7,349	$21,826
11	**# 11 - Mill - Reagent Storage Area**	2,808	42,120	228	456	385BL	35	$9,688	$4,633	$14,321	$20,333	$378	$20,711	$180	$511	$691	$30,201	$5,522	$35,723
12	**# 12 - Mill - CN Recovery Thickener**	1,258	18,870	142	284	385BL	16	$4,340	$2,076	$6,416	$12,664	$236	$12,900	$180	$511	$691	$17,184	$2,823	$20,007
13	**# 13 - Mill - Reagent Handling**	11,837	591,850	444	888	385BL	438	$136,126	$65,104	$201,230	$39,596	$737	$40,333	$792	$2,247	$3,039	$176,514	$68,088	$244,602
14	**# 14 - Mill - CN Leach Tanks**	4,860	58,320	288	576	385BL	60	$13,414	$6,415	$19,829	$25,684	$478	$26,162	$180	$511	$691	$39,278	$7,404	$46,682
15	**# 15 - Mill - Flotation**	6,768	338,400	378	756	385BL	251	$77,832	$37,224	$115,056	$33,710	$627	$34,337	$450	$1,277	$1,727	$111,992	$39,128	$151,120
16	**# 16 - Mill - Refinery**	5,904	295,200	370	740	385BL	219	$67,896	$32,472	$100,368	$32,997	$614	$33,611	$396	$1,124	$1,520	$101,289	$34,210	$135,499
17	**# 17 - Mill - Flotation Thickener**	957	38,280	124	248	385BL	35	$8,804	$4,211	$13,015	$11,058	$206	$11,264	$180	$511	$691	$20,042	$4,928	$24,970
18	**# 18 - Mill - Process Water Tank Area**	255	3,825	64	128	385BL	3	$880	$421	$1,301	$5,708	$106	$5,814	$180	$511	$691	$6,768	$1,038	$7,806
19	**# 19 - Mill - Grinding Water Tank**	754	15,080	110	220	385BL	19	$3,468	$1,659	$5,127	$9,810	$183	$9,993	$180	$511	$691	$13,458	$2,353	$15,811
20	**# 20 - Mill - Building**	1,680	67,200	166	332	385BL	62	$15,456	$7,392	$22,848	$14,804	$276	$15,080	$180	$511	$691	$30,440	$8,179	$38,619
21	**# 21 - Mill - Gravity**	1,505	90,300	156	312	385BL	56	$20,769	$9,933	$30,702	$13,912	$259	$14,171	$180	$511	$691	$34,861	$10,703	$45,564
22	**# 22 - Mill - Grinding**	7,740	464,400	352	704	385BL	287	$106,812	$51,084	$157,896	$31,391	$584	$31,975	$522	$1,481	$2,003	$138,725	$53,149	$191,874
23	**# 23 - Mill - Backup Generator Connex**	288	2,304	82	0	385BL	0	$530	$253	$783	$0	$0	$0	$0	$0	$0	$530	$253	$783
24	**# 24 - Mill - Backup Generator Connex**	288	2,304	82	0	385BL	0	$530	$253	$783	$0	$0	$0	$0	$0	$0	$530	$253	$783
25	**# 25 - Mill - Electrical Module ER-4**	1,363	16,356	152	304	385BL	17	$3,762	$1,799	$5,561	$13,555	$252	$13,807	$180	$511	$691	$17,497	$2,562	$20,059
26	**# 26 - Mill - Sloping Conveyor Building**	520	20,800	92	184	385BL	19	$4,784	$2,288	$7,072	$8,205	$153	$8,358	$180	$511	$691	$13,169	$2,952	$16,121
27	**# 27 - Mill - Cold Weather Parts Laydown**	351	0	96	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
28	**# 28 - Mill - Small Shop**	1,600	28,800	160	320	385BL	20	$6,624	$3,168	$9,792	$14,269	$266	$14,535	$180	$511	$691	$21,073	$3,945	$25,018
29	**# 29 - Mill - Connexes (2) Stacked - Parts Storage**	360	6,480	98	0	385BL	0	$1,490	$713	$2,203	$0	$0	$0	$0	$0	$0	$1,490	$713	$2,203
30	**# 30 - Mill - Sloping Conveyor Gallery**	5,044	131,144	440	880	385BL	125	$30,163	$14,426	$44,589	$39,239	$730	$39,969	$234	$664	$898	$69,636	$15,820	$85,456
31	**# 31 - Mill - AST-02 Fuel Tank**	546	0	110	220	385BL	7	$0	$0	$0	$9,810	$183	$9,993	$180	$511	$691	$9,990	$694	$10,684
32	**# 32 - Mill - Connexes (2) Side by Side - Storage**	255	2,040	64	0	385BL	0	$469	$224	$693	$0	$0	$0	$0	$0	$0	$469	$224	$693
33	**# 33 - Mill - Office**	3,000	60,000	260	520	385BL	74	$13,800	$6,600	$20,400	$23,187	$432	$23,619	$180	$511	$691	$37,167	$7,543	$44,710
34	**# 34 - Mill - Coarse Ore Bin Area**	1,287	19,305	144	288	385BL	32	$4,440	$2,124	$6,564	$12,842	$239	$13,081	$180	$511	$691	$17,462	$2,874	$20,336
35	**# 35 - Mill - Coarse Ore Bin**	1,296	64,800	144	288	385BL	96	$14,904	$7,128	$22,032	$12,842	$239	$13,081	$180	$511	$691	$27,926	$7,878	$35,804
36	**# 36 - Mill - Reclaim Hopper Area**	1,344	53,760	152	304	385BL	50	$12,365	$5,914	$18,279	$13,555	$252	$13,807	$180	$511	$691	$26,100	$6,677	$32,777
37	**# 37 - Mill - Conveyor (Legs on Concrete Piers/Large Block**	12,879	128,790	2,880	0	385BL	0	$29,622	$14,167	$43,789	$0	$0	$0	$0	$0	$0	$29,622	$14,167	$43,789
38	**# 38 - Mill - New CIP Tailings Storage Tank**	2,500	115,000	200	400	385BL	123	$26,450	$12,650	$39,100	$17,836	$332	$18,168	$216	$613	$829	$44,502	$13,595	$58,097
39	**# 39 - Mill - Old CIP Tailings Storage Tank**	2,209	88,360	188	376	385BL	82	$20,323	$9,720	$30,043	$16,766	$312	$17,078	$180	$511	$691	$37,269	$10,543	$47,812
40	**# 40 - Mill - Flotation Tailings Thickener**	1,296	25,920	144	288	385BL	32	$5,962	$2,851	$8,813	$12,842	$239	$13,081	$180	$511	$691	$18,984	$3,601	$22,585
41	**# 41 - Mill - Cement Storage Trailers (Bulk Load Tankers) o**	576	0	120	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
42	**# 42 - Mill - Cement Storage Trailers (Bulk Load Tankers) o**	576	0	120	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
43	**# 43 - Mill - Cement Silo**	440	17,600	84	168	385BL	11	$4,048	$1,936	$5,984	$7,491	$139	$7,630	$180	$511	$691	$11,719	$2,586	$14,305
44	**# 44 - Mill - Backfill Paste Plant**	12,210	488,400	478	956	385BL	452	$112,332	$53,724	$166,056	$42,628	$793	$43,421	$828	$2,349	$3,177	$155,788	$56,866	$212,654
45	**# 45 - Mill - Backfill Water Dilution Tank**	1,225	36,750	140	280	385BL	45	$8,453	$4,043	$12,496	$12,485	$232	$12,717	$180	$511	$691	$21,118	$4,786	$25,904
46	**# 46 - Mill - Filter Feed Tank**	1,225	30,625	140	280	385BL	45	$7,044	$3,369	$10,413	$12,485	$232	$12,717	$180	$511	$691	$19,709	$4,112	$23,821
47	**# 47 - Mill - Electrical Control Module**	728	8,736	132	264	385BL	9	$2,009	$961	$2,970	$11,772	$219	$11,991	$180	$511	$691	$13,961	$1,691	$15,652

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

48	**# 48 - Mill - Compressor Room**	1,100	13,200	144	288	385BL	14	$3,036	$1,452	$4,488	$12,842	$239	$13,081	$180	$511	$691	$16,058	$2,202	$18,260
49	**# 49 - Mill - Tailings Building**	2,420	96,800	198	396	385BL	90	$22,264	$10,648	$32,912	$17,658	$329	$17,987	$180	$511	$691	$40,102	$11,488	$51,590
50	**# 50 - Mill - Conveyor Enclosure**	2,556	76,680	214	428	385BL	95	$17,636	$8,435	$26,071	$19,085	$355	$19,440	$180	$511	$691	$36,901	$9,301	$46,202
51	**# 51 - Mill - Flotation Tailings Storage**	10,703	428,120	432	864	385BL	396	$98,468	$47,093	$145,561	$38,526	$717	$39,243	$720	$2,043	$2,763	$137,714	$49,853	$187,567
52	**# 52 - 1690 Portal - SW Pond Pumphouse**	533	6,396	108	216	385BL	20	$1,471	$704	$2,175	$9,631	$179	$9,810	$180	$511	$691	$11,282	$1,394	$12,676
53	**# 53 - 1690 Portal - Entrance Structure - Portal Steel Sets (N**	1,560	31,200	196	0	385BL	0	$7,176	$3,432	$10,608	$0	$0	$0	$0	$0	$0	$7,176	$3,432	$10,608
54	**# 54 - Main Camp - AST-01 Fuel Tank (2 Concrete Pads that**	288	0	88	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
55	**# 55 - Main Camp - Connexes (2) - Side by Side**	340	2,720	74	0	385BL	0	$626	$299	$925	$0	$0	$0	$0	$0	$0	$626	$299	$925
56	**# 56 - Main Camp - Potable Water Treatment**	480	4,800	116	232	385BL	6	$1,104	$528	$1,632	$10,345	$193	$10,538	$180	$511	$691	$11,629	$1,232	$12,861
57	**# 57 - Main Camp - Potable Water Tank**	280	2,240	94	188	385BL	3	$515	$246	$761	$8,383	$156	$8,539	$180	$511	$691	$9,078	$913	$9,991
58	**# 58 - Main Camp - Fire Water Pumphouse**	510	5,100	98	196	385BL	6	$1,173	$561	$1,734	$8,740	$163	$8,903	$180	$511	$691	$10,093	$1,235	$11,328
59	**# 59 - Main Camp - Fire Water Tank**	810	26,730	114	228	385BL	10	$6,148	$2,940	$9,088	$10,167	$189	$10,356	$180	$511	$691	$16,495	$3,640	$20,135
60	**# 60 - Main Camp - Dorms (A-Wing, B-Wing, Rec Area)**	30,711	921,330	880	1,760	385BL	1,137	$211,906	$101,346	$313,252	$78,478	$1,461	$79,939	$2,071	$5,873	$7,944	$292,455	$108,680	$401,135
61	**# 61 - Main Camp - Kitchen**	4,920	98,400	284	568	385BL	61	$22,632	$10,824	$33,456	$25,327	$471	$25,798	$180	$511	$691	$48,139	$11,806	$59,945
62	**# 62 - Main Camp - Dorms (C-Wing)**	5,236	104,720	650	1,300	385BL	65	$24,086	$11,519	$35,605	$57,967	$1,079	$59,046	$180	$511	$691	$82,233	$13,109	$95,342
63	**# 63 - Main Camp - Administrative Offices**	13,527	405,810	496	992	385BL	501	$93,336	$44,639	$137,975	$44,233	$823	$45,056	$918	$2,605	$3,523	$138,487	$48,067	$186,554
64	**# 64 - Main Camp - Shops & Warehouse**	24,926	997,040	654	1,308	385BL	923	$229,319	$109,674	$338,993	$58,324	$1,086	$59,410	$1,675	$4,750	$6,425	$289,318	$115,510	$404,828
65	**# 65 - Main Camp - Fuel Tank**	572	2,288	114	228	385BL	7	$526	$252	$778	$10,167	$189	$10,356	$180	$511	$691	$10,873	$952	$11,825
66	**# 66 - Main Camp - Fuel Tank**	572	2,288	114	228	385BL	7	$526	$252	$778	$10,167	$189	$10,356	$180	$511	$691	$10,873	$952	$11,825
67	**# 67 - Main Camp - Propane Storage Tank Foundations**	576	1,152	120	240	385BL	7	$369	$184	$553	$10,702	$199	$10,901	$180	$511	$691	$11,251	$894	$12,145
68	**# 68 - Main Camp - Propane Storage Tank Foundations**	576	1,152	120	240	385BL	7	$369	$184	$553	$0	$0	$0	$0	$0	$0	$369	$184	$553
69	**# 69 - 1875 Portal - Portal Heaters (Concrete Slab with Equi**	620	7,440	102	204	385BL	11	$1,711	$818	$2,529	$9,096	$169	$9,265	$180	$511	$691	$10,987	$1,498	$12,485
70	**# 70 - 1875 Portal - Entrance Structure - Portal Steel Sets (N**	748	16,456	112	0	385BL	0	$3,785	$1,810	$5,595	$0	$0	$0	$0	$0	$0	$3,785	$1,810	$5,595
71	**# 71 - 1875 Portal - Storage Connex for Drill Bits**	600	0	110	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
72	**# 72 - 1875 Portal - Shop (On Concrete Slab)**	3,159	63,180	240	480	385BL	59	$14,531	$6,950	$21,481	$21,403	$398	$21,801	$180	$511	$691	$36,114	$7,859	$43,973
73	**# 73 - 1875 Portal - Shop (Concrete Slab Only)**	540	0	94	188	385BL	7	$0	$0	$0	$8,383	$156	$8,539	$180	$511	$691	$8,563	$667	$9,230
74	**# 74 - RTP - Pump House / Electrical - Connex**	200	0	60	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
75	**# 75 - RTP - Electrical Module**	208	2,496	58	116	385BL	3	$574	$275	$849	$5,172	$96	$5,268	$180	$511	$691	$5,926	$882	$6,808
76	**# 76 - RTP - Primary RTP Head Tank (Water Tank)**	441	8,820	84	168	385BL	16	$2,029	$970	$2,999	$7,491	$139	$7,630	$180	$511	$691	$9,700	$1,620	$11,320
77	**# 77 - RTP - Secondary RTP Head Tank (Water Tank)**	196	3,920	56	112	385BL	7	$902	$431	$1,333	$4,994	$93	$5,087	$180	$511	$691	$6,076	$1,035	$7,111
78	**# 78 - 2150 Portal - Raise Bore - Tank (no top or bottom) Co**	144	2,160	48	96	385BL	5	$497	$238	$735	$4,281	$80	$4,361	$180	$511	$691	$4,958	$829	$5,787
79	**# 79 - 2150 Portal - Electrical Module**	700	8,400	106	212	385BL	9	$1,932	$924	$2,856	$9,453	$176	$9,629	$180	$511	$691	$11,565	$1,611	$13,176
80	**# 80 - 2150 Portal - Transformers**	350	0	78	156	385BL	4	$0	$0	$0	$6,956	$129	$7,085	$180	$511	$691	$7,136	$640	$7,776
81	**# 81 - 2150 Portal - Air Compressor Module**	561	6,732	100	200	385BL	7	$1,548	$741	$2,289	$8,918	$166	$9,084	$180	$511	$691	$10,646	$1,418	$12,064
82	**# 82 - 2150 Portal - Air Compressor Module**	561	6,732	100	200	385BL	7	$1,548	$741	$2,289	$8,918	$166	$9,084	$180	$511	$691	$10,646	$1,418	$12,064
83	**# 83 - 2150 Portal - Entrance Structure Portal Steel Sets (Me**	726	15,972	110	0	385BL	0	$3,674	$1,757	$5,431	$0	$0	$0	$0	$0	$0	$3,674	$1,757	$5,431
84	**# 84 - 2150 Portal - Portal Heaters (Concrete Slab with Equi**	589	7,068	100	200	385BL	11	$1,626	$777	$2,403	$8,918	$166	$9,084	$180	$511	$691	$10,724	$1,454	$12,178
85	**# 85 - 2150 Portal - Propane Vaporizors for the 2150 Mine P**	264	2,112	68	136	385BL	3	$486	$232	$718	$6,064	$113	$6,177	$180	$511	$691	$6,730	$856	$7,586
86	**# 86 - 2150 Portal - Propane Tank - Concrete Foundation St**	576	2,880	146	292	385BL	21	$662	$317	$979	$13,020	$242	$13,262	$180	$511	$691	$13,862	$1,070	$14,932
87	**# 87 - 2150 Portal - Propane Tank - Concrete Foundation St**	576	2,880	146	292	385BL	21	$662	$317	$979	$13,020	$242	$13,262	$180	$511	$691	$13,862	$1,070	$14,932
88	**# 88 - Exploration - Old Exploration Core Shack - Wooden S**	930	0	122	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
89	**# 89 - Exploration - Old Exploration Office Building - Wood**	1,092	0	136	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
90	**# 90 - Pump Building / Electrical Module**	372	2,976	86	172	385BL	5	$684	$327	$1,011	$7,669	$143	$7,812	$180	$511	$691	$8,533	$981	$9,514
91	**# 91 - Connexes (4) with a Tent Building on Top of Them - N**	2,928	73,200	218	0	385BL	0	$16,836	$8,052	$24,888	$0	$0	$0	$0	$0	$0	$16,836	$8,052	$24,888
92	**# 92 - Outfall Building - Concrete Below Ground Structure**	143	1,716	48	576	385BL	16	$395	$189	$584	$25,684	$478	$26,162	$180	$511	$691	$26,259	$1,178	$27,437
93	**# 93 - Connex / Wood Frame HDPE Pipe Welding Shack - N**	378	3,024	78	0	385BL	0	$696	$333	$1,029	$0	$0	$0	$0	$0	$0	$696	$333	$1,029
94	**# 94 - Tire Farm - Tent Building - No Foundation**	1,792	0	176	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
95	**# 95 - Wire Farm - Connexes for Storage - No Foundation**	2,352	18,816	244	1,952	385BL	58	$4,328	$2,070	$6,398	$87,040	$1,620	$88,660	$180	$511	$691	$91,548	$4,201	$95,749
96	**# 96 - Heat Trace Control Building - No Foundation**	63	0	32	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
97	**# 97 - Electrical Module**	180	1,440	54	108	385BL	3	$331	$158	$489	$4,816	$90	$4,906	$180	$511	$691	$5,327	$759	$6,086
98	**# 98 - D-Wing - ATCO-like Dorm Module**	3,835	38,350	248	496	385BL	142	$8,821	$4,219	$13,040	$22,117	$412	$22,529	$252	$715	$967	$31,190	$5,346	$36,536
99	**# 99 - D-Wing - ATCO-like Dorm Module**	5,340	53,400	416	832	385BL	198	$12,282	$5,874	$18,156	$37,099	$691	$37,790	$360	$1,021	$1,381	$49,741	$7,586	$57,327
100	**# 100 - D-Wing - ATCO-like Dorm Module**	8,790	87,900	646	1,292	385BL	326	$20,217	$9,669	$29,886	$57,610	$1,072	$58,682	$594	$1,685	$2,279	$78,421	$12,426	$90,847
101	**# 101 - D-Wing - Job Trailers for Contractors - No Foundati**	240	0	64	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
102	**# 102 - D-Wing - Job Trailers for Contractors - No Foundati**	240	0	64	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

103	**# 103 - D-Wing - Job Trailers for Contractors - No Foundati**	240	0	64	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
104	**# 104 - D-Wing - Mine Dry and Laundry Facilities**	8,192	81,920	384	768	385BL	303	$18,842	$9,011	$27,853	$34,245	$637	$34,882	$558	$1,583	$2,141	$53,645	$11,231	$64,876
105	**# 105 - D-Wing - ATCO-like Hallway Modules**	946	9,460	194	388	385BL	35	$2,176	$1,041	$3,217	$17,301	$322	$17,623	$180	$511	$691	$19,657	$1,874	$21,531
106	**# 106 - D-Wing - ATCO-like Kitched / Rec Room**	8,784	87,840	410	820	385BL	325	$20,203	$9,662	$29,865	$36,564	$681	$37,245	$594	$1,685	$2,279	$57,361	$12,028	$69,389
107	**# 107 - D-Wing - Connexes (2) Side by Side - No Foundation**	608	0	108	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
108	**# 108 - Incinerator - Concrete Apron & Concrete Secondary**	598	1,196	118	944	385BL	11	$275	$132	$407	$42,093	$784	$42,877	$180	$511	$691	$42,548	$1,427	$43,975
109	**# 109 - Incinerator - Monolithic Dome Structure with Signifi**	1,444	43,320	152	3,648	385BL	160	$9,964	$4,765	$14,729	$162,664	$3,028	$165,692	$288	$817	$1,105	$172,916	$8,610	$181,526
110	**# 110 - Vaporizer Shack & Propane Tank**	363	0	88	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
111	**# 111 - Laydown #1 - Small Wooden Storage Shed - No Fou**	260	0	66	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
112	**# 112 - Lower Camp - Ozone System for PWTP#3**	117	936	44	88	385BL	1	$215	$103	$318	$3,924	$73	$3,997	$180	$511	$691	$4,319	$687	$5,006
113	**# 113 - Lower Camp - Potable Water Treatment Plant #3 (PV**	528	5,280	118	236	385BL	7	$1,214	$581	$1,795	$10,523	$196	$10,719	$180	$511	$691	$11,917	$1,288	$13,205
114	**# 114 - Lower Camp - Potable Water Storage Tank**	260	2,600	72	144	385BL	3	$598	$286	$884	$6,421	$120	$6,541	$180	$511	$691	$7,199	$917	$8,116
115	**# 115 - Lower Camp - Connexes (2x20') Side by Side - No F**	336	0	74	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
116	**# 116 - Lower Camp - Warehouse Warm Storage no Concre**	1,640	32,800	162	324	385BL	20	$7,544	$3,608	$11,152	$14,447	$269	$14,716	$180	$511	$691	$22,171	$4,388	$26,559
117	**# 117 - Lower Camp - Environmental Field Lab - ATCO Unit**	552	4,968	116	232	385BL	7	$1,143	$546	$1,689	$10,345	$193	$10,538	$180	$511	$691	$11,668	$1,250	$12,918
118	**# 118 - Lower Camp - Connexes (2x20') Side by Side - No F**	336	0	74	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
119	**# 119 - Lower Camp - Connex (40') Storage - No Foundation**	312	0	94	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
120	**# 120 - Lower Camp - Connex Electrical Module - No Found**	410	0	102	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
121	**# 121 - Lower Camp - Lower Warehouse - Steel Building**	4,242	84,840	286	572	385BL	52	$19,513	$9,332	$28,845	$25,505	$475	$25,980	$180	$511	$691	$45,198	$10,318	$55,516
122	**# 122 - Lower Camp - Connex Storage Warehouse - No Fou**	351	0	96	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
123	**# 123 - Lower Camp - Front Porch of Redpath Office - No F**	170	0	54	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
124	**# 124 - Lower Camp - Red Path Office ATCO Structure**	1,581	14,229	164	328	385BL	20	$3,273	$1,565	$4,838	$14,626	$272	$14,898	$180	$511	$691	$18,079	$2,348	$20,427
125	**# 125 - Lower Camp - Red Path Office ATCO Structure**	605	5,445	132	264	385BL	7	$1,252	$599	$1,851	$11,772	$219	$11,991	$180	$511	$691	$13,204	$1,329	$14,533
126	**# 126 - Lower Camp - Dormitory E Wing ATCO Structure**	5,096	50,960	420	840	385BL	63	$11,721	$5,606	$17,327	$37,456	$697	$38,153	$180	$511	$691	$49,357	$6,814	$56,171
127	**# 127 - Lower Camp - Dormitory E Wing Entrance / Laundry**	682	0	106	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
128	**# 128 - Lower Camp - Rec Room Yurt - No Foundation**	400	0	80	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
129	**# 129 - Lower Camp - Fire Water Building for E-Wing - On G**	144	0	48	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
130	**# 130 - Lower Camp - Electrical Module / Transformer**	96	576	40	0	385BL	1	$132	$63	$195	$0	$0	$0	$180	$511	$691	$312	$574	$886
131	**# 131 - Lower Camp - Sewage Treatment Plant (STP) - Meta**	4,284	85,680	288	1,728	385BL	53	$19,706	$9,425	$29,131	$77,052	$1,434	$78,486	$180	$511	$691	$96,938	$11,370	$108,308
132	**# 132 - Lower Camp - STP Office - Framed - No Foundation**	396	0	90	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
133	**# 133 - Lower Camp - Concrete Pad in Front of Doorway**	56	0	30	0	385BL	1	$0	$0	$0	$0	$0	$0	$180	$511	$691	$180	$511	$691
134	**# 134 - Lower Camp - Concrete Pad in Front of Doorway**	56	0	30	0	385BL	1	$0	$0	$0	$0	$0	$0	$180	$511	$691	$180	$511	$691
135	**# 135 - Lower Camp - Old Incinerator Building - Metal on Sl**	504	7,560	90	0	385BL	6	$1,739	$832	$2,571	$0	$0	$0	$180	$511	$691	$1,919	$1,343	$3,262
136	**# 136 - Lower Camp - Connexes (2x20') Side by Side - No F**	592	0	106	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
137	**# 137 - Lower Camp - Large Tent/Shop for Core Shack - No**	1,300	19,500	152	0	385BL	0	$4,485	$2,145	$6,630	$0	$0	$0	$0	$0	$0	$4,485	$2,145	$6,630
138	**# 138 - Lower Camp - Wooden Framed Storage Shed - No F**	378	3,024	82	0	385BL	0	$696	$333	$1,029	$0	$0	$0	$0	$0	$0	$696	$333	$1,029
139	**# 139 - Lower Camp - Large Tent/Shop for Core Shack - No**	1,300	19,500	152	0	385BL	0	$4,485	$2,145	$6,630	$0	$0	$0	$0	$0	$0	$4,485	$2,145	$6,630
140	**# 140 - Lower Camp - Core Processing Facility (CPF)**	2,728	40,920	212	1,272	385BL	51	$9,412	$4,501	$13,913	$56,718	$1,056	$57,774	$180	$511	$691	$66,310	$6,068	$72,378
141	**# 141 - Lower Camp - CPF Office - Wooden Framed Buildin**	420	3,360	82	0	385BL	0	$773	$370	$1,143	$0	$0	$0	$0	$0	$0	$773	$370	$1,143
142	**# 142 - Lower Camp - Drillers Shop - Framed Roof over Cor**	2,196	26,352	194	0	385BL	27	$6,061	$2,899	$8,960	$0	$0	$0	$180	$511	$691	$6,241	$3,410	$9,651
143	**# 143 - Lower Camp - Drillers Storage Shed - Framed - No F**	738	5,904	118	0	385BL	0	$1,358	$649	$2,007	$0	$0	$0	$0	$0	$0	$1,358	$649	$2,007
144	**# 144 - Lower Camp - Connexes (2x20') Side by Side - No F**	336	3,024	74	0	385BL	0	$696	$333	$1,029	$0	$0	$0	$0	$0	$0	$696	$333	$1,029
145	**# 145 - Lower Camp - Connexes (2x20') Side by Side - No F**	400	3,600	82	0	385BL	0	$828	$396	$1,224	$0	$0	$0	$0	$0	$0	$828	$396	$1,224
146	**# 146 - Lower Camp - Drillers Building - Framed - No Found**	560	4,480	96	0	385BL	0	$1,030	$493	$1,523	$0	$0	$0	$0	$0	$0	$1,030	$493	$1,523
147	**# 147 - Lower Camp - Drillers Office - Framed - No Foundat**	506	4,048	90	0	385BL	0	$931	$445	$1,376	$0	$0	$0	$0	$0	$0	$931	$445	$1,376
148	**# 148 - Lower Camp - Basketball Court**	2,574	0	210	0	385BL	32	$0	$0	$0	$0	$0	$0	$180	$511	$691	$180	$511	$691
149	**# 149 - Lower Camp - Tent / Shop - No Foundation**	760	11,400	116	0	385BL	0	$2,622	$1,254	$3,876	$0	$0	$0	$0	$0	$0	$2,622	$1,254	$3,876
150	**# 150 - Lower Camp - Contractor Office Building - Framed -**	598	0	98	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
151	**# 151 - Lower Camp - Main Hazardous Waste Containment**	836	8,360	120	2,400	385BL	15	$1,923	$920	$2,843	$107,016	$1,992	$109,008	$180	$511	$691	$109,119	$3,423	$112,542
152	**# 152 - Lower Camp - Quanset Hut / Storage Shed - No Fou**	480	0	94	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
153	**# 153 - Lower Camp - Heli Pad Fuel Tank - In Containment -**	290	0	78	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
154	**# 154 - Lower Camp - Heli Pad Fuel Tank - In Containment -**	319	0	80	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
155	**# 155 - Lower Camp - Helipad - Wooden Structure - No Fou**	594	0	98	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
156	**# 156 - Lower Camp - Old Metal Skid with small Shack on i**	99	0	40	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
157	**# 157 - Lower Camp - Fuel Island - Fuel Tank**	407	0	96	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

Project Name: Reclamation Cost Estimate - Reclamation Plan
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

158	**# 158 - Lower Camp - Fuel Island - Fuel Tank**	407	0	96	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
159	**# 159 - Lower Camp - Fuel Island - Fuel Tank**	407	0	96	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
160	**# 160 - Lower Camp - Fuel Island - Fuel Tank**	407	0	96	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
161	**# 161 - Lower Camp - Electrical Module - No Foundation**	273	2,730	68	0	385BL	0	$628	$300	$928	$0	$0	$0	$0	$0	$0	$628	$300	$928
162	**# 162 - Lower Camp - Electrical Building - Metal Building or**	546	8,190	94	564	385BL	7	$1,884	$901	$2,785	$25,149	$468	$25,617	$180	$511	$691	$27,213	$1,880	$29,093
163	**# 163 - Lower Camp - Wooden Shed - No Foundation**	128	0	48	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
164	**# 164 - Lower Camp - Wooden Shed - No Foundation**	49	0	28	0	385BL	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
165	**# 165 - 1525 Portal - Propane Tank for the Portal Heaters**	576	0	120	1,440	385BL	7	$0	$0	$0	$64,210	$1,195	$65,405	$180	$511	$691	$64,390	$1,706	$66,096
166	**# 166 - 1525 Portal - Propane Tank for the Portal Heaters**	576	0	120	1,440	385BL	7	$0	$0	$0	$64,210	$1,195	$65,405	$180	$511	$691	$64,390	$1,706	$66,096
167	**# 167 - 1525 Portal - Propane Vaporizer**	133	798	52	0	385BL	2	$184	$88	$272	$0	$0	$0	$180	$511	$691	$364	$599	$963
168	**# 168 - 1525 Portal - Propane Vaporizer**	133	798	52	0	385BL	2	$184	$88	$272	$0	$0	$0	$180	$511	$691	$364	$599	$963
169	**# 169 - 1525 Portal - Storage Connexes (2) - No Foundation**	520	4,160	92	0	385BL	0	$957	$458	$1,415	$0	$0	$0	$0	$0	$0	$957	$458	$1,415
170	**# 170 - 1525 Portal - Storage Connexes (2) - No Foundation**	560	4,480	96	0	385BL	0	$1,030	$493	$1,523	$0	$0	$0	$0	$0	$0	$1,030	$493	$1,523
171	**# 171 - 1525 Portal - Portal Heater Building**	704	7,040	108	0	385BL	9	$1,619	$774	$2,393	$0	$0	$0	$180	$511	$691	$1,799	$1,285	$3,084
172	**# 172 - 1525 Portal - Entrance Structure - Steel on Conc. Sla**	819	14,742	120	0	385BL	10	$3,391	$1,622	$5,013	$0	$0	$0	$180	$511	$691	$3,571	$2,133	$5,704
173	**# 173 - 1525 Portal - Red Path Maintenance Shop**	5,040	126,000	286	1,716	385BL	93	$28,980	$13,860	$42,840	$76,516	$1,424	$77,940	$180	$511	$691	$105,676	$15,795	$121,471
174	**# 174 - 1525 Portal - Maintenance Room - Framed - No Foun**	646	5,168	110	0	385BL	0	$1,189	$568	$1,757	$0	$0	$0	$0	$0	$0	$1,189	$568	$1,757
175	**# 175 - 1525 Portal - Compressor Room / Electrical Module**	989	11,868	132	528	385BL	18	$2,730	$1,305	$4,035	$23,544	$438	$23,982	$180	$511	$691	$26,454	$2,254	$28,708
176	**# 176 - 1525 Portal - Water Treatment Plant #2**	8,580	343,200	406	4,872	385BL	318	$78,936	$37,752	$116,688	$217,242	$4,044	$221,286	$576	$1,634	$2,210	$296,754	$43,430	$340,184
177	**# 177 - 1525 Portal - Filter Cake Loading Bay (Same Structu**	598	23,920	98	1,176	385BL	22	$5,502	$2,631	$8,133	$52,438	$976	$53,414	$180	$511	$691	$58,120	$4,118	$62,238
178	**# 178 - 1525 Portal - Water Treatment Plant #3**	13,284	730,620	488	5,856	385BL	492	$168,043	$80,368	$248,411	$261,119	$4,860	$265,979	$900	$2,554	$3,454	$430,062	$87,782	$517,844
179	**N00 Liese Creek Bridge**	1,926	0	250	0	385BL	71	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
180	**N00 Goodpaster Bridge**	10,000	0	1,040	0	385BL	370	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
181	**N00 ROW Keystone Bridge**	1,800	0	236	0	385BL	67	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
182	**N00 ROW Shaw Creek Bridge**	1,800	0	236	0	385BL	67	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
			9,156,160				9,949	**$2,106,132**	**$1,007,296**	**$3,113,428**	**$2,852,158**	**$53,085**	**$2,905,243**	**$29,144**	**$82,710**	**$111,854**	**$4,987,434**	**$1,143,091**	**$6,130,525**

Building & Foundation - Foundation Cover and Growth Media Costs

		Foundation Cover								Growth Media								Total Cover & Growth Media Costs		
	Description (required)	Cover Volume cy	Cover Repacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $	Growth Media Volume cy	Growth Media Repacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $	Total Labor Cost $	Total Equipment Cost $	Total Costs $
1	**# 1 - Mill - Job Trailer**	21	725/966G	540	3	1	$448	$555	$1,003	4	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
2	**# 2 - Mill - Connex**	25	725/966G	540	3	1	$448	$555	$1,003	4	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
3	**# 3 - Mill - Connex**	25	725/966G	540	3	1	$448	$555	$1,003	4	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
4	**# 4 - Mill - Tent Building**	66	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
5	**# 5 - Mill - Electrical Module**	59	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
6	**# 6 - Mill - Microwave Tower**	25	725/966G	540	3	1	$448	$555	$1,003	4	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
7	**# 7 - Mill - Electrical Module (ER-1)**	111	725/966G	540	3	1	$448	$555	$1,003	19	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
8	**# 8 - Mill - Bag House**	43	725/966G	540	3	1	$448	$555	$1,003	7	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
9	**# 9 - Mill - Assay Lab**	422	725/966G	540	3	1	$448	$555	$1,003	70	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
10	**# 10 - Mill - Reagent Loadout Area (Slab+Roof Only)**	460	725/966G	540	3	1	$448	$555	$1,003	77	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
11	**# 11 - Mill - Reagent Storage Area**	312	725/966G	540	3	1	$448	$555	$1,003	52	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
12	**# 12 - Mill - CN Recovery Thickener**	140	725/966G	540	3	1	$448	$555	$1,003	23	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
13	**# 13 - Mill - Reagent Handling**	1,315	725/966G	540	3	2	$897	$1,110	$2,007	219	725/966G	475	4	1	$537	$674	$1,211	$1,434	$1,784	$3,218
14	**# 14 - Mill - CN Leach Tanks**	540	725/966G	540	3	1	$448	$555	$1,003	90	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
15	**# 15 - Mill - Flotation**	752	725/966G	540	3	1	$448	$555	$1,003	125	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
16	**# 16 - Mill - Refinery**	656	725/966G	540	3	1	$448	$555	$1,003	109	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
17	**# 17 - Mill - Flotation Thickener**	106	725/966G	540	3	1	$448	$555	$1,003	18	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
18	**# 18 - Mill - Process Water Tank Area**	28	725/966G	540	3	1	$448	$555	$1,003	5	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
19	**# 19 - Mill - Grinding Water Tank**	84	725/966G	540	3	1	$448	$555	$1,003	14	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
20	**# 20 - Mill - Building**	187	725/966G	540	3	1	$448	$555	$1,003	31	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

21	**# 21 - Mill - Gravity**	167	725/966G	540	3	1	$448	$555	$1,003	28	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
22	**# 22 - Mill - Grinding**	860	725/966G	540	3	2	$897	$1,110	$2,007	143	725/966G	475	4	1	$537	$674	$1,211	$1,434	$1,784	$3,218
23	**# 23 - Mill - Backup Generator Connex**	32	725/966G	540	3	1	$448	$555	$1,003	5	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
24	**# 24 - Mill - Backup Generator Connex**	32	725/966G	540	3	1	$448	$555	$1,003	5	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
25	**# 25 - Mill - Electrical Module ER-4**	151	725/966G	540	3	1	$448	$555	$1,003	25	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
26	**# 26 - Mill - Sloping Conveyor Building**	58	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
27	**# 27 - Mill - Cold Weather Parts Laydown**	39	725/966G	540	3	1	$448	$555	$1,003	7	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
28	**# 28 - Mill - Small Shop**	178	725/966G	540	3	1	$448	$555	$1,003	30	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
29	**# 29 - Mill - Connexes (2) Stacked - Parts Storage**	40	725/966G	540	3	1	$448	$555	$1,003	7	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
30	**# 30 - Mill - Sloping Conveyor Gallery**	560	725/966G	540	3	1	$448	$555	$1,003	93	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
31	**# 31 - Mill - AST-02 Fuel Tank**	61	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
32	**# 32 - Mill - Connexes (2) Side by Side - Storage**	28	725/966G	540	3	1	$448	$555	$1,003	5	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
33	**# 33 - Mill - Office**	333	725/966G	540	3	1	$448	$555	$1,003	56	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
34	**# 34 - Mill - Coarse Ore Bin Area**	143	725/966G	540	3	1	$448	$555	$1,003	24	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
35	**# 35 - Mill - Coarse Ore Bin**	144	725/966G	540	3	1	$448	$555	$1,003	24	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
36	**# 36 - Mill - Reclaim Hopper Area**	149	725/966G	540	3	1	$448	$555	$1,003	25	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
37	**# 37 - Mill - Conveyor (Legs on Concrete Piers/Large Block**	1,431	725/966G	540	3	3	$1,345	$1,665	$3,010	239	725/966G	475	4	1	$537	$674	$1,211	$1,882	$2,339	$4,221
38	**# 38 - Mill - New CIP Tailings Storage Tank**	278	725/966G	540	3	1	$448	$555	$1,003	46	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
39	**# 39 - Mill - Old CIP Tailings Storage Tank**	245	725/966G	540	3	1	$448	$555	$1,003	41	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
40	**# 40 - Mill - Flotation Tailings Thickener**	144	725/966G	540	3	1	$448	$555	$1,003	24	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
41	**# 41 - Mill - Cement Storage Trailers (Bulk Load Tankers) o**	64	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
42	**# 42 - Mill - Cement Storage Trailers (Bulk Load Tankers) o**	64	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
43	**# 43 - Mill - Cement Silo**	49	725/966G	540	3	1	$448	$555	$1,003	8	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
44	**# 44 - Mill - Backfill Paste Plant**	1,357	725/966G	540	3	3	$1,345	$1,665	$3,010	226	725/966G	475	4	1	$537	$674	$1,211	$1,882	$2,339	$4,221
45	**# 45 - Mill - Backfill Water Dilution Tank**	136	725/966G	540	3	1	$448	$555	$1,003	23	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
46	**# 46 - Mill - Filter Feed Tank**	136	725/966G	540	3	1	$448	$555	$1,003	23	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
47	**# 47 - Mill - Electrical Control Module**	81	725/966G	540	3	1	$448	$555	$1,003	13	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
48	**# 48 - Mill - Compressor Room**	122	725/966G	540	3	1	$448	$555	$1,003	20	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
49	**# 49 - Mill - Tailings Building**	269	725/966G	540	3	1	$448	$555	$1,003	45	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
50	**# 50 - Mill - Conveyor Enclosure**	284	725/966G	540	3	1	$448	$555	$1,003	47	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
51	**# 51 - Mill - Flotation Tailings Storage**	1,189	725/966G	540	3	2	$897	$1,110	$2,007	198	725/966G	475	4	1	$537	$674	$1,211	$1,434	$1,784	$3,218
52	**# 52 - 1690 Portal - SW Pond Pumphouse**	59	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
53	**# 53 - 1690 Portal - Entrance Structure - Portal Steel Sets (M**	173	725/966G	540	3	1	$448	$555	$1,003	29	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
54	**# 54 - Main Camp - AST-01 Fuel Tank (2 Concrete Pads that**	32	725/966G	540	3	1	$448	$555	$1,003	5	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
55	**# 55 - Main Camp - Connexes (2) - Side by Side**	38	725/966G	540	3	1	$448	$555	$1,003	6	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
56	**# 56 - Main Camp - Potable Water Treatment**	53	725/966G	540	3	1	$448	$555	$1,003	9	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
57	**# 57 - Main Camp - Potable Water Tank**	31	725/966G	540	3	1	$448	$555	$1,003	5	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
58	**# 58 - Main Camp - Fire Water Pumphouse**	57	725/966G	540	3	1	$448	$555	$1,003	9	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
59	**# 59 - Main Camp - Fire Water Tank**	90	725/966G	540	3	1	$448	$555	$1,003	15	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
60	**# 60 - Main Camp - Dorms (A-Wing, B-Wing, Rec Area)**	3,412	725/966G	540	3	6	$2,690	$3,330	$6,020	569	725/966G	475	4	1	$537	$674	$1,211	$3,227	$4,004	$7,231
61	**# 61 - Main Camp - Kitchen**	547	725/966G	540	3	1	$448	$555	$1,003	91	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
62	**# 62 - Main Camp - Dorms (C-Wing)**	582	725/966G	540	3	1	$448	$555	$1,003	97	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
63	**# 63 - Main Camp - Administrative Offices**	1,503	725/966G	540	3	3	$1,345	$1,665	$3,010	251	725/966G	475	4	1	$537	$674	$1,211	$1,882	$2,339	$4,221
64	**# 64 - Main Camp - Shops & Warehouse**	2,770	725/966G	540	3	5	$2,242	$2,775	$5,017	462	725/966G	475	4	1	$537	$674	$1,211	$2,779	$3,449	$6,228
65	**# 65 - Main Camp - Fuel Tank**	64	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
66	**# 66 - Main Camp - Fuel Tank**	64	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
67	**# 67 - Main Camp - Propane Storage Tank Foundations**	64	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
68	**# 68 - Main Camp - Propane Storage Tank Foundations**	64	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
69	**# 69 - 1875 Portal - Portal Heaters (Concrete Slab with Equi**	69	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
70	**# 70 - 1875 Portal - Entrance Structure - Portal Steel Sets (M**	83	725/966G	540	3	1	$448	$555	$1,003	14	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
71	**# 71 - 1875 Portal - Storage Connex for Drill Bits**	67	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
72	**# 72 - 1875 Portal - Shop (On Concrete Slab)**	351	725/966G	540	3	1	$448	$555	$1,003	59	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
73	**# 73 - 1875 Portal - Shop (Concrete Slab Only)**	60	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
74	**# 74 - RTP - Pump House / Electrical - Connex**	22	725/966G	540	3	1	$448	$555	$1,003	4	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
75	**# 75 - RTP - Electrical Module**	23	725/966G	540	3	1	$448	$555	$1,003	4	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

76	**# 76 - RTP - Primary RTP Head Tank (Water Tank)**	49	725/966G	540	3	1	$448	$555	$1,003	8	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
77	**# 77 - RTP - Secondary RTP Head Tank (Water Tank)**	22	725/966G	540	3	1	$448	$555	$1,003	4	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
78	**# 78 - 2150 Portal - Raise Bore - Tank (no top or bottom) Co**	16	725/966G	540	3	1	$448	$555	$1,003	3	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
79	**# 79 - 2150 Portal - Electrical Module**	78	725/966G	540	3	1	$448	$555	$1,003	13	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
80	**# 80 - 2150 Portal - Transformers**	39	725/966G	540	3	1	$448	$555	$1,003	6	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
81	**# 81 - 2150 Portal - Air Compressor Module**	62	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
82	**# 82 - 2150 Portal - Air Compressor Module**	62	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
83	**# 83 - 2150 Portal - Entrance Structure Portal Steel Sets (M**	81	725/966G	540	3	1	$448	$555	$1,003	13	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
84	**# 84 - 2150 Portal - Portal Heaters (Concrete Slab with Equi**	65	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
85	**# 85 - 2150 Portal - Propane Vaporizors for the 2150 Mine P**	29	725/966G	540	3	1	$448	$555	$1,003	5	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
86	**# 86 - 2150 Portal - Propane Tank - Concrete Foundation St**	64	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
87	**# 87 - 2150 Portal - Propane Tank - Concrete Foundation St**	64	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
88	**# 88 - Exploration - Old Exploration Core Shack - Wooden S**	103	725/966G	540	3	1	$448	$555	$1,003	17	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
89	**# 89 - Exploration - Old Exploration Office Building - Wood**	121	725/966G	540	3	1	$448	$555	$1,003	20	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
90	**# 90 - Pump Building / Electrical Module**	41	725/966G	540	3	1	$448	$555	$1,003	7	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
91	**# 91 - Connexes (4) with a Tent Building on Top of Them - N**	325	725/966G	540	3	1	$448	$555	$1,003	54	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
92	**# 92 - Outfall Building - Concrete Below Ground Structure**	16	725/966G	540	3	1	$448	$555	$1,003	3	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
93	**# 93 - Connex / Wood Frame HDPE Pipe Welding Shack - N**	42	725/966G	540	3	1	$448	$555	$1,003	7	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
94	**# 94 - Tire Farm - Tent Building - No Foundation**	199	725/966G	540	3	1	$448	$555	$1,003	33	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
95	**# 95 - Wire Farm - Connexes for Storage - No Foundation**	261	725/966G	540	3	1	$448	$555	$1,003	44	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
96	**# 96 - Heat Trace Control Building - No Foundation**	7	725/966G	540	3	1	$448	$555	$1,003	1	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
97	**# 97 - Electrical Module**	20	725/966G	540	3	1	$448	$555	$1,003	3	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
98	**# 98 - D-Wing - ATCO-like Dorm Module**	426	725/966G	540	3	1	$448	$555	$1,003	71	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
99	**# 99 - D-Wing - ATCO-like Dorm Module**	593	725/966G	540	3	1	$448	$555	$1,003	99	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
100	**# 100 - D-Wing - ATCO-like Dorm Module**	977	725/966G	540	3	2	$897	$1,110	$2,007	163	725/966G	475	4	1	$537	$674	$1,211	$1,434	$1,784	$3,218
101	**# 101 - D-Wing - Job Trailers for Contractors - No Foundati**	27	725/966G	540	3	1	$448	$555	$1,003	4	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
102	**# 102 - D-Wing - Job Trailers for Contractors - No Foundati**	27	725/966G	540	3	1	$448	$555	$1,003	4	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
103	**# 103 - D-Wing - Job Trailers for Contractors - No Foundati**	27	725/966G	540	3	1	$448	$555	$1,003	4	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
104	**# 104 - D-Wing - Mine Dry and Laundry Facilities**	910	725/966G	540	3	2	$897	$1,110	$2,007	152	725/966G	475	4	1	$537	$674	$1,211	$1,434	$1,784	$3,218
105	**# 105 - D-Wing - ATCO-like Hallway Modules**	105	725/966G	540	3	1	$448	$555	$1,003	18	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
106	**# 106 - D-Wing - ATCO-like Kitched / Rec Room**	976	725/966G	540	3	2	$897	$1,110	$2,007	163	725/966G	475	4	1	$537	$674	$1,211	$1,434	$1,784	$3,218
107	**# 107 - D-Wing - Connexes (2) Side by Side - No Foundation**	68	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
108	**# 108 - Incinerator - Concrete Apron & Concrete Secondary**	66	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
109	**# 109 - Incinerator - Monolithic Dome Structure with Signifi**	160	725/966G	540	3	1	$448	$555	$1,003	27	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
110	**# 110 - Vaporizer Shack & Propane Tank**	40	725/966G	540	3	1	$448	$555	$1,003	7	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
111	**# 111 - Laydown #1 - Small Wooden Storage Shed - No Fou**	29	725/966G	540	3	1	$448	$555	$1,003	5	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
112	**# 112 - Lower Camp - Ozone System for PWTP#3**	13	725/966G	540	3	1	$448	$555	$1,003	2	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
113	**# 113 - Lower Camp - Potable Water Treatment Plant #3 (PW**	59	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
114	**# 114 - Lower Camp - Potable Water Storage Tank**	29	725/966G	540	3	1	$448	$555	$1,003	5	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
115	**# 115 - Lower Camp - Connexes (2x20') Side by Side - No F**	37	725/966G	540	3	1	$448	$555	$1,003	6	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
116	**# 116 - Lower Camp - Warehouse Warm Storage no Concre**	182	725/966G	540	3	1	$448	$555	$1,003	30	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
117	**# 117 - Lower Camp - Environmental Field Lab - ATCO Unit**	61	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
118	**# 118 - Lower Camp - Connexes (2x20') Side by Side - No F**	37	725/966G	540	3	1	$448	$555	$1,003	6	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
119	**# 119 - Lower Camp - Connex (40') Storage - No Foundation**	35	725/966G	540	3	1	$448	$555	$1,003	6	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
120	**# 120 - Lower Camp - Connex Electrical Module - No Found**	46	725/966G	540	3	1	$448	$555	$1,003	8	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
121	**# 121 - Lower Camp - Lower Warehouse - Steel Building**	471	725/966G	540	3	1	$448	$555	$1,003	79	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
122	**# 122 - Lower Camp - Connex Storage Warehouse - No Fou**	39	725/966G	540	3	1	$448	$555	$1,003	7	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
123	**# 123 - Lower Camp - Front Porch of Redpath Office - No F**	19	725/966G	540	3	1	$448	$555	$1,003	3	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
124	**# 124 - Lower Camp - Red Path Office ATCO Structure**	176	725/966G	540	3	1	$448	$555	$1,003	29	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
125	**# 125 - Lower Camp - Red Path Office ATCO Structure**	67	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
126	**# 126 - Lower Camp - Dormitory E Wing ATCO Structure**	566	725/966G	540	3	1	$448	$555	$1,003	94	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
127	**# 127 - Lower Camp - Dormitory E Wing Entrance / Laundry**	76	725/966G	540	3	1	$448	$555	$1,003	13	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
128	**# 128 - Lower Camp - Rec Room Yurt - No Foundation**	44	725/966G	540	3	1	$448	$555	$1,003	7	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
129	**# 129 - Lower Camp - Fire Water Building for E-Wing - On G**	16	725/966G	540	3	1	$448	$555	$1,003	3	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
130	**# 130 - Lower Camp - Electrical Module / Transformer**	11	725/966G	540	3	1	$448	$555	$1,003	2	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

131	**# 131 - Lower Camp - Sewage Treatment Plant (STP) - Meta**	476	725/966G	540	3	1	$448	$555	$1,003	79	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
132	**# 132 - Lower Camp - STP Office - Framed - No Foundation**	44	725/966G	540	3	1	$448	$555	$1,003	7	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
133	**# 133 - Lower Camp - Concrete Pad in Front of Doorway**	6	725/966G	540	3	1	$448	$555	$1,003	1	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
134	**# 134 - Lower Camp - Concrete Pad in Front of Doorway**	6	725/966G	540	3	1	$448	$555	$1,003	1	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
135	**# 135 - Lower Camp - Old Incinerator Building - Metal on Si**	56	725/966G	540	3	1	$448	$555	$1,003	9	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
136	**# 136 - Lower Camp - Connexes (2x20') Side by Side - No F**	66	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
137	**# 137 - Lower Camp - Large Tent/Shop for Core Shack - No**	144	725/966G	540	3	1	$448	$555	$1,003	24	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
138	**# 138 - Lower Camp - Wooden Framed Storage Shed - No F**	42	725/966G	540	3	1	$448	$555	$1,003	7	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
139	**# 139 - Lower Camp - Large Tent/Shop for Core Shack - No**	144	725/966G	540	3	1	$448	$555	$1,003	24	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
140	**# 140 - Lower Camp - Core Processing Facility (CPF)**	303	725/966G	540	3	1	$448	$555	$1,003	51	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
141	**# 141 - Lower Camp - CPF Office - Wooden Framed Buildin**	47	725/966G	540	3	1	$448	$555	$1,003	8	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
142	**# 142 - Lower Camp - Drillers Shop - Framed Roof over Cor**	244	725/966G	540	3	1	$448	$555	$1,003	41	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
143	**# 143 - Lower Camp - Drillers Storage Shed - Framed - No F**	82	725/966G	540	3	1	$448	$555	$1,003	14	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
144	**# 144 - Lower Camp - Connexes (2x20') Side by Side - No F**	37	725/966G	540	3	1	$448	$555	$1,003	6	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
145	**# 145 - Lower Camp - Connexes (2x20') Side by Side - No F**	44	725/966G	540	3	1	$448	$555	$1,003	7	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
146	**# 146 - Lower Camp - Drillers Building - Framed - No Founc**	62	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
147	**# 147 - Lower Camp - Drillers Office - Framed - No Foundat**	56	725/966G	540	3	1	$448	$555	$1,003	9	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
148	**# 148 - Lower Camp - Basketball Court**	286	725/966G	540	3	1	$448	$555	$1,003	48	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
149	**# 149 - Lower Camp - Tent / Shop - No Foundation**	84	725/966G	540	3	1	$448	$555	$1,003	14	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
150	**# 150 - Lower Camp - Contractor Office Building - Framed -**	66	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
151	**# 151 - Lower Camp - Main Hazardous Waste Containment**	93	725/966G	540	3	1	$448	$555	$1,003	15	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
152	**# 152 - Lower Camp - Quanset Hut / Storage Shed - No Fou**	53	725/966G	540	3	1	$448	$555	$1,003	9	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
153	**# 153 - Lower Camp - Heli Pad Fuel Tank - In Containment -**	32	725/966G	540	3	1	$448	$555	$1,003	5	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
154	**# 154 - Lower Camp - Heli Pad Fuel Tank - In Containment -**	35	725/966G	540	3	1	$448	$555	$1,003	6	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
155	**# 155 - Lower Camp - Helipad - Wooden Structure - No Fou**	66	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
156	**# 156 - Lower Camp - Old Metal Skid with small Shack on i**	11	725/966G	540	3	1	$448	$555	$1,003	2	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
157	**# 157 - Lower Camp - Fuel Island - Fuel Tank**	45	725/966G	540	3	1	$448	$555	$1,003	8	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
158	**# 158 - Lower Camp - Fuel Island - Fuel Tank**	45	725/966G	540	3	1	$448	$555	$1,003	8	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
159	**# 159 - Lower Camp - Fuel Island - Fuel Tank**	45	725/966G	540	3	1	$448	$555	$1,003	8	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
160	**# 160 - Lower Camp - Fuel Island - Fuel Tank**	45	725/966G	540	3	1	$448	$555	$1,003	8	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
161	**# 161 - Lower Camp - Electrical Module - No Foundation**	30	725/966G	540	3	1	$448	$555	$1,003	5	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
162	**# 162 - Lower Camp - Electrical Building - Metal Building or**	61	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
163	**# 163 - Lower Camp - Wooden Shed - No Foundation**	14	725/966G	540	3	1	$448	$555	$1,003	2	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
164	**# 164 - Lower Camp - Wooden Shed - No Foundation**	5	725/966G	540	3	1	$448	$555	$1,003	1	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
165	**# 165 - 1525 Portal - Propane Tank for the Portal Heaters**	64	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
166	**# 166 - 1525 Portal - Propane Tank for the Portal Heaters**	64	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
167	**# 167 - 1525 Portal - Propane Vaporizer**	15	725/966G	540	3	1	$448	$555	$1,003	2	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
168	**# 168 - 1525 Portal - Propane Vaporizer**	15	725/966G	540	3	1	$448	$555	$1,003	2	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
169	**# 169 - 1525 Portal - Storage Connexes (2) - No Foundation**	58	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
170	**# 170 - 1525 Portal - Storage Connexes (2) - No Foundation**	62	725/966G	540	3	1	$448	$555	$1,003	10	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
171	**# 171 - 1525 Portal - Portal Heater Building**	78	725/966G	540	3	1	$448	$555	$1,003	13	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
172	**# 172 - 1525 Portal - Entrance Structure - Steel on Conc. Sla**	91	725/966G	540	3	1	$448	$555	$1,003	15	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
173	**# 173 - 1525 Portal - Red Path Maintenance Shop**	560	725/966G	540	3	1	$448	$555	$1,003	93	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
174	**# 174 - 1525 Portal - Maintenance Room - Framed - No Four**	72	725/966G	540	3	1	$448	$555	$1,003	12	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
175	**# 175 - 1525 Portal - Compressor Room / Electrical Module**	110	725/966G	540	3	1	$448	$555	$1,003	18	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
176	**# 176 - 1525 Portal - Water Treatment Plant #2**	953	725/966G	540	3	2	$897	$1,110	$2,007	159	725/966G	475	4	1	$537	$674	$1,211	$1,434	$1,784	$3,218
177	**# 177 - 1525 Portal - Filter Cake Loading Bay (Same Structu**	66	725/966G	540	3	1	$448	$555	$1,003	11	725/966G	475	4	1	$537	$674	$1,211	$985	$1,229	$2,214
178	**# 178 - 1525 Portal - Water Treatment Plant #3**	1,476	725/966G	540	3	3	$1,345	$1,665	$3,010	246	725/966G	475	4	1	$537	$674	$1,211	$1,882	$2,339	$4,221
179	**N00 Liese Creek Bridge**						$0	$0	$0						$0	$0	$0	$0	$0	$0
180	**N00 Goodpaster Bridge**						$0	$0	$0						$0	$0	$0	$0	$0	$0
181	**N00 ROW Keystone Bridge**						$0	$0	$0						$0	$0	$0	$0	$0	$0
182	**N00 ROW Shaw Creek Bridge**						$0	$0	$0						$0	$0	$0	$0	$0	$0
		39,219				202	**$90,511**	**$112,110**	**$202,621**	6,540				178	**$95,586**	**$119,972**	**$215,558**	**$186,097**	**$232,082**	**$418,179**

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

Building & Foundation - Scarifying/Revegetation Costs

					Scarifying/Ripping			Revegetation				Total Scarify & Revegation Costs			
	Description (required)	Flat Area acres	Area Long Dimension ft	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Costs $
1	**# 1 - Mill - Job Trailer**	0.10	19	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
2	**# 2 - Mill - Connex**	0.10	25	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
3	**# 3 - Mill - Connex**	0.10	25	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
4	**# 4 - Mill - Tent Building**	0.10	35	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
5	**# 5 - Mill - Electrical Module**	0.10	31	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
6	**# 6 - Mill - Microwave Tower**	0.10	15	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
7	**# 7 - Mill - Electrical Module (ER-1)**	0.10	50	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
8	**# 8 - Mill - Bag House**	0.10	32	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
9	**# 9 - Mill - Assay Lab**	0.10	76	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
10	**# 10 - Mill - Reagent Loadout Area (Slab+Roof Only)**	0.10	112	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
11	**# 11 - Mill - Reagent Storage Area**	0.10	78	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
12	**# 12 - Mill - CN Recovery Thickener**	0.10	37	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
13	**# 13 - Mill - Reagent Handling**	0.30	133	1	$91	$98	$189	$1,000	$1,000	$1,200	$3,200	$1,091	$1,098	$1,200	$3,389
14	**# 14 - Mill - CN Leach Tanks**	0.10	90	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
15	**# 15 - Mill - Flotation**	0.20	141	1	$91	$98	$189	$1,000	$1,000	$800	$2,800	$1,091	$1,098	$800	$2,989
16	**# 16 - Mill - Refinery**	0.10	144	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
17	**# 17 - Mill - Flotation Thickener**	0.10	33	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
18	**# 18 - Mill - Process Water Tank Area**	0.10	17	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
19	**# 19 - Mill - Grinding Water Tank**	0.10	29	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
20	**# 20 - Mill - Building**	0.10	48	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
21	**# 21 - Mill - Gravity**	0.10	43	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
22	**# 22 - Mill - Grinding**	0.20	90	1	$91	$98	$189	$1,000	$1,000	$800	$2,800	$1,091	$1,098	$800	$2,989
23	**# 23 - Mill - Backup Generator Connex**	0.10	32	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
24	**# 24 - Mill - Backup Generator Connex**	0.10	32	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
25	**# 25 - Mill - Electrical Module ER-4**	0.10	47	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
26	**# 26 - Mill - Sloping Conveyor Building**	0.10	26	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
27	**# 27 - Mill - Cold Weather Parts Laydown**	0.10	39	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
28	**# 28 - Mill - Small Shop**	0.10	40	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
29	**# 29 - Mill - Connexes (2) Stacked - Parts Storage**	0.10	40	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
30	**# 30 - Mill - Sloping Conveyor Gallery**	0.10	194	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
31	**# 31 - Mill - AST-02 Fuel Tank**	0.10	42	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
32	**# 32 - Mill - Connexes (2) Side by Side - Storage**	0.10	17	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
33	**# 33 - Mill - Office**	0.10	100	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
34	**# 34 - Mill - Coarse Ore Bin Area**	0.10	39	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
35	**# 35 - Mill - Coarse Ore Bin**	0.10	36	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
36	**# 36 - Mill - Reclaim Hopper Area**	0.10	48	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
37	**# 37 - Mill - Conveyor (Legs on Concrete Piers/Large Block**	0.30	1,431	1	$91	$98	$189	$1,000	$1,000	$1,200	$3,200	$1,091	$1,098	$1,200	$3,389
38	**# 38 - Mill - New CIP Tailings Storage Tank**	0.10	50	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
39	**# 39 - Mill - Old CIP Tailings Storage Tank**	0.10	47	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
40	**# 40 - Mill - Flotation Tailings Thickener**	0.10	36	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
41	**# 41 - Mill - Cement Storage Trailers (Bulk Load Tankers) o**	0.10	48	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
42	**# 42 - Mill - Cement Storage Trailers (Bulk Load Tankers) o**	0.10	48	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
43	**# 43 - Mill - Cement Silo**	0.10	22	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
44	**# 44 - Mill - Backfill Paste Plant**	0.30	165	1	$91	$98	$189	$1,000	$1,000	$1,200	$3,200	$1,091	$1,098	$1,200	$3,389
45	**# 45 - Mill - Backfill Water Dilution Tank**	0.10	35	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
46	**# 46 - Mill - Filter Feed Tank**	0.10	35	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
47	**# 47 - Mill - Electrical Control Module**	0.10	52	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

48	**# 48 - Mill - Compressor Room**	0.10	50	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
49	**# 49 - Mill - Tailings Building**	0.10	55	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
50	**# 50 - Mill - Conveyor Enclosure**	0.10	71	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
51	**# 51 - Mill - Flotation Tailings Storage**	0.20	139	1	$91	$98	$189	$1,000	$1,000	$800	$2,800	$1,091	$1,098	$800	$2,989
52	**# 52 - 1690 Portal - SW Pond Pumphouse**	0.10	41	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
53	**# 53 - 1690 Portal - Entrance Structure - Portal Steel Sets (N**	0.10	78	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
54	**# 54 - Main Camp - AST-01 Fuel Tank (2 Concrete Pads that**	0.10	36	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
55	**# 55 - Main Camp - Connexes (2) - Side by Side**	0.10	20	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
56	**# 56 - Main Camp - Potable Water Treatment**	0.10	48	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
57	**# 57 - Main Camp - Potable Water Tank**	0.10	40	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
58	**# 58 - Main Camp - Fire Water Pumphouse**	0.10	34	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
59	**# 59 - Main Camp - Fire Water Tank**	0.10	30	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
60	**# 60 - Main Camp - Dorms (A-Wing, B-Wing, Rec Area)**	0.70	353	1	$91	$98	$189	$1,000	$1,000	$2,800	$4,800	$1,091	$1,098	$2,800	$4,989
61	**# 61 - Main Camp - Kitchen**	0.10	82	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
62	**# 62 - Main Camp - Dorms (C-Wing)**	0.10	308	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
63	**# 63 - Main Camp - Administrative Offices**	0.30	167	1	$91	$98	$189	$1,000	$1,000	$1,200	$3,200	$1,091	$1,098	$1,200	$3,389
64	**# 64 - Main Camp - Shops & Warehouse**	0.60	206	1	$91	$98	$189	$1,000	$1,000	$2,400	$4,400	$1,091	$1,098	$2,400	$4,589
65	**# 65 - Main Camp - Fuel Tank**	0.10	44	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
66	**# 66 - Main Camp - Fuel Tank**	0.10	44	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
67	**# 67 - Main Camp - Propane Storage Tank Foundations**	0.10	48	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
68	**# 68 - Main Camp - Propane Storage Tank Foundations**	0.10	48	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
69	**# 69 - 1875 Portal - Portal Heaters (Concrete Slab with Equi**	0.10	31	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
70	**# 70 - 1875 Portal - Entrance Structure - Portal Steel Sets (N**	0.10	34	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
71	**# 71 - 1875 Portal - Storage Connex for Drill Bits**	0.10	40	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
72	**# 72 - 1875 Portal - Shop (On Concrete Slab)**	0.10	81	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
73	**# 73 - 1875 Portal - Shop (Concrete Slab Only)**	0.10	27	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
74	**# 74 - RTP - Pump House / Electrical - Connex**	0.10	20	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
75	**# 75 - RTP - Electrical Module**	0.10	16	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
76	**# 76 - RTP - Primary RTP Head Tank (Water Tank)**	0.10	21	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
77	**# 77 - RTP - Secondary RTP Head Tank (Water Tank)**	0.10	14	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
78	**# 78 - 2150 Portal - Raise Bore - Tank (no top or bottom) Co**	0.10	12	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
79	**# 79 - 2150 Portal - Electrical Module**	0.10	28	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
80	**# 80 - 2150 Portal - Transformers**	0.10	25	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
81	**# 81 - 2150 Portal - Air Compressor Module**	0.10	33	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
82	**# 82 - 2150 Portal - Air Compressor Module**	0.10	33	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
83	**# 83 - 2150 Portal - Entrance Structure Portal Steel Sets (Me**	0.10	33	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
84	**# 84 - 2150 Portal - Portal Heaters (Concrete Slab with Equi**	0.10	31	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
85	**# 85 - 2150 Portal - Propane Vaporizors for the 2150 Mine P**	0.10	22	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
86	**# 86 - 2150 Portal - Propane Tank - Concrete Foundation St**	0.10	64	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
87	**# 87 - 2150 Portal - Propane Tank - Concrete Foundation St**	0.10	64	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
88	**# 88 - Exploration - Old Exploration Core Shack - Wooden S**	0.10	31	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
89	**# 89 - Exploration - Old Exploration Office Building - Wood**	0.10	42	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
90	**# 90 - Pump Building / Electrical Module**	0.10	31	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
91	**# 91 - Connexes (4) with a Tent Building on Top of Them - N**	0.10	61	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
92	**# 92 - Outfall Building - Concrete Below Ground Structure**	0.10	13	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
93	**# 93 - Connex / Wood Frame HDPE Pipe Welding Shack - N**	0.10	21	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
94	**# 94 - Tire Farm - Tent Building - No Foundation**	0.10	56	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
95	**# 95 - Wire Farm - Connexes for Storage - No Foundation**	0.10	98	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
96	**# 96 - Heat Trace Control Building - No Foundation**	0.10	9	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
97	**# 97 - Electrical Module**	0.10	15	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
98	**# 98 - D-Wing - ATCO-like Dorm Module**	0.10	65	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
99	**# 99 - D-Wing - ATCO-like Dorm Module**	0.10	178	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
100	**# 100 - D-Wing - ATCO-like Dorm Module**	0.20	293	1	$91	$98	$189	$1,000	$1,000	$800	$2,800	$1,091	$1,098	$800	$2,989
101	**# 101 - D-Wing - Job Trailers for Contractors - No Foundati**	0.10	20	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
102	**# 102 - D-Wing - Job Trailers for Contractors - No Foundati**	0.10	20	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

103	**# 103 - D-Wing - Job Trailers for Contractors - No Foundati**	0.10	20	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
104	**# 104 - D-Wing - Mine Dry and Laundry Facilities**	0.20	128	1	$91	$98	$189	$1,000	$1,000	$800	$2,800	$1,091	$1,098	$800	$2,989
105	**# 105 - D-Wing - ATCO-like Hallway Modules**	0.10	86	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
106	**# 106 - D-Wing - ATCO-like Kitched / Rec Room**	0.20	144	1	$91	$98	$189	$1,000	$1,000	$800	$2,800	$1,091	$1,098	$800	$2,989
107	**# 107 - D-Wing - Connexes (2) Side by Side - No Foundatior**	0.10	38	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
108	**# 108 - Incinerator - Concrete Apron & Concrete Secondary**	0.10	46	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
109	**# 109 - Incinerator - Monolithic Dome Structure with Signifi**	0.10	38	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
110	**# 110 - Vaporizer Shack & Propane Tank**	0.10	33	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
111	**# 111 - Laydown #1 - Small Wooden Storage Shed - No Fou**	0.10	20	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
112	**# 112 - Lower Camp - Ozone System for PWTP#3**	0.10	13	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
113	**# 113 - Lower Camp - Potable Water Treatment Plant #3 (PV**	0.10	48	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
114	**# 114 - Lower Camp - Potable Water Storage Tank**	0.10	26	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
115	**# 115 - Lower Camp - Connexes (2x20') Side by Side - No F**	0.10	21	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
116	**# 116 - Lower Camp - Warehouse Warm Storage no Concre**	0.10	41	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
117	**# 117 - Lower Camp - Environmental Field Lab - ATCO Unit**	0.10	46	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
118	**# 118 - Lower Camp - Connexes (2x20') Side by Side - No F**	0.10	21	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
119	**# 119 - Lower Camp - Connex (40') Storage - No Foundatior**	0.10	39	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
120	**# 120 - Lower Camp - Connex Electrical Module - No Found**	0.10	41	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
121	**# 121 - Lower Camp - Lower Warehouse - Steel Building**	0.10	101	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
122	**# 122 - Lower Camp - Connex Storage Warehouse - No Fou**	0.10	39	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
123	**# 123 - Lower Camp - Front Porch of Redpath Office - No F**	0.10	17	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
124	**# 124 - Lower Camp - Red Path Office ATCO Structure**	0.10	51	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
125	**# 125 - Lower Camp - Red Path Office ATCO Structure**	0.10	55	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
126	**# 126 - Lower Camp - Dormitory E Wing ATCO Structure**	0.10	182	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
127	**# 127 - Lower Camp - Dormitory E Wing Entrance / Laundry**	0.10	31	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
128	**# 128 - Lower Camp - Rec Room Yurt - No Foundation**	0.10	20	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
129	**# 129 - Lower Camp - Fire Water Building for E-Wing - On G**	0.10	12	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
130	**# 130 - Lower Camp - Electrical Module / Transformer**	0.10	12	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
131	**# 131 - Lower Camp - Sewage Treatment Plant (STP) - Meta**	0.10	102	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
132	**# 132 - Lower Camp - STP Office - Framed - No Foundation**	0.10	33	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
133	**# 133 - Lower Camp - Concrete Pad in Front of Doorway**	0.10	8	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
134	**# 134 - Lower Camp - Concrete Pad in Front of Doorway**	0.10	8	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
135	**# 135 - Lower Camp - Old Incinerator Building - Metal on Sl**	0.10	24	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
136	**# 136 - Lower Camp - Connexes (2x20') Side by Side - No F**	0.10	37	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
137	**# 137 - Lower Camp - Large Tent/Shop for Core Shack - No**	0.10	50	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
138	**# 138 - Lower Camp - Wooden Framed Storage Shed - No F**	0.10	27	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
139	**# 139 - Lower Camp - Large Tent/Shop for Core Shack - No**	0.10	50	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
140	**# 140 - Lower Camp - Core Processing Facility (CPF)**	0.10	62	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
141	**# 141 - Lower Camp - CPF Office - Wooden Framed Buildin**	0.10	21	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
142	**# 142 - Lower Camp - Drillers Shop - Framed Roof over Cor**	0.10	61	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
143	**# 143 - Lower Camp - Drillers Storage Shed - Framed - No F**	0.10	41	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
144	**# 144 - Lower Camp - Connexes (2x20') Side by Side - No F**	0.10	21	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
145	**# 145 - Lower Camp - Connexes (2x20') Side by Side - No F**	0.10	25	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
146	**# 146 - Lower Camp - Drillers Building - Framed - No Found**	0.10	28	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
147	**# 147 - Lower Camp - Drillers Office - Framed - No Foundat**	0.10	23	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
148	**# 148 - Lower Camp - Basketball Court**	0.10	66	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
149	**# 149 - Lower Camp - Tent / Shop - No Foundation**	0.10	38	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
150	**# 150 - Lower Camp - Contractor Office Building - Framed -**	0.10	26	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
151	**# 151 - Lower Camp - Main Hazardous Waste Containment**	0.10	38	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
152	**# 152 - Lower Camp - Quanset Hut / Storage Shed - No Fou**	0.10	32	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
153	**# 153 - Lower Camp - Heli Pad Fuel Tank - In Containment -**	0.10	29	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
154	**# 154 - Lower Camp - Heli Pad Fuel Tank - In Containment -**	0.10	29	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
155	**# 155 - Lower Camp - Helipad - Wooden Structure - No Fou**	0.10	27	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
156	**# 156 - Lower Camp - Old Metal Skid with small Shack on i**	0.10	11	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
157	**# 157 - Lower Camp - Fuel Island - Fuel Tank**	0.10	37	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589

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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Buildings & Foundation Demolition Cost Summary	Labor	Equipment	Materials	Totals
Building Demolition Cost	$2,106,132	$1,007,296	N/A	$3,113,428
Wall Demolition Cost	$2,852,158	$53,085	N/A	$2,905,243
Slab Demolition	$29,144	$82,710	N/A	$111,854
Subtotal Demolition	**$4,987,434**	**$1,143,091**	**$0**	**$6,130,525**
Cover Placement Cost	$90,511	$112,110	N/A	$202,621
Growth Media Placement Cost	$95,586	$119,972	N/A	$215,558
Ripping/Scarifying Cost	$16,562	$17,836	N/A	$34,398
Subtotal Earthworks	**$202,659**	**$249,918**	**$0**	**$452,577**
Revegetation Cost	$182,000	$182,000	$84,400	$448,400
TOTALS	**$5,372,093**	**$1,575,009**	**$84,400**	**$7,031,502**

158	**# 158 - Lower Camp - Fuel Island - Fuel Tank**	0.10	37	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
159	**# 159 - Lower Camp - Fuel Island - Fuel Tank**	0.10	37	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
160	**# 160 - Lower Camp - Fuel Island - Fuel Tank**	0.10	37	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
161	**# 161 - Lower Camp - Electrical Module - No Foundation**	0.10	21	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
162	**# 162 - Lower Camp - Electrical Building - Metal Building o**	0.10	26	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
163	**# 163 - Lower Camp - Wooden Shed - No Foundation**	0.10	16	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
164	**# 164 - Lower Camp - Wooden Shed - No Foundation**	0.10	7	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
165	**# 165 - 1525 Portal - Propane Tank for the Portal Heaters**	0.10	48	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
166	**# 166 - 1525 Portal - Propane Tank for the Portal Heaters**	0.10	48	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
167	**# 167 - 1525 Portal - Propane Vaporizer**	0.10	19	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
168	**# 168 - 1525 Portal - Propane Vaporizer**	0.10	19	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
169	**# 169 - 1525 Portal - Storage Connexes (2) - No Foundation**	0.10	26	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
170	**# 170 - 1525 Portal - Storage Connexes (2) - No Foundation**	0.10	28	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
171	**# 171 - 1525 Portal - Portal Heater Building**	0.10	32	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
172	**# 172 - 1525 Portal - Entrance Structure - Steel on Conc. Sl**	0.10	39	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
173	**# 173 - 1525 Portal - Red Path Maintenance Shop**	0.10	80	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
174	**# 174 - 1525 Portal - Maintenance Room - Framed - No Fou**	0.10	38	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
175	**# 175 - 1525 Portal - Compressor Room / Electrical Module**	0.10	43	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
176	**# 176 - 1525 Portal - Water Treatment Plant #2**	0.20	143	1	$91	$98	$189	$1,000	$1,000	$800	$2,800	$1,091	$1,098	$800	$2,989
177	**# 177 - 1525 Portal - Filter Cake Loading Bay (Same Structu**	0.10	26	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
178	**# 178 - 1525 Portal - Water Treatment Plant #3**	0.30	162	1	$91	$98	$189	$1,000	$1,000	$1,200	$3,200	$1,091	$1,098	$1,200	$3,389
179	**N00 Liese Creek Bridge**	0.10	107	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
180	**N00 Goodpaster Bridge**	0.20	500	1	$91	$98	$189	$1,000	$1,000	$800	$2,800	$1,091	$1,098	$800	$2,989
181	**N00 ROW Keystone Bridge**	0.10	100	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
182	**N00 ROW Shaw Creek Bridge**	0.10	100	1	$91	$98	$189	$1,000	$1,000	$400	$2,400	$1,091	$1,098	$400	$2,589
		21.10		182	**$16,562**	**$17,836**	**$34,398**	**$182,000**	**$182,000**	**$84,400**	**$448,400**	**$198,562**	**$199,836**	**$84,400**	**$482,798**

Closure Cost Estimate
Other Demo & Equip Removal

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Other Demoltion and Equipment Removal - Cost Summary

	Labor	Equipment	Materials	Totals
Other Demolition	$180,000	$180,000	$20,000	$380,000
Equipment Removal	$60,000	$70,000	$170,000	$300,000
TOTALS	**$240,000**	**$250,000**	**$190,000**	**$680,000**

Other Demolition

Facility Description

	Description (required)	ID Code	Type	Quantity	Units	Labor Unit Cost $	Equipment Unit Cost $	Material Unit Cost $	Total Cost $
1	**Other Demolition placeholder costs**	**P3**	**Process - Other**	**1**	**LS**	**$180,000.00**	**$180,000.00**	**$20,000.00**	$380,000
						$180,000	**$180,000**	**$20,000**	**$380,000**

Notes:

Equipment & Material Removal

Facility Description

	Description (required)	ID Code	Type	Quantity	Units	Labor Unit Cost ($)	Equipment Unit Cost ($)	Material Unit Cost ($)	Total Cost ($)
1	**Equipment & Material Removal placeholder costs**	**P3**	**Process - Other**	**1**	**LS**	**$60,000.00**	**$70,000.00**	**$170,000.00**	$300,000
						$60,000	**$70,000**	**$170,000**	**$300,000**

Notes:

Closure Cost Estimate
Sediment & Drainage Control

Project Name: Reclamation Cost Estimate - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$32,727	$47,418	N/A	$80,145
Diversion Ditch Liner	$77,573	$13,160	$11,133	$101,866
Diversion Ditch Rip-Rap	$3,526,934	$315,872	$0	$3,842,806
Sed Pond Construct/Regrade	$208,504	$260,720	N/A	$469,224
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$15,256	$27,696	N/A	$42,952
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$3,860,994**	**$664,866**	**$11,133**	**$4,536,993**
Diversion Ditch Revegetation	$62	$2,650	$37,200	$39,912
Sediment Pond Revegetation	$37,620	$37,620	$143,760	$219,000
Subtotal Revegetation	**$37,682**	**$40,270**	**$180,960**	**$258,912**
TOTALS	**$3,898,676**	**$705,136**	**$192,093**	**$4,795,905**

Diversion Ditches - User Input

			Diversions Ditches							Revegetation			Liner and Rip-Rap Installation			
	Description (required)	ID Code	Diversion Length ft	Diversion Depth ft	Ditch Bottom Width ft	Ditch Sideslope Angle _H:1V	Excavate Volume (if calculated elsewhere) cy	Excavating Material Condition (select)	Excavating Equipment Fleet (select)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Liner Area S.Y.	Liner Type (select)	Rip-Rap Area S.Y.	Rip-Rap Type (select type)
1	E05 - Lower Camp Diversion Ditch 1	P3	203	1.0	3.0	3.0		1	Medium	Mix 1	None	None	0		0	
2	E05 - Lower Camp Diversion Ditch 2	P3	261	1.0	3.0	3.0		1	Medium	Mix 1	None	None	0		0	
3	E05 - N23 - Old North Diversion Channel - Drystack Ditch 3	P3	2812	3.5	46.0	3.0		1	Medium				0		0	
4	E05 - N23 - South Diversion Channel - Drystack South Ditch	P3	2655	3.5	46.0	3.0		1	Medium				0		0	
5	E05 - N23 - North Diversion Channel - Drystack Ditch 4	P3	5850	3.5	46.0	3.0		1	Medium				0		0	
6	E05 - N23 - Old South Diversion Channel - Drystack Ditch 5	P3	2334	3.5	46.0	3.0		1	Medium				0		0	
7	N98 - Dry Stack Perimeter Channel - A (includes over-excav	P3	2200	5.3	6.0	3.0		1	Medium	Mix 1	None	None	8117	60 mil HDPE	8,117	Rip-Rap 18 in (450
8	N98 - Dry Stack Perimeter Channel - B (includes over-excav	P3	2300	5.5	12.0	3.0		1	Medium	Mix 1	None	None	8891	60 mil HDPE	14,818	Rip-Rap 18 in (450
9	N98 - Dry Stack Perimeter Channel - C (includes over-excav	P3	2600	5.3	6.0	3.0		1	Medium	Mix 1	None	None	9593	60 mil HDPE	9,593	Rip-Rap 18 in (450
10	N98 - Dry Stack Perimeter Channel - D (includes over-excav	P3	2000	5.5	14.0	3.0		1	Medium	Mix 1	None	None	7732	60 mil HDPE	12,887	Rip-Rap 18 in (450
11	N98 - Dry Stack Perimeter Channel - Stilling Basin (includes	P3	60	7.0	24.0	3.0		1	Medium	Mix 1	None	None	298	60 mil HDPE	497	Rip-Rap 18 in (450

Notes:
For Drystack Perimeter Channel dimensions, refer to Figure 4 of Dry Stack Tailings Facility Closure Study.
Riprap areas are adjusted for actual thickness of riprap layer relative to 18 inches to reflect quantities in Figure 4 of Tailings Facility Closure Study.
E05 - N23 - Diversion Channel larger disturbance revegetation under "Roads."

Sediment/Evaporation Pond Construction/Removal - User Input

			Sediment Ponds								Growth Media		
	Description (required)	ID Code	Pond Width ft	Pond/Berm Length ft	Berm Height ft	Crest Width ft	Sideslope Angle _H:1V	Final Area (if calculated elsewhere) acres	Regrade Volume (if calculated elsewhere) cy	Cover Volume (if calculated elsewhere) cy	Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Pond to Borrow % grade
1	E03 - Pond	P3	412	216	10.0	0.0	2.5	2.24					
2	E03 - Gravel Pond	P3	635	315	10.0	0.0	2.5	4.28					
3	E03 - Lower Camp Pond	P3	289	92	10.0	0.0	2.5	0.45					
4	N25 - Stormwater Pond	P3	396	88	10.0	0.0	2.5	0.74			6	548	10.0
5	N32 - RTP Stilling Basin	P3	135	158	10.0	0.0	2.5	2.20			6	1,129	8.9
6	N17 - RTP (half of area requires GM)	P3	380	571	72.0	40.0	2.5	10.07	109,632		3	546	10.0
7	N31 - Inlet Pond	P3	436	618	28.4	8.0	2.5	9.25			6	100	0.0
8	N31 - Mixing Pond	P3	280	992	24.6	8.0	2.5	3.29			6	100	0.0
9	N31 - Mixing Pond	P3	60	154	40.0	8.0	2.5	3.29			6	100	0.0
10	N91 - Stilling Basin	P3	122	61	10.0	0.0	2.5	0.13			6	100	0.0

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$32,727	$47,418	N/A	$80,145
Diversion Ditch Liner	$77,573	$13,160	$11,133	$101,866
Diversion Ditch Rip-Rap	$3,526,934	$315,872	$0	$3,842,806
Sed Pond Construct/Regrade	$208,504	$260,720	N/A	$469,224
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$15,256	$27,696	N/A	$42,952
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$3,860,994**	**$664,866**	**$11,133**	**$4,536,993**
Diversion Ditch Revegetation	$62	$2,650	$37,200	$39,912
Sediment Pond Revegetation	$37,620	$37,620	$143,760	$219,000
Subtotal Revegetation	**$37,682**	**$40,270**	**$180,960**	**$258,912**
TOTALS	**$3,898,676**	**$705,136**	**$192,093**	**$4,795,905**

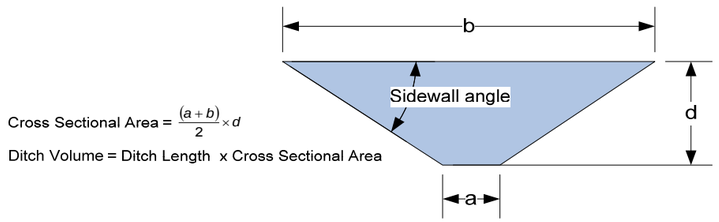
Sediment/Evaporation Pond Construction/Removal - User Input (cont.)

		Sediment Ponds				Growth Media			Revegetation			Ripping/Scarifying	
	Description (required)	Excavating Material Condition (select)	Material Type (select)	Excavating Equipment Fleet (select)	Liner Type (select)	Growth Media Material Type (select)	Growth Media Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarify/ Rip? (select)	Scarify/ Ripping Fleet (select)
1	**E03 - Pond**	**1**	**Alluvium**	**Small**		**Alluvium**	**Med Truck**		**Mix 1**	**None**	**None**	**No**	
2	**E03 - Gravel Pond**	**1**	**Alluvium**	**Small**		**Alluvium**	**Med Truck**		**Mix 1**	**None**	**None**	**No**	
3	**E03 - Lower Camp Pond**	**1**	**Alluvium**	**Small**		**Alluvium**	**Med Truck**		**Mix 1**	**None**	**None**	**No**	
4	**N25 - Stormwater Pond**	**1**	**Alluvium**	**Small**		**Alluvium**	**Med Truck**		**Mix 1**	**None**	**None**	**No**	
5	**N32 - RTP Stilling Basin**	**1**	**Alluvium**	**Small**		**Alluvium**	**Med Truck**		**Mix 1**	**None**	**None**	**No**	
6	**N17 - RTP (half of area requires GM)**	**1**	**Alluvium**	**Small**		**Alluvium**	**Med Truck**		**Mix 1**	**None**	**None**	**No**	
7	**N31 - Inlet Pond**	**1**	**Alluvium**	**Small**		**Alluvium**	**Med Truck**		**Mix 1**	**None**	**None**	**No**	
8	**N31 - Mixing Pond**	**1**	**Alluvium**	**Small**		**Alluvium**	**Med Truck**		**Mix 1**	**None**	**None**	**No**	
9	**N31 - Mixing Pond**	**1**	**Alluvium**	**Small**		**Alluvium**	**Med Truck**		**Mix 1**	**None**	**None**	**No**	
10	**N91 - Stilling Basin**	**1**	**Alluvium**	**Small**		**Alluvium**	**Med Truck**		**Mix 1**	**None**	**None**	**No**	

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Drainage Control - Calculations

Diversion Ditch Volume Calculation



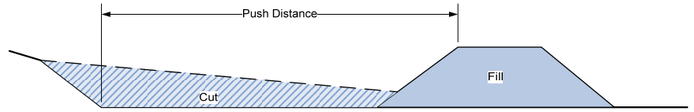
$$\text{Cross Sectional Area} = \frac{(a+b)}{2} \times d$$

Ditch Volume = Ditch Length x Cross Sectional Area

Figure 1 - Ditch Volume Calculation

1) Assume 20% swell for excavations
2) Assumes heavy duty trenching bucket is used

Sediment/Evaporation Pond Construction Calculation



Cut = Fill
Push distance = pond width up to 2/3 max push distance (400 ft)

Figure 2 - Sediment Ponds

1) Assume balanced cut-to-fill for berm construction
2) Include cost for liner, if required.
3) Include line items for removal, if necessary.
4) Assume 20% swell for excavations
5) Minimum 1 hr ripping/scarifying per area
6) Minimum 1 acre revegetation crew time per area

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Drainage Control - Cost Summary

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Diversion Ditch Construction	$32,727	$47,418	N/A	$80,145
Diversion Ditch Liner	$77,573	$13,160	$11,133	$101,866
Diversion Ditch Rip-Rap	$3,526,934	$315,872	$0	$3,842,806
Sed Pond Construct/Regrade	$208,504	$260,720	N/A	$469,224
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$15,256	$27,696	N/A	$42,952
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$3,860,994**	**$664,866**	**$11,133**	**$4,536,993**
Diversion Ditch Revegetation	$62	$2,650	$37,200	$39,912
Sediment Pond Revegetation	$37,620	$37,620	$143,760	$219,000
Subtotal Revegetation	**$37,682**	**$40,270**	**$180,960**	**$258,912**
TOTALS	**$3,898,676**	**$705,136**	**$192,093**	**$4,795,905**

Diversion Ditches - Excavation Costs

	Description (required)	Diversion Ditch Volume LCY	Diversion Ditch Equipment	Corrected Excavator Productivity LCY/hr	Total Hours	Diversion Ditch Labor Cost $	Diversion Ditch Equipment Cost $	Total Diversion Ditch Cost $	Liner Installation: Total Labor Cost $	Liner Installation: Total Equipment Cost $	Liner Installation: Total Material Cost $	Liner Installation: Total Liner Cost $	Rip-Rap Installation: Labor Cost $	Rip-Rap Installation: Equipment Cost $	Rip-Rap Installation: Material Cost $	Rip-Rap Installation: Total Cost $
1	**E05 - Lower Camp Diversion Ditch 1**	54	345B	480	0	$89	$129	$218	$0	$0	$0	$0	$0	$0	$0	$0
2	**E05 - Lower Camp Diversion Ditch 2**	70	345B	480	0	$89	$129	$218	$0	$0	$0	$0	$0	$0	$0	$0
3	**E05 - N23 - Old North Diversion Channel - Drystack Ditch 3**	24,714	345B	480	51	$4,535	$6,571	$11,106	$0	$0	$0	$0	$0	$0	$0	$0
4	**E05 - N23 - South Diversion Channel - Drystack South Ditch**	23,335	345B	480	49	$4,358	$6,314	$10,672	$0	$0	$0	$0	$0	$0	$0	$0
5	**E05 - N23 - North Diversion Channel - Drystack Ditch 4**	51,415	345B	480	107	$9,516	$13,787	$23,303	$0	$0	$0	$0	$0	$0	$0	$0
6	**E05 - N23 - Old South Diversion Channel - Drystack Ditch 5**	20,513	345B	480	43	$3,824	$5,541	$9,365	$0	$0	$0	$0	$0	$0	$0	$0
7	**N98 - Dry Stack Perimeter Channel - A (includes over-excav**	11,165	345B	480	23	$2,045	$2,964	$5,009	$18,182	$3,084	$2,609	$23,876	$623,548	$55,845	$0	$679,393
8	**N98 - Dry Stack Perimeter Channel - B (includes over-excav**	16,023	345B	480	33	$2,935	$4,252	$7,187	$19,916	$3,379	$2,858	$26,153	$1,138,344	$101,950	$0	$1,240,294
9	**N98 - Dry Stack Perimeter Channel - C (includes over-excav**	13,195	345B	480	27	$2,401	$3,479	$5,880	$21,488	$3,645	$3,084	$28,218	$736,934	$66,000	$0	$802,934
10	**N98 - Dry Stack Perimeter Channel - D (includes over-excav**	14,911	345B	480	31	$2,757	$3,994	$6,751	$17,320	$2,938	$2,486	$22,744	$989,954	$88,660	$0	$1,078,614
11	**N98 - Dry Stack Perimeter Channel - Stilling Basin (includes**	840	345B	480	2	$178	$258	$436	$668	$113	$96	$877	$38,154	$3,417	$0	$41,571
		176,235			366	**$32,727**	**$47,418**	**$80,145**	**$77,573**	**$13,160**	**$11,133**	**$101,866**	**$3,526,934**	**$315,872**	**$0**	**$3,842,806**

Notes: LCM assumes 20% swell from ditch volume

Diversion Ditches - Revegetation Costs

	Description (required)	Surface Area acres	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**E05 - Lower Camp Diversion Ditch 1**	0.10	$5	$221	$400	$626
2	**E05 - Lower Camp Diversion Ditch 2**	0.10	$5	$221	$400	$626
3	**E05 - N23 - Old North Diversion Channel - Drystack Ditch 3**	4.40	$0	$0	$0	$0
4	**E05 - N23 - South Diversion Channel - Drystack South Ditch**	4.20	$0	$0	$0	$0
5	**E05 - N23 - North Diversion Channel - Drystack Ditch 4**	9.20	$0	$0	$0	$0
6	**E05 - N23 - Old South Diversion Channel - Drystack Ditch 5**	3.70	$0	$0	$0	$0
7	**N98 - Dry Stack Perimeter Channel - A (includes over-excav**	2.00	$10	$442	$8,000	$8,452
8	**N98 - Dry Stack Perimeter Channel - B (includes over-excav**	2.50	$13	$552	$10,000	$10,565
9	**N98 - Dry Stack Perimeter Channel - C (includes over-excav**	2.30	$12	$508	$9,200	$9,720
10	**N98 - Dry Stack Perimeter Channel - D (includes over-excav**	2.20	$11	$486	$8,800	$9,297
11	**N98 - Dry Stack Perimeter Channel - Stilling Basin (includes**	0.10	$5	$221	$400	$626
		30.80	**$62**	**$2,650**	**$37,200**	**$39,912**

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Cost Data: User Data
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$32,727	$47,418	N/A	$80,145
Diversion Ditch Liner	$77,573	$13,160	$11,133	$101,866
Diversion Ditch Rip-Rap	$3,526,934	$315,872	$0	$3,842,806
Sed Pond Construct/Regrade	$208,504	$260,720	N/A	$469,224
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$15,256	$27,696	N/A	$42,952
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$3,860,994**	**$664,866**	**$11,133**	**$4,536,993**
Diversion Ditch Revegetation	$62	$2,650	$37,200	$39,912
Sediment Pond Revegetation	$37,620	$37,620	$143,760	$219,000
Subtotal Revegetation	**$37,682**	**$40,270**	**$180,960**	**$258,912**
TOTALS	**$3,898,676**	**$705,136**	**$192,093**	**$4,795,905**

Sediment/Evaporation Ponds - Construction/Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83)

	Description (required)	Regrading Volume cy	Sed/Evap Pond Equipment	Dozing Distance (see above) ft	Uncorrected Dozer Productivity LCY/hr	Grade Correction	Density Correction	Excavating Material	Corrected Productivity LCY/hr	Total Dozer Hours hr	Earthwork: Total Labor Cost $	Earthwork: Total Equipment Cost $	Earthwork: Total Constr/ Regrading Cost $	Liner: Total Labor Cost $	Liner: Total Equipment Cost $	Liner: Total Material Cost $	Liner: Total Liner Cost $
1	**E03 - Pond**	2,400	D7R	400	213	1.00	0.79	1.00	105	23	$2,096	$2,621	$4,717	$0	$0	$0	$0
2	**E03 - Gravel Pond**	3,500	D7R	400	213	1.00	0.79	1.00	105	33	$3,007	$3,760	$6,767	$0	$0	$0	$0
3	**E03 - Lower Camp Pond**	1,022	D7R	289	274	1.00	0.79	1.00	135	8	$729	$912	$1,641	$0	$0	$0	$0
4	**N25 - Stormwater Pond**	978	D7R	396	214	1.00	0.79	1.00	105	9	$820	$1,026	$1,846	$0	$0	$0	$0
5	**N32 - RTP Stilling Basin**	1,756	D7R	135	496	1.00	0.79	1.00	244	7	$638	$798	$1,436	$0	$0	$0	$0
6	**N17 - RTP (half of area requires GM)**	109,632	D7R	380	221	1.00	0.79	1.00	109	1,006	$91,677	$114,634	$206,311	$0	$0	$0	$0
7	**N31 - Inlet Pond**	61,591	D7R	400	213	1.00	0.79	1.00	105	587	$53,493	$66,889	$120,382	$0	$0	$0	$0
8	**N31 - Mixing Pond**	75,656	D7R	280	281	1.00	0.79	1.00	138	548	$49,939	$62,445	$112,384	$0	$0	$0	$0
9	**N31 - Mixing Pond**	29,511	D7R	60	934	1.00	0.79	1.00	459	64	$5,832	$7,293	$13,125	$0	$0	$0	$0
10	**N91 - Stilling Basin**	678	D7R	122	537	1.00	0.79	1.00	264	3	$273	$342	$615	$0	$0	$0	$0
		286,724								2,288	**$208,504**	**$260,720**	**$469,224**	**$0**	**$0**	**$0**	**$0**

Sediment/Evaporation Ponds - Growth Media Costs

		Growth Media							
	Description (required)	Growth Media Volume cy	Growth Media Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Placement Cost $
1	**E03 - Pond**						$0	$0	$0
2	**E03 - Gravel Pond**						$0	$0	$0
3	**E03 - Lower Camp Pond**						$0	$0	$0
4	**N25 - Stormwater Pond**	597	740/988G	554	2	1	$363	$659	$1,022
5	**N32 - RTP Stilling Basin**	1,775	740/988G	475	2	4	$1,451	$2,635	$4,086
6	**N17 - RTP (half of area requires GM)**	4,062	740/988G	554	2	7	$2,540	$4,611	$7,151
7	**N31 - Inlet Pond**	7,462	740/988G	322	1	23	$6,269	$11,380	$17,649
8	**N31 - Mixing Pond**	2,654	740/988G	322	1	8	$2,180	$3,958	$6,138
9	**N31 - Mixing Pond**	2,654	740/988G	322	1	8	$2,180	$3,958	$6,138
10	**N91 - Stilling Basin**	105	740/988G	322	1	1	$273	$495	$768
		19,309				52	**$15,256**	**$27,696**	**$42,952**

Sediment/Evaporation Ponds - Revegetation Costs

	Description (required)	Surface Area acres	Long Ripping Distance ft	Area Width ft	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**E03 - Pond**	2.24	237	216		$0	$0	$0	$2,240	$2,240	$8,960	$13,440
2	**E03 - Gravel Pond**	4.28	294	315		$0	$0	$0	$4,280	$4,280	$17,120	$25,680
3	**E03 - Lower Camp Pond**	0.45	68	92		$0	$0	$0	$1,000	$1,000	$1,800	$3,800
4	**N25 - Stormwater Pond**	0.74	81	88		$0	$0	$0	$1,000	$1,000	$2,960	$4,960
5	**N32 - RTP Stilling Basin**	2.20	710	135		$0	$0	$0	$2,200	$2,200	$8,800	$13,200
6	**N17 - RTP (half of area requires GM)**	10.07	1,154	380		$0	$0	$0	$10,070	$10,070	$40,280	$60,420
7	**N31 - Inlet Pond**	9.25	924	436		$0	$0	$0	$9,250	$9,250	$37,000	$55,500
8	**N31 - Mixing Pond**	3.29	512	280		$0	$0	$0	$3,290	$3,290	$13,160	$19,740
9	**N31 - Mixing Pond**	3.29	2,389	60		$0	$0	$0	$3,290	$3,290	$13,160	$19,740
10	**N91 - Stilling Basin**	0.13	46	61		$0	$0	$0	$1,000	$1,000	$520	$2,520
		35.94	6414.803754		0	**$0**	**$0**	**$0**	**$37,620**	**$37,620**	**$143,760**	**$219,000**

Closure Cost Estimate
Process Ponds

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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$1,823	$2,279	N/A	$4,102
Growth Media Placement Costs	$2,690	$3,330	N/A	$6,020
Liner Cutting & Folding Costs	$0	$0	N/A	$0
Subtotal Earthworks	**$4,513**	**$5,609**	**$0**	**$10,122**
Revegetation Costs	$1,000	$1,000	$2,400	$4,400
TOTALS	**$5,513**	**$6,609**	**$2,400**	**$14,522**

Process Ponds - User Input

You must fill in ALL green cells and relevant blue cells in this section for each pond

	Facility Description		Pond Dimensions (1)					Backfill - (If trucks are used) (1)				Growth Media		
	Description (required)	ID Code	Pond Length ft	Pond Width ft	Pond Depth ft	Pond Sideslope Angle _H:1V	Disturbed Area (if calculated elsewhere) acres	Percent Backfill (100% if blank)	Distance from Backfill Borrow ft	Slope from Facility to Borrow Area % grade	Pond Volume (if calculated elsewhere) cy	Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Facility to Stockpile % grade
1	**See "Sediment & Drainage Control" for ponds**													
2	**Potential future landfill (excavation)**	**P3**	**200**	**140**	**15.0**	**3.0**								
3	**Potential future landfill (reclamation 2 ft cover plus GM)**	**P4**	**200**	**140**	**15.0**	**3.0**		**0%**				**30**	**3,000**	**-5%**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

*** Backfill costs included under "Sediment & Drainage Control" worksheet**

Process Ponds - User Input (cont.)

		Liner	Backfill			Growth Media			Revegetation		
	Description (required)	Crew Cut & Fold Time (2) hrs	Backfill Material Type (select)	Backfill Equipment Fleet (select)	Maximum Fleet Size (user override)	Growth Media Material Type (select)	Growth Media Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)
1	**See "Sediment & Drainage Control" for ponds**										
2	**Potential future landfill (excavation)**		**Shale**	**Small Dozer**							
3	**Potential future landfill (reclamation 2 ft cover plus GM)**		**Shale**	**Small Dozer**		**Alluvium**	**Small Truck**		**Mix 1**	**None**	**None**

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table
(2) Pond liner removal crew (2Clab + excavator) = 2 General Laborers + 325C Excavator

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

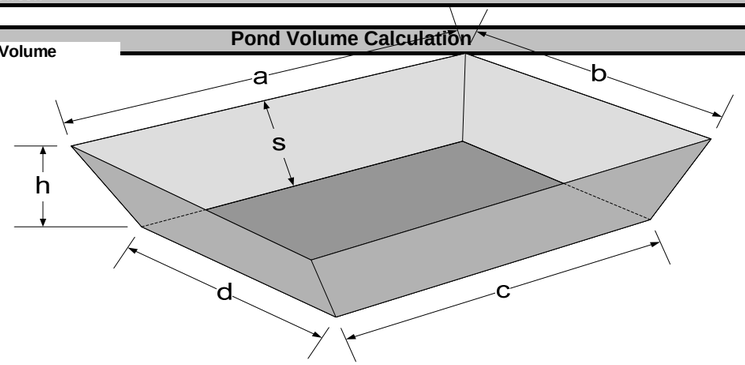
Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$1,823	$2,279	N/A	$4,102
Growth Media Placement Costs	$2,690	$3,330	N/A	$6,020
Liner Cutting & Folding Costs	$0	$0	N/A	$0
Subtotal Earthworks	**$4,513**	**$5,609**	**$0**	**$10,122**
Revegetation Costs	$1,000	$1,000	$2,400	$4,400
TOTALS	**$5,513**	**$6,609**	**$2,400**	**$14,522**

Process Ponds - Calculations

Pond Volume Calculation

Figure 1 - Pond Volume



Area and Volume of the Frustrum of a Pyramid

$$\text{Surface Area} = ab + cd + (a+b+c+d) \times \frac{s}{2}$$

$$\text{Volume} = \frac{h\,(ab + cd + \sqrt{abcd}\,)}{3}$$

Revegetation Calculations

Minimum 1 acre revegetation crew time per area

Process Ponds - Liner Cutting and Folding

	Description (required)	Crew Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $
1	**See "Sediment & Drainage Control" for ponds**		$0	$0	$0
2	**Potential future landfill (excavation)**		$0	$0	$0
3	**Potential future landfill (reclamation 2 ft cover plus GM)**		$0	$0	$0
			$0	**$0**	**$0**

Closure Cost Estimate
Process Ponds

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$1,823	$2,279	N/A	$4,102
Growth Media Placement Costs	$2,690	$3,330	N/A	$6,020
Liner Cutting & Folding Costs	$0	$0	N/A	$0
Subtotal Earthworks	**$4,513**	**$5,609**	**$0**	**$10,122**
Revegetation Costs	$1,000	$1,000	$2,400	$4,400
TOTALS	**$5,513**	**$6,609**	**$2,400**	**$14,522**

Process Ponds - Backfill and Growth Media Costs

		Pond Backfill								Growth Media							
	Description (required)	Backfill Volume cy	Backfill Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Backfill Cost $	Growth Media Volume cy	Growth Media Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**See "Sediment & Drainage Control" for ponds**	None required	**Select Fleet**	**Material Type!**	**Material Type!**	**Material Type!**	$0	$0	$0						$0	$0	$0
2	**Potential future landfill (excavation)**	8,502	D7R	429		20	$1,823	$2,279	$4,102						$0	$0	$0
3	**Potential future landfill (reclamation 2 ft cover plus GM)**	0					$0	$0	$0	2,593	725/966G	433	3	6	$2,690	$3,330	$6,020
		8,502				20	**$1,823**	**$2,279**	**$4,102**	2,593				6	**$2,690**	**$3,330**	**$6,020**

Process Ponds - Revegetation Costs

	Description (required)	Surface Area acres	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**See "Sediment & Drainage Control" for ponds**	0.00	$0	$0	$0	$0
2	**Potential future landfill (excavation)**	0.60	$0	$0	$0	$0
3	**Potential future landfill (reclamation 2 ft cover plus GM)**	0.60	$1,000	$1,000	$2,400	$4,400
		1.20	**$1,000**	**$1,000**	**$2,400**	**$4,400**

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Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$505,589	$632,200	N/A	$1,137,789
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$61,100	$110,925	N/A	$172,025
Ripping/Scarifying Cost	$26,790	$28,848	N/A	$55,638
Subtotal Earthworks	**$593,479**	**$771,973**		**$1,365,452**
Revegetation Cost	$57,090	$57,090	$225,400	$339,580
TOTALS	**$650,569**	**$829,063**	**$225,400**	**$1,705,032**

Yards, Etc. - User Input

You must fill in ALL green cells and relevant blue cells in this section for each building or facility

	Facility Description			Physical			Cover			Growth Media		
	Description (required)	ID Code	Type	Area acres	Average Flat Area Long Dimension (ripping distance) ft	Regrade Volume (calculated elsewhere) cy	Cover Thickness in	Distance from Cover Borrow Area ft	Slope from Facility to Borrow Area % grade	Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Facility to Stockpile % grade
1	1525 Portal Organic Stockpile	P3	Yard	0.62	200	1,000				0		
2	1525 Portal Inorganic Stockpile	P3	Yard	1.66	300	2,678				0		
3	Exploration Camp Yard	P3	Yard	0.35	200	565				0		
4	Exploration Camp Yard	P3	Yard	0.04	100	65				0		
5	Exploration Camp Yard	P3	Yard	0.46	200	742				0		
6	Exploration Camp Yard	P3	Yard	0.74	200	1,194				0		
7	Exploration Camp Yard	P3	Yard	0.15	100	242				0		
8	E02 - Mineralized Rock Storage Area 3	P2	Other Facilities	2.32	400	3,743				6	5,768	7.3
9	E02 - Non-Mineralized Rock Storage Area 1	P2	Other Facilities	0.66	200	1,065				0		
10	E02 - Non-Mineralized Rock Storage Area 2	P2	Other Facilities	2.19	400	3,533				0		
11	E04 - Airstrip - assumed natural recovery - no costs	P4	Yard	1.37	300	2,210				0		
12	E07 - Seed burn pit area for revegetation	P3	Yard	0.42	200	678				0		
13	N01 - 1525 Portal area (half of area reseeded)	P4	Yard	5.61	500	9,051				3	5,691	0.0
14	N04 - 1525 Portal Laydown #2	P3	Yard	1.91	300	3,081				0		
15	N04 - D-Wing Yard Area	P3	Yard	4.51	500	7,276				0		
16	N04 - 1525 Portal Laydown #2	P3	Yard	0.10	100	161				0		
17	N04 - 1525 Portal Laydown #1	P3	Yard	5.46	500	8,809				0		
18	N05 - Construction/Exploration Camp pad (half of area rese	P3	Yard	11.40	800	18,392				3	705	0.0
19	N07 - Main Airstrip - Runway Protection Zone	P3	Yard	7.87	600	12,697				4.5	1,787	-1.1
20	N07 - Main Airstrip - Runway	P3	Yard	11.36	800	18,327				4.5	1,787	-1.1
21	N07 - Main Airstrip - Other Disturbance + N94 Airstrip Clear	P3	Yard	2.35	400	3,791				4.5	1,787	-1.1
22	N07 - Main Airstrip - Runway Protection Zone	P3	Yard	14.68	800	23,684				4.5	1,787	-1.1
23	N07 - Main Airstrip - Other Disturbance	P3	Yard	5.87	600	9,470				4.5	1,787	-1.1
24	N07 - Main Airstrip - Other Disturbance	P4	Yard	3.22	400	5,195				4.5	1,787	-1.1
25	N08 - Fuel Area (see also "Waste Disposal" for HCS dispos	P3	Yard	0.20	100	323				6	1,787	-1.1
26	N09 - Borrow Source at Strip	P3	Yard	1.82	300	2,936				0		
27	N10 - 1690 Portal Yard 1	P3	Yard	4.20	500	6,776				6	1,000	0.0
28	N10 - 1690 Portal Yard 2	P3	Yard	0.69	200	1,113				6	1,000	0.0
29	N11 - Airstrip - Organic Stockpile	P3	Yard	3.86	500	6,227				6	973	0.0
30	N11 - Airstrip Laydown 1	P3	Yard	14.15	800	22,829				0		
31	N11 - Airstrip Laydown 2 - Wire Farm	P3	Yard	3.60	400	5,808						
32	N11 - Airstrip Laydown 3 - Tire Farm	P3	Yard	2.93	400	4,727						
33	N11 - Airstrip Laydown 1	P3	Yard	2.22	400	3,582						
34	N11 - Airstrip Laydown 1	P3	Yard	1.10	300	1,775						
35	N11 - Airstrip Laydown 1	P3	Yard	2.81	400	4,533						
36	N14 - Mill Bench	P3	Yard	18.96	1,000	30,589				6	1,000	0.0
37	N14 - Main Substation	P3	Yard	0.57	200	920				6	1,000	0.0
38	N16 - Main Camp/1875 Portal Yard	P4	Yard	19.31	1,000	31,153				6	5,464	8.8
39	N21 - Transmission line (no action)	P3	Yard	0.30	200	0				0		
40	N21 - Transmission line (no action)	P3	Yard	0.14	100	0				0		
41	N21 - Transmission line (no action)	P3	Yard	2.23	400	0				0		
42	N21 - Transmission line (no action)	P3	Yard	2.87	400	0				0		
43	N21 - Transmission line (no action)	P3	Yard	9.14	700	0				0		
44	N21 - Transmission line (no action)	P3	Yard	3.93	500	0				0		
45	N27 - Growth Media - GM-1	P3	Yard	0.35	200	565				0		
46	N27 - Growth Media - GM-2	P3	Yard	1.04	300	1,678				0		
47	N27 - Growth Media - GM-3	P3	Yard	0.52	200	839				0		
48	N27 - Growth Media - GM-4	P3	Yard	0.48	200	774				0		
49	N27 - Growth Media - GM-5	P3	Yard	0.46	200	742				0		
50	N27 - Growth Media - GM-6	P3	Yard	0.92	300	1,484				0		
51	N27 - Growth Media - GM-7	P3	Yard	2.27	400	3,662				0		
52	N27 - Growth Media - GM-8	P3	Yard	4.04	500	6,518				0		
53	N27 - Growth Media - GM-9	P3	Yard	1.67	300	2,694				0		
54	N27 - Growth Media - GM-10	P3	Yard	0.61	200	984				0		
55	N27 - Growth Media - GM-11	P3	Yard	1.93	300	3,114				0		
56	N27 - Growth Media - GM-12	P3	Yard	1.14	300	1,839				0		

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Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$505,589	$632,200	N/A	$1,137,789
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$61,100	$110,925	N/A	$172,025
Ripping/Scarifying Cost	$26,790	$28,848	N/A	$55,638
Subtotal Earthworks	**$593,479**	**$771,973**		**$1,365,452**
Revegetation Cost	$57,090	$57,090	$225,400	$339,580
TOTALS	**$650,569**	**$829,063**	**$225,400**	**$1,705,032**

57	**N27 - Growth Media - GM-13**	**P3**	**Yard**	**1.36**	**300**	**2,194**				**0**		
58	**N27 - Growth Media - GM-14**	**P3**	**Yard**	**1.39**	**300**	**2,243**				**0**		
59	**N27 - Growth Media - GM-15**	**P3**	**Yard**	**0.75**	**200**	**1,210**				**0**		
60	**N27 - Growth Media - GM-16**	**P3**	**Yard**	**2.39**	**300**	**2,194**				**0**		
61	**N27 - Growth Media - GM-17**	**P3**	**Yard**	**0.42**	**300**	**2,194**				**0**		
62	**N28A - Material Site A (see "Quarries & Borrow Pits")**	**P3**	**Yard**									
63	**N30 - Ore stockpile**	**P3**	**Yard**	**1.38**	**300**	**2,226**				**0**		
64	**N34 - Exploration Core Stockpile**	**P3**	**Yard**	**0.73**	**200**	**1,178**				**0**		
65	**N34 - Laydown Yard**	**P3**	**Yard**	**0.99**	**300**	**1,597**				**0**		
66	**N34 - Log Storage 1**	**P3**	**Yard**	**0.22**	**100**	**355**				**0**		
67	**N34 - Log Storage 2**	**P3**	**Yard**	**0.06**	**100**	**97**				**0**		
68	**N34 - Log Storage 3**	**P3**	**Yard**	**0.14**	**100**	**226**				**0**		
69	**N34 - Log Storage 4**	**P3**	**Yard**	**0.15**	**100**	**242**				**0**		
70	**N34 - Log Storage 5**	**P3**	**Yard**	**0.19**	**100**	**307**				**0**		
71	**N34 - Log Storage 6**	**P3**	**Yard**	**1.17**	**300**	**1,888**				**0**		
72	**N34 - Log Storage 7**	**P3**	**Yard**	**0.45**	**200**	**726**				**0**		
73	**N37 - Material Site 1 (see "Quarries & Borrow Pits")**	**P3**	**Yard**							**0**		
74	**N37 - Material Site 2 (see "Quarries & Borrow Pits")**	**P3**	**Yard**							**0**		
75	**N38 - GM18 - natural recovery, no costs**	**P3**	**Yard**	**5.84**	**600**	**0**	**0**			**0**		
76	**N38 - GM19 - natural recovery, no costs**	**P3**	**Yard**	**2.06**	**300**	**0**	**0**			**0**		
77	**N94 - Airstrip Clearance**	**P3**	**Yard**	**0.74**	**200**	**1,194**				**6**	**1,787**	**-1.1**
78	**N95 - Diversion Channel Yard (no action)**	**P3**	**Yard**	**1.17**	**300**							
79	**N99 - 2150 Portal**	**P3**	**Yard**	**11.24**	**700**	**18,134**				**0**		
80	**ROW-01 - ROW Disturbance Area #1**	**ROW-P4**	**Yard**	**16.33**	**900**	**26,346**				**0**		
81	**ROW-02 - ROW Disturbance Area #2**	**ROW-P4**	**Yard**	**25.39**	**1,100**	**40,963**				**0**		
82	**ROW-03 - ROW Disturbance Area #3**	**ROW-P4**	**Yard**	**19.56**	**1,000**	**31,557**				**0**		
83	**ROW-04 - ROW Disturbance Area #4**	**ROW-P4**	**Yard**	**22.50**	**1,000**	**36,300**				**0**		
84	**ROW-05 - ROW Disturbance Area #5**	**ROW-P4**	**Yard**	**1.74**	**300**	**2,807**				**0**		
85	**ROW-06 - ROW Disturbance Area #6**	**ROW-P4**	**Yard**	**5.62**	**500**	**9,067**				**0**		
86	**ROW-07 - ROW Disturbance Area #7**	**ROW-P4**	**Yard**	**10.46**	**700**	**16,875**				**0**		
87	**ROW-08 - ROW Disturbance Area #8**	**ROW-P4**	**Yard**	**12.45**	**800**	**20,086**				**0**		
88	**ROW-09 - ROW Disturbance Area #9**	**ROW-P4**	**Yard**	**10.96**	**700**	**17,682**				**0**		
89	**ROW-10 - ROW Disturbance Area #10**	**ROW-P4**	**Yard**	**5.55**	**500**	**8,954**				**0**		
90	**ROW-11 - ROW Disturbance Area #11**	**ROW-P4**	**Yard**	**4.39**	**500**	**7,083**				**0**		
91	**ROW-12 - Laydown Area**	**ROW-P4**	**Yard**	**15.33**	**900**	**24,732**				**0**		
92	**ROW-14 - Campground**	**ROW-P4**	**Yard**	**8.60**	**700**	**13,875**				**0**		
93	**ROW-B1 - Shaw Bridge**	**ROW-P4**	**Yard**	**0.03**	**100**	**48**						
94	**ROW-B2 - Gilles Creek Bridge - no reclamation (public)**	**-**	**Yard**	**0.03**	**100**							
95	**ROW-B3 - Caribou Bridge (no reclamation public rd)**	**-**	**Yard**	**0.02**	**100**							
96	**ROW-B4 - Keystone Bridge**	**ROW-P4**	**Yard**	**0.02**	**100**	**32**						
97	**ROW-T1 - Transmission Line (power poles only)**	**ROW-P4**	**Yard**	**1.31**	**300**	**2,118**						

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

ROW items' reseeding is included in "Other User" sheet to account for helicopter seeding rather and not hydroseeding.
147900.150-ROW_DISTURBANCE_ft_20170207.xlsx

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Yards, Etc. - Cost Summary

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Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$61,100	$110,925	N/A	$172,025
Ripping/Scarifying Cost	$26,790	$28,848	N/A	$55,638
Subtotal Earthworks	**$593,479**	**$771,973**		**$1,365,452**
Revegetation Cost	$57,090	$57,090	$225,400	$339,580
TOTALS	**$650,569**	**$829,063**	**$225,400**	**$1,705,032**

Yards, Etc. - User Input (cont.)

You must fill in ALL green cells and relevant blue cells in this section for each building or facility

		Grading			Cover			Growth Media			Revegetation				
	Description (required)	Dozing Material Condition (select)	Dozing Material Type (select)	Grading Equipment Fleet (select)	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Growth Media Material Type (select)	Growth Media Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Scarify/ Rip? (select)	Ripping Fleet (select)
1	1525 Portal Organic Stockpile	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck						
2	1525 Portal Inorganic Stockpile	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck						
3	Exploration Camp Yard	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
4	Exploration Camp Yard	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
5	Exploration Camp Yard	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
6	Exploration Camp Yard	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
7	Exploration Camp Yard	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
8	E02 - Mineralized Rock Storage Area 3	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
9	E02 - Non-Mineralized Rock Storage Area 1	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
10	E02 - Non-Mineralized Rock Storage Area 2	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
11	E04 - Airstrip - assumed natural recovery - no costs	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
12	E07 - Seed burn pit area for revegetation	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
13	N01 - 1525 Portal area (half of area reseeded)	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
14	N04 - 1525 Portal Laydown #2	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
15	N04 - D-Wing Yard Area	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
16	N04 - 1525 Portal Laydown #2	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
17	N04 - 1525 Portal Laydown #1	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
18	N05 - Construction/Exploration Camp pad (half of area rese	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
19	N07 - Main Airstrip - Runway Protection Zone	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
20	N07 - Main Airstrip - Runway	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
21	N07 - Main Airstrip - Other Disturbance + N94 Airstrip Clear	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
22	N07 - Main Airstrip - Runway Protection Zone	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
23	N07 - Main Airstrip - Other Disturbance	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
24	N07 - Main Airstrip - Other Disturbance	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
25	N08 - Fuel Area (see also "Waste Disposal" for HCS dispos	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
26	N09 - Borrow Source at Strip	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
27	N10 - 1690 Portal Yard 1	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1	None	None	Yes	Small Dozer
28	N10 - 1690 Portal Yard 2	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1	None	None	Yes	Small Dozer
29	N11 - Airstrip - Organic Stockpile	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
30	N11 - Airstrip Laydown 1	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
31	N11 - Airstrip Laydown 2 - Wire Farm	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
32	N11 - Airstrip Laydown 3 - Tire Farm	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
33	N11 - Airstrip Laydown 1	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
34	N11 - Airstrip Laydown 1	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
35	N11 - Airstrip Laydown 1	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
36	N14 - Mill Bench	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1	None	None	Yes	Small Dozer
37	N14 - Main Substation	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1	None	None	Yes	Small Dozer
38	N16 - Main Camp/1875 Portal Yard	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1	None	None	Yes	Small Dozer
39	N21 - Transmission line (no action)	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
40	N21 - Transmission line (no action)	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
41	N21 - Transmission line (no action)	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
42	N21 - Transmission line (no action)	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
43	N21 - Transmission line (no action)	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
44	N21 - Transmission line (no action)	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
45	N27 - Growth Media - GM-1	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
46	N27 - Growth Media - GM-2	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
47	N27 - Growth Media - GM-3	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$505,589	$632,200	N/A	$1,137,789
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$61,100	$110,925	N/A	$172,025
Ripping/Scarifying Cost	$26,790	$28,848	N/A	$55,638
Subtotal Earthworks	**$593,479**	**$771,973**		**$1,365,452**
Revegetation Cost	$57,090	$57,090	$225,400	$339,580
TOTALS	**$650,569**	**$829,063**	**$225,400**	**$1,705,032**

48	N27 - Growth Media - GM-4	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
49	N27 - Growth Media - GM-5	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
50	N27 - Growth Media - GM-6	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
51	N27 - Growth Media - GM-7	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
52	N27 - Growth Media - GM-8	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
53	N27 - Growth Media - GM-9	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
54	N27 - Growth Media - GM-10	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
55	N27 - Growth Media - GM-11	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
56	N27 - Growth Media - GM-12	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
57	N27 - Growth Media - GM-13	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
58	N27 - Growth Media - GM-14	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
59	N27 - Growth Media - GM-15	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
60	N27 - Growth Media - GM-16	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
61	N27 - Growth Media - GM-17	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
62	N28A - Material Site A (see "Quarries & Borrow Pits")	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck						
63	N30 - Ore stockpile	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1	None	None	Yes	Small Dozer
64	N34 - Exploration Core Stockpile	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
65	N34 - Laydown Yard	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
66	N34 - Log Storage 1	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
67	N34 - Log Storage 2	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
68	N34 - Log Storage 3	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
69	N34 - Log Storage 4	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
70	N34 - Log Storage 5	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
71	N34 - Log Storage 6	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
72	N34 - Log Storage 7	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	Yes	Small Dozer
73	N37 - Material Site 1 (see "Quarries & Borrow Pits")	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
74	N37 - Material Site 2 (see "Quarries & Borrow Pits")	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
75	N38 - GM18 - natural recovery, no costs	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
76	N38 - GM19 - natural recovery, no costs	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		None	None	None	No	
77	N94 - Airstrip Clearance	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck				None	Yes	Small Dozer
78	N95 - Diversion Channel Yard (no action)	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck						
79	N99 - 2150 Portal	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1	None	None	Yes	Small Dozer
80	ROW-01 - ROW Disturbance Area #1	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
81	ROW-02 - ROW Disturbance Area #2	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
82	ROW-03 - ROW Disturbance Area #3	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
83	ROW-04 - ROW Disturbance Area #4	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
84	ROW-05 - ROW Disturbance Area #5	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
85	ROW-06 - ROW Disturbance Area #6	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
86	ROW-07 - ROW Disturbance Area #7	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
87	ROW-08 - ROW Disturbance Area #8	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
88	ROW-09 - ROW Disturbance Area #9	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
89	ROW-10 - ROW Disturbance Area #10	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
90	ROW-11 - ROW Disturbance Area #11	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
91	ROW-12 - Laydown Area	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
92	ROW-14 - Campground	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck					Yes	Small Dozer
93	ROW-B1 - Shaw Bridge	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck						
94	ROW-B2 - Gilles Creek Bridge - no reclamation (public)	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck						
95	ROW-B3 - Caribou Bridge (no reclamation public rd)	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck						
96	ROW-B4 - Keystone Bridge	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck						
97	ROW-T1 - Transmission Line (power poles only)	1	Alluvium	Small	Alluvium	Med Truck		Alluvium	Med Truck						

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
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Model Version: Version 1.4.1
Cost Data: User Data
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$505,589	$632,200	N/A	$1,137,789
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$61,100	$110,925	N/A	$172,025
Ripping/Scarifying Cost	$26,790	$28,848	N/A	$55,638
Subtotal Earthworks	**$593,479**	**$771,973**		**$1,365,452**
Revegetation Cost	$57,090	$57,090	$225,400	$339,580
TOTALS	**$650,569**	**$829,063**	**$225,400**	**$1,705,032**

Yards, Etc. - Calculations

Grading Calculations

Average push distance assumed to be 2/3 of the 600 feet maximum from Catepillar Handbook or 400 feet
Material assumed to be loose stockile (1.2 productivity factor)
Slope assumed to be 0 to 5% (1.0 productivity factor)

Cover Volume Calculation

Yard area x cover thickness

Ripping/Scarifying Calculations

Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)
Minimum 1 hr ripping/scarifying per area

Revegetation

Minimum 1 acre revegetation crew time per area

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Yards, Etc. - Cost Summary

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Regrading Cost	$505,589	$632,200	N/A	$1,137,789
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Growth Media Placement Cost	$61,100	$110,925	N/A	$172,025
Ripping/Scarifying Cost	$26,790	$28,848	N/A	$55,638
Subtotal Earthworks	**$593,479**	**$771,973**		**$1,365,452**
Revegetation Cost	$57,090	$57,090	$225,400	$339,580
TOTALS	**$650,569**	**$829,063**	**$225,400**	**$1,705,032**

Yards, Etc. - Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material	Density Correction	Total Hourly Productivity cy/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**1525 Portal Organic Stockpile**	1,000	400	213	1.0	1.0	0.79	105	10	$911	$1,140	$2,051
2	**1525 Portal Inorganic Stockpile**	2,678	400	213	1.0	1.0	0.79	105	26	$2,369	$2,963	$5,332
3	**Exploration Camp Yard**	565	400	213	1.0	1.0	0.79	105	5	$456	$570	$1,026
4	**Exploration Camp Yard**	65	400	213	1.0	1.0	0.79	105	1	$91	$114	$205
5	**Exploration Camp Yard**	742	400	213	1.0	1.0	0.79	105	7	$638	$798	$1,436
6	**Exploration Camp Yard**	1,194	400	213	1.0	1.0	0.79	105	11	$1,002	$1,253	$2,255
7	**Exploration Camp Yard**	242	400	213	1.0	1.0	0.79	105	2	$182	$228	$410
8	**E02 - Mineralized Rock Storage Area 3**	3,743	400	213	1.0	1.0	0.79	105	36	$3,281	$4,102	$7,383
9	**E02 - Non-Mineralized Rock Storage Area 1**	1,065	400	213	1.0	1.0	0.79	105	10	$911	$1,140	$2,051
10	**E02 - Non-Mineralized Rock Storage Area 2**	3,533	400	213	1.0	1.0	0.79	105	34	$3,098	$3,874	$6,972
11	**E04 - Airstrip - assumed natural recovery - no costs**	2,210	400	213	1.0	1.0	0.79	105	21	$1,914	$2,393	$4,307
12	**E07 - Seed burn pit area for revegetation**	678	400	213	1.0	1.0	0.79	105	6	$547	$684	$1,231
13	**N01 - 1525 Portal area (half of area reseeded)**	9,051	400	213	1.0	1.0	0.79	105	86	$7,837	$9,800	$17,637
14	**N04 - 1525 Portal Laydown #2**	3,081	400	213	1.0	1.0	0.79	105	29	$2,643	$3,305	$5,948
15	**N04 - D-Wing Yard Area**	7,276	400	213	1.0	1.0	0.79	105	69	$6,288	$7,863	$14,151
16	**N04 - 1525 Portal Laydown #2**	161	400	213	1.0	1.0	0.79	105	2	$182	$228	$410
17	**N04 - 1525 Portal Laydown #1**	8,809	400	213	1.0	1.0	0.79	105	84	$7,655	$9,572	$17,227
18	**N05 - Construction/Exploration Camp pad (half of area rese**	18,392	400	213	1.0	1.0	0.79	105	175	$15,948	$19,941	$35,889
19	**N07 - Main Airstrip - Runway Protection Zone**	12,697	400	213	1.0	1.0	0.79	105	121	$11,027	$13,788	$24,815
20	**N07 - Main Airstrip - Runway**	18,327	400	213	1.0	1.0	0.79	105	175	$15,948	$19,941	$35,889
21	**N07 - Main Airstrip - Other Disturbance + N94 Airstrip Clear**	3,791	400	213	1.0	1.0	0.79	105	36	$3,281	$4,102	$7,383
22	**N07 - Main Airstrip - Runway Protection Zone**	23,684	400	213	1.0	1.0	0.79	105	226	$20,595	$25,753	$46,348
23	**N07 - Main Airstrip - Other Disturbance**	9,470	400	213	1.0	1.0	0.79	105	90	$8,202	$10,256	$18,458
24	**N07 - Main Airstrip - Other Disturbance**	5,195	400	213	1.0	1.0	0.79	105	49	$4,465	$5,584	$10,049
25	**N08 - Fuel Area (see also "Waste Disposal" for HCS dispos**	323	400	213	1.0	1.0	0.79	105	3	$273	$342	$615
26	**N09 - Borrow Source at Strip**	2,936	400	213	1.0	1.0	0.79	105	28	$2,552	$3,191	$5,743
27	**N10 - 1690 Portal Yard 1**	6,776	400	213	1.0	1.0	0.79	105	65	$5,923	$7,407	$13,330
28	**N10 - 1690 Portal Yard 2**	1,113	400	213	1.0	1.0	0.79	105	11	$1,002	$1,253	$2,255
29	**N11 - Airstrip - Organic Stockpile**	6,227	400	213	1.0	1.0	0.79	105	59	$5,377	$6,723	$12,100
30	**N11 - Airstrip Laydown 1**	22,829	400	213	1.0	1.0	0.79	105	217	$19,775	$24,727	$44,502
31	**N11 - Airstrip Laydown 2 - Wire Farm**	5,808	400	213	1.0	1.0	0.79	105	55	$5,012	$6,267	$11,279
32	**N11 - Airstrip Laydown 3 - Tire Farm**	4,727	400	213	1.0	1.0	0.79	105	45	$4,101	$5,128	$9,229
33	**N11 - Airstrip Laydown 1**	3,582	400	213	1.0	1.0	0.79	105	34	$3,098	$3,874	$6,972
34	**N11 - Airstrip Laydown 1**	1,775	400	213	1.0	1.0	0.79	105	17	$1,549	$1,937	$3,486
35	**N11 - Airstrip Laydown 1**	4,533	400	213	1.0	1.0	0.79	105	43	$3,919	$4,900	$8,819
36	**N14 - Mill Bench**	30,589	400	213	1.0	1.0	0.79	105	291	$26,519	$33,159	$59,678
37	**N14 - Main Substation**	920	400	213	1.0	1.0	0.79	105	9	$820	$1,026	$1,846
38	**N16 - Main Camp/1875 Portal Yard**	31,153	400	213	1.0	1.0	0.79	105	297	$27,066	$33,843	$60,909
39	**N21 - Transmission line (no action)**									$0	$0	$0
40	**N21 - Transmission line (no action)**									$0	$0	$0
41	**N21 - Transmission line (no action)**									$0	$0	$0
42	**N21 - Transmission line (no action)**									$0	$0	$0
43	**N21 - Transmission line (no action)**									$0	$0	$0
44	**N21 - Transmission line (no action)**									$0	$0	$0
45	**N27 - Growth Media - GM-1**	565	400	213	1.0	1.0	0.79	105	5	$456	$570	$1,026
46	**N27 - Growth Media - GM-2**	1,678	400	213	1.0	1.0	0.79	105	16	$1,458	$1,823	$3,281

Project Name: Reclamation Cost Estimate - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$505,589	$632,200	N/A	$1,137,789
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$61,100	$110,925	N/A	$172,025
Ripping/Scarifying Cost	$26,790	$28,848	N/A	$55,638
Subtotal Earthworks	**$593,479**	**$771,973**		**$1,365,452**
Revegetation Cost	$57,090	$57,090	$225,400	$339,580
TOTALS	**$650,569**	**$829,063**	**$225,400**	**$1,705,032**

47	**N27 - Growth Media - GM-3**	839	400	213	1.0	1.0	0.79	105	8	$729	$912	$1,641
48	**N27 - Growth Media - GM-4**	774	400	213	1.0	1.0	0.79	105	7	$638	$798	$1,436
49	**N27 - Growth Media - GM-5**	742	400	213	1.0	1.0	0.79	105	7	$638	$798	$1,436
50	**N27 - Growth Media - GM-6**	1,484	400	213	1.0	1.0	0.79	105	14	$1,276	$1,595	$2,871
51	**N27 - Growth Media - GM-7**	3,662	400	213	1.0	1.0	0.79	105	35	$3,190	$3,988	$7,178
52	**N27 - Growth Media - GM-8**	6,518	400	213	1.0	1.0	0.79	105	62	$5,650	$7,065	$12,715
53	**N27 - Growth Media - GM-9**	2,694	400	213	1.0	1.0	0.79	105	26	$2,369	$2,963	$5,332
54	**N27 - Growth Media - GM-10**	984	400	213	1.0	1.0	0.79	105	9	$820	$1,026	$1,846
55	**N27 - Growth Media - GM-11**	3,114	400	213	1.0	1.0	0.79	105	30	$2,734	$3,419	$6,153
56	**N27 - Growth Media - GM-12**	1,839	400	213	1.0	1.0	0.79	105	18	$1,640	$2,051	$3,691
57	**N27 - Growth Media - GM-13**	2,194	400	213	1.0	1.0	0.79	105	21	$1,914	$2,393	$4,307
58	**N27 - Growth Media - GM-14**	2,243	400	213	1.0	1.0	0.79	105	21	$1,914	$2,393	$4,307
59	**N27 - Growth Media - GM-15**	1,210	400	213	1.0	1.0	0.79	105	12	$1,094	$1,367	$2,461
60	**N27 - Growth Media - GM-16**	2,194	400	213	1.0	1.0	0.79	105	21	$1,914	$2,393	$4,307
61	**N27 - Growth Media - GM-17**	2,194	400	213	1.0	1.0	0.79	105	21	$1,914	$2,393	$4,307
62	**N28A - Material Site A (see "Quarries & Borrow Pits")**									$0	$0	$0
63	**N30 - Ore stockpile**	2,226	400	213	1.0	1.0	0.79	105	21	$1,914	$2,393	$4,307
64	**N34 - Exploration Core Stockpile**	1,178	400	213	1.0	1.0	0.79	105	11	$1,002	$1,253	$2,255
65	**N34 - Laydown Yard**	1,597	400	213	1.0	1.0	0.79	105	15	$1,367	$1,709	$3,076
66	**N34 - Log Storage 1**	355	400	213	1.0	1.0	0.79	105	3	$273	$342	$615
67	**N34 - Log Storage 2**	97	400	213	1.0	1.0	0.79	105	1	$91	$114	$205
68	**N34 - Log Storage 3**	226	400	213	1.0	1.0	0.79	105	2	$182	$228	$410
69	**N34 - Log Storage 4**	242	400	213	1.0	1.0	0.79	105	2	$182	$228	$410
70	**N34 - Log Storage 5**	307	400	213	1.0	1.0	0.79	105	3	$273	$342	$615
71	**N34 - Log Storage 6**	1,888	400	213	1.0	1.0	0.79	105	18	$1,640	$2,051	$3,691
72	**N34 - Log Storage 7**	726	400	213	1.0	1.0	0.79	105	7	$638	$798	$1,436
73	**N37 - Material Site 1 (see "Quarries & Borrow Pits")**									$0	$0	$0
74	**N37 - Material Site 2 (see "Quarries & Borrow Pits")**									$0	$0	$0
75	**N38 - GM18 - natural recovery, no costs**									$0	$0	$0
76	**N38 - GM19 - natural recovery, no costs**									$0	$0	$0
77	**N94 - Airstrip Clearance**	1,194	400	213	1.0	1.0	0.79	105	11	$1,002	$1,253	$2,255
78	**N95 - Diversion Channel Yard (no action)**									$0	$0	$0
79	**N99 - 2150 Portal**	18,134	400	213	1.0	1.0	0.79	105	173	$15,765	$19,713	$35,478
80	**ROW-01 - ROW Disturbance Area #1**	26,346	400	213	1.0	1.0	0.79	105	251	$22,874	$28,601	$51,475
81	**ROW-02 - ROW Disturbance Area #2**	40,963	400	213	1.0	1.0	0.79	105	390	$35,541	$44,441	$79,982
82	**ROW-03 - ROW Disturbance Area #3**	31,557	400	213	1.0	1.0	0.79	105	301	$27,430	$34,299	$61,729
83	**ROW-04 - ROW Disturbance Area #4**	36,300	400	213	1.0	1.0	0.79	105	346	$31,531	$39,427	$70,958
84	**ROW-05 - ROW Disturbance Area #5**	2,807	400	213	1.0	1.0	0.79	105	27	$2,461	$3,077	$5,538
85	**ROW-06 - ROW Disturbance Area #6**	9,067	400	213	1.0	1.0	0.79	105	86	$7,837	$9,800	$17,637
86	**ROW-07 - ROW Disturbance Area #7**	16,875	400	213	1.0	1.0	0.79	105	161	$14,672	$18,346	$33,018
87	**ROW-08 - ROW Disturbance Area #8**	20,086	400	213	1.0	1.0	0.79	105	191	$17,406	$21,764	$39,170
88	**ROW-09 - ROW Disturbance Area #9**	17,682	400	213	1.0	1.0	0.79	105	168	$15,310	$19,144	$34,454
89	**ROW-10 - ROW Disturbance Area #10**	8,954	400	213	1.0	1.0	0.79	105	85	$7,746	$9,686	$17,432
90	**ROW-11 - ROW Disturbance Area #11**	7,083	400	213	1.0	1.0	0.79	105	67	$6,106	$7,635	$13,741
91	**ROW-12 - Laydown Area**	24,732	400	213	1.0	1.0	0.79	105	236	$21,507	$26,892	$48,399
92	**ROW-14 - Campground**	13,875	400	213	1.0	1.0	0.79	105	132	$12,029	$15,041	$27,070
93	**ROW-B1 - Shaw Bridge**	48	400	213	1.0	1.0	0.79	105	1	$91	$114	$205
94	**ROW-B2 - Gilles Creek Bridge - no reclamation (public)**									$0	$0	$0
95	**ROW-B3 - Caribou Bridge (no reclamation public rd)**									$0	$0	$0
96	**ROW-B4 - Keystone Bridge**	32	400	213	1.0	1.0	0.79	105	1	$91	$114	$205
97	**ROW-T1 - Transmission Line (power poles only)**	2,118	400	213	1.0	1.0	0.79	105	20	$1,823	$2,279	$4,102
		582,563							5,548	**$505,589**	**$632,200**	**$1,137,789**

Closure Cost Estimate
Yards, Etc.

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$505,589	$632,200	N/A	$1,137,789
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$61,100	$110,925	N/A	$172,025
Ripping/Scarifying Cost	$26,790	$28,848	N/A	$55,638
Subtotal Earthworks	**$593,479**	**$771,973**		**$1,365,452**
Revegetation Cost	$57,090	$57,090	$225,400	$339,580
TOTALS	**$650,569**	**$829,063**	**$225,400**	**$1,705,032**

Yards, Etc. - Cover and Growth Media Costs

		Cover								Growth Media							
	Description (required)	Cover Volume cy	Topsoil Repacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $	Growth Media Volume cy	Growth Media Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**1525 Portal Organic Stockpile**						$0	$0	$0						$0	$0	$0
2	**1525 Portal Inorganic Stockpile**						$0	$0	$0						$0	$0	$0
3	**Exploration Camp Yard**						$0	$0	$0						$0	$0	$0
4	**Exploration Camp Yard**						$0	$0	$0						$0	$0	$0
5	**Exploration Camp Yard**						$0	$0	$0						$0	$0	$0
6	**Exploration Camp Yard**						$0	$0	$0						$0	$0	$0
7	**Exploration Camp Yard**						$0	$0	$0						$0	$0	$0
8	**E02 - Mineralized Rock Storage Area 3**						$0	$0	$0	1,855	740/988G	525	4	4	$2,174	$3,946	$6,120
9	**E02 - Non-Mineralized Rock Storage Area 1**						$0	$0	$0						$0	$0	$0
10	**E02 - Non-Mineralized Rock Storage Area 2**						$0	$0	$0						$0	$0	$0
11	**E04 - Airstrip - assumed natural recovery - no costs**						$0	$0	$0						$0	$0	$0
12	**E07 - Seed burn pit area for revegetation**						$0	$0	$0						$0	$0	$0
13	**N01 - 1525 Portal area (half of area reseeded)**						$0	$0	$0	2,259	740/988G	458	3	5	$2,266	$4,113	$6,379
14	**N04 - 1525 Portal Laydown #2**						$0	$0	$0						$0	$0	$0
15	**N04 - D-Wing Yard Area**						$0	$0	$0						$0	$0	$0
16	**N04 - 1525 Portal Laydown #2**						$0	$0	$0						$0	$0	$0
17	**N04 - 1525 Portal Laydown #1**						$0	$0	$0						$0	$0	$0
18	**N05 - Construction/Exploration Camp pad (half of area rese**						$0	$0	$0	4,598	740/988G	563	2	8	$2,903	$5,270	$8,173
19	**N07 - Main Airstrip - Runway Protection Zone**						$0	$0	$0	4,780	740/988G	483	2	10	$3,628	$6,587	$10,215
20	**N07 - Main Airstrip - Runway**						$0	$0	$0	6,897	740/988G	483	2	14	$5,080	$9,222	$14,302
21	**N07 - Main Airstrip - Other Disturbance + N94 Airstrip Clear**						$0	$0	$0	1,452	740/988G	483	2	3	$1,089	$1,976	$3,065
22	**N07 - Main Airstrip - Runway Protection Zone**						$0	$0	$0	8,894	740/988G	483	2	18	$6,531	$11,857	$18,388
23	**N07 - Main Airstrip - Other Disturbance**						$0	$0	$0	3,570	740/988G	483	2	7	$2,540	$4,611	$7,151
24	**N07 - Main Airstrip - Other Disturbance**						$0	$0	$0	1,936	740/988G	483	2	4	$1,451	$2,635	$4,086
25	**N08 - Fuel Area (see also "Waste Disposal" for HCS dispos**						$0	$0	$0	161	740/988G	483	2	1	$363	$659	$1,022
26	**N09 - Borrow Source at Strip**						$0	$0	$0						$0	$0	$0
27	**N10 - 1690 Portal Yard 1**						$0	$0	$0	3,388	740/988G	533	2	6	$2,177	$3,952	$6,129
28	**N10 - 1690 Portal Yard 2**						$0	$0	$0	565	740/988G	533	2	1	$363	$659	$1,022
29	**N11 - Airstrip - Organic Stockpile**						$0	$0	$0	3,146	740/988G	535	2	6	$2,177	$3,952	$6,129
30	**N11 - Airstrip Laydown 1**						$0	$0	$0						$0	$0	$0
31	**N11 - Airstrip Laydown 2 - Wire Farm**						$0	$0	$0						$0	$0	$0
32	**N11 - Airstrip Laydown 3 - Tire Farm**						$0	$0	$0						$0	$0	$0
33	**N11 - Airstrip Laydown 1**						$0	$0	$0						$0	$0	$0
34	**N11 - Airstrip Laydown 1**						$0	$0	$0						$0	$0	$0
35	**N11 - Airstrip Laydown 1**						$0	$0	$0						$0	$0	$0
36	**N14 - Mill Bench**						$0	$0	$0	15,327	740/988G	533	2	29	$10,522	$19,103	$29,625
37	**N14 - Main Substation**						$0	$0	$0	484	740/988G	533	2	1	$363	$659	$1,022
38	**N16 - Main Camp/1875 Portal Yard**						$0	$0	$0	15,569	740/988G	581	5	27	$17,110	$31,065	$48,175
39	**N21 - Transmission line (no action)**						$0	$0	$0						$0	$0	$0
40	**N21 - Transmission line (no action)**						$0	$0	$0						$0	$0	$0
41	**N21 - Transmission line (no action)**						$0	$0	$0						$0	$0	$0
42	**N21 - Transmission line (no action)**						$0	$0	$0						$0	$0	$0
43	**N21 - Transmission line (no action)**						$0	$0	$0						$0	$0	$0
44	**N21 - Transmission line (no action)**						$0	$0	$0						$0	$0	$0
45	**N27 - Growth Media - GM-1**						$0	$0	$0						$0	$0	$0
46	**N27 - Growth Media - GM-2**						$0	$0	$0						$0	$0	$0
47	**N27 - Growth Media - GM-3**						$0	$0	$0						$0	$0	$0
48	**N27 - Growth Media - GM-4**						$0	$0	$0						$0	$0	$0
49	**N27 - Growth Media - GM-5**						$0	$0	$0						$0	$0	$0
50	**N27 - Growth Media - GM-6**						$0	$0	$0						$0	$0	$0
51	**N27 - Growth Media - GM-7**						$0	$0	$0						$0	$0	$0
52	**N27 - Growth Media - GM-8**						$0	$0	$0						$0	$0	$0
53	**N27 - Growth Media - GM-9**						$0	$0	$0						$0	$0	$0
54	**N27 - Growth Media - GM-10**						$0	$0	$0						$0	$0	$0
55	**N27 - Growth Media - GM-11**						$0	$0	$0						$0	$0	$0
56	**N27 - Growth Media - GM-12**						$0	$0	$0						$0	$0	$0
57	**N27 - Growth Media - GM-13**						$0	$0	$0						$0	$0	$0
58	**N27 - Growth Media - GM-14**						$0	$0	$0						$0	$0	$0

Project Name: Reclamation Cost Estimate - Reclamation Plan
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$505,589	$632,200	N/A	$1,137,789
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$61,100	$110,925	N/A	$172,025
Ripping/Scarifying Cost	$26,790	$28,848	N/A	$55,638
Subtotal Earthworks	**$593,479**	**$771,973**		**$1,365,452**
Revegetation Cost	$57,090	$57,090	$225,400	$339,580
TOTALS	**$650,569**	**$829,063**	**$225,400**	**$1,705,032**

59	**N27 - Growth Media - GM-15**						$0	$0	$0						$0	$0	$0
60	**N27 - Growth Media - GM-16**						$0	$0	$0						$0	$0	$0
61	**N27 - Growth Media - GM-17**						$0	$0	$0						$0	$0	$0
62	**N28A - Material Site A (see "Quarries & Borrow Pits")**						$0	$0	$0						$0	$0	$0
63	**N30 - Ore stockpile**						$0	$0	$0						$0	$0	$0
64	**N34 - Exploration Core Stockpile**						$0	$0	$0						$0	$0	$0
65	**N34 - Laydown Yard**						$0	$0	$0						$0	$0	$0
66	**N34 - Log Storage 1**						$0	$0	$0						$0	$0	$0
67	**N34 - Log Storage 2**						$0	$0	$0						$0	$0	$0
68	**N34 - Log Storage 3**						$0	$0	$0						$0	$0	$0
69	**N34 - Log Storage 4**						$0	$0	$0						$0	$0	$0
70	**N34 - Log Storage 5**						$0	$0	$0						$0	$0	$0
71	**N34 - Log Storage 6**						$0	$0	$0						$0	$0	$0
72	**N34 - Log Storage 7**						$0	$0	$0						$0	$0	$0
73	**N37 - Material Site 1 (see "Quarries & Borrow Pits")**						$0	$0	$0						$0	$0	$0
74	**N37 - Material Site 2 (see "Quarries & Borrow Pits")**						$0	$0	$0						$0	$0	$0
75	**N38 - GM18 - natural recovery, no costs**						$0	$0	$0						$0	$0	$0
76	**N38 - GM19 - natural recovery, no costs**						$0	$0	$0						$0	$0	$0
77	**N94 - Airstrip Clearance**						$0	$0	$0	565	740/988G	483	2	1	$363	$659	$1,022
78	**N95 - Diversion Channel Yard (no action)**						$0	$0	$0						$0	$0	$0
79	**N99 - 2150 Portal**						$0	$0	$0						$0	$0	$0
80	**ROW-01 - ROW Disturbance Area #1**						$0	$0	$0						$0	$0	$0
81	**ROW-02 - ROW Disturbance Area #2**						$0	$0	$0						$0	$0	$0
82	**ROW-03 - ROW Disturbance Area #3**						$0	$0	$0						$0	$0	$0
83	**ROW-04 - ROW Disturbance Area #4**						$0	$0	$0						$0	$0	$0
84	**ROW-05 - ROW Disturbance Area #5**						$0	$0	$0						$0	$0	$0
85	**ROW-06 - ROW Disturbance Area #6**						$0	$0	$0						$0	$0	$0
86	**ROW-07 - ROW Disturbance Area #7**						$0	$0	$0						$0	$0	$0
87	**ROW-08 - ROW Disturbance Area #8**						$0	$0	$0						$0	$0	$0
88	**ROW-09 - ROW Disturbance Area #9**						$0	$0	$0						$0	$0	$0
89	**ROW-10 - ROW Disturbance Area #10**						$0	$0	$0						$0	$0	$0
90	**ROW-11 - ROW Disturbance Area #11**						$0	$0	$0						$0	$0	$0
91	**ROW-12 - Laydown Area**						$0	$0	$0						$0	$0	$0
92	**ROW-14 - Campground**						$0	$0	$0						$0	$0	$0
93	**ROW-B1 - Shaw Bridge**						$0	$0	$0						$0	$0	$0
94	**ROW-B2 - Gilles Creek Bridge - no reclamation (public)**						$0	$0	$0						$0	$0	$0
95	**ROW-B3 - Caribou Bridge (no reclamation public rd)**						$0	$0	$0						$0	$0	$0
96	**ROW-B4 - Keystone Bridge**						$0	$0	$0						$0	$0	$0
97	**ROW-T1 - Transmission Line (power poles only)**						$0	$0	$0						$0	$0	$0
							$0	**$0**	**$0**	75,446				145	**$61,100**	**$110,925**	**$172,025**

Project Name: Reclamation Cost Estimate - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$505,589	$632,200	N/A	$1,137,789
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$61,100	$110,925	N/A	$172,025
Ripping/Scarifying Cost	$26,790	$28,848	N/A	$55,638
Subtotal Earthworks	**$593,479**	**$771,973**		**$1,365,452**
Revegetation Cost	$57,090	$57,090	$225,400	$339,580
TOTALS	**$650,569**	**$829,063**	**$225,400**	**$1,705,032**

Yards, Etc. - Scarifying/Revegetation Costs

	Description (required)	Surface Area acres	Area Long Dimension ft	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**1525 Portal Organic Stockpile**	0.62	200		$0	$0	$0	$0	$0	$0	$0
2	**1525 Portal Inorganic Stockpile**	1.66	300		$0	$0	$0	$0	$0	$0	$0
3	**Exploration Camp Yard**	0.35			$0	$0	$0	$0	$0	$0	$0
4	**Exploration Camp Yard**	0.10			$0	$0	$0	$0	$0	$0	$0
5	**Exploration Camp Yard**	0.46			$0	$0	$0	$0	$0	$0	$0
6	**Exploration Camp Yard**	0.74			$0	$0	$0	$0	$0	$0	$0
7	**Exploration Camp Yard**	0.15			$0	$0	$0	$0	$0	$0	$0
8	**E02 - Mineralized Rock Storage Area 3**	2.32			$0	$0	$0	$0	$0	$0	$0
9	**E02 - Non-Mineralized Rock Storage Area 1**	0.66			$0	$0	$0	$0	$0	$0	$0
10	**E02 - Non-Mineralized Rock Storage Area 2**	2.19			$0	$0	$0	$0	$0	$0	$0
11	**E04 - Airstrip - assumed natural recovery - no costs**	1.37	300	1	$91	$98	$189	$0	$0	$0	$0
12	**E07 - Seed burn pit area for revegetation**	0.42			$0	$0	$0	$0	$0	$0	$0
13	**N01 - 1525 Portal area (half of area reseeded)**	5.61	500	5	$456	$491	$947	$0	$0	$0	$0
14	**N04 - 1525 Portal Laydown #2**	1.91	300	2	$182	$196	$378	$0	$0	$0	$0
15	**N04 - D-Wing Yard Area**	4.51	500	4	$365	$393	$758	$0	$0	$0	$0
16	**N04 - 1525 Portal Laydown #2**	0.10	100	1	$91	$98	$189	$0	$0	$0	$0
17	**N04 - 1525 Portal Laydown #1**	5.46	500	5	$456	$491	$947	$0	$0	$0	$0
18	**N05 - Construction/Exploration Camp pad (half of area rese**	11.40	800	10	$911	$981	$1,892	$0	$0	$0	$0
19	**N07 - Main Airstrip - Runway Protection Zone**	7.87	600	7	$638	$687	$1,325	$0	$0	$0	$0
20	**N07 - Main Airstrip - Runway**	11.36	800	10	$911	$981	$1,892	$0	$0	$0	$0
21	**N07 - Main Airstrip - Other Disturbance + N94 Airstrip Clear**	2.35	400	2	$182	$196	$378	$0	$0	$0	$0
22	**N07 - Main Airstrip - Runway Protection Zone**	14.68	800	13	$1,185	$1,276	$2,461	$0	$0	$0	$0
23	**N07 - Main Airstrip - Other Disturbance**	5.87	600	5	$456	$491	$947	$0	$0	$0	$0
24	**N07 - Main Airstrip - Other Disturbance**	3.22	400	3	$273	$294	$567	$0	$0	$0	$0
25	**N08 - Fuel Area (see also "Waste Disposal" for HCS dispos**	0.20			$0	$0	$0	$0	$0	$0	$0
26	**N09 - Borrow Source at Strip**	1.82			$0	$0	$0	$0	$0	$0	$0
27	**N10 - 1690 Portal Yard 1**	4.20	500	4	$365	$393	$758	$4,200	$4,200	$16,800	$25,200
28	**N10 - 1690 Portal Yard 2**	0.69	200	1	$91	$98	$189	$1,000	$1,000	$2,760	$4,760
29	**N11 - Airstrip - Organic Stockpile**	3.86	500	3	$273	$294	$567	$0	$0	$0	$0
30	**N11 - Airstrip Laydown 1**	14.15	800	12	$1,094	$1,178	$2,272	$0	$0	$0	$0
31	**N11 - Airstrip Laydown 2 - Wire Farm**	3.60	400	3	$273	$294	$567	$0	$0	$0	$0
32	**N11 - Airstrip Laydown 3 - Tire Farm**	2.93	400	3	$273	$294	$567	$0	$0	$0	$0
33	**N11 - Airstrip Laydown 1**	2.22	400	2	$182	$196	$378	$0	$0	$0	$0
34	**N11 - Airstrip Laydown 1**	1.10	300	1	$91	$98	$189	$0	$0	$0	$0
35	**N11 - Airstrip Laydown 1**	2.81	400	2	$182	$196	$378	$0	$0	$0	$0
36	**N14 - Mill Bench**	18.96	1,000	16	$1,458	$1,570	$3,028	$18,960	$18,960	$75,840	$113,760
37	**N14 - Main Substation**	0.57	200	1	$91	$98	$189	$1,000	$1,000	$2,280	$4,280
38	**N16 - Main Camp/1875 Portal Yard**	19.31	1,000	17	$1,549	$1,668	$3,217	$19,310	$19,310	$77,240	$115,860
39	**N21 - Transmission line (no action)**	0.30			$0	$0	$0	$0	$0	$0	$0
40	**N21 - Transmission line (no action)**	0.14			$0	$0	$0	$0	$0	$0	$0
41	**N21 - Transmission line (no action)**	2.23			$0	$0	$0	$0	$0	$0	$0
42	**N21 - Transmission line (no action)**	2.87			$0	$0	$0	$0	$0	$0	$0
43	**N21 - Transmission line (no action)**	9.14			$0	$0	$0	$0	$0	$0	$0
44	**N21 - Transmission line (no action)**	3.93			$0	$0	$0	$0	$0	$0	$0
45	**N27 - Growth Media - GM-1**	0.35			$0	$0	$0	$0	$0	$0	$0
46	**N27 - Growth Media - GM-2**	1.04			$0	$0	$0	$0	$0	$0	$0
47	**N27 - Growth Media - GM-3**	0.52			$0	$0	$0	$0	$0	$0	$0
48	**N27 - Growth Media - GM-4**	0.48			$0	$0	$0	$0	$0	$0	$0

Project Name: Reclamation Cost Estimate - Reclamation Plan
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$505,589	$632,200	N/A	$1,137,789
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$61,100	$110,925	N/A	$172,025
Ripping/Scarifying Cost	$26,790	$28,848	N/A	$55,638
Subtotal Earthworks	**$593,479**	**$771,973**		**$1,365,452**
Revegetation Cost	$57,090	$57,090	$225,400	$339,580
TOTALS	**$650,569**	**$829,063**	**$225,400**	**$1,705,032**

49	**N27 - Growth Media - GM-5**	0.46			$0	$0	$0	$0	$0	$0	$0
50	**N27 - Growth Media - GM-6**	0.92			$0	$0	$0	$0	$0	$0	$0
51	**N27 - Growth Media - GM-7**	2.27			$0	$0	$0	$0	$0	$0	$0
52	**N27 - Growth Media - GM-8**	4.04			$0	$0	$0	$0	$0	$0	$0
53	**N27 - Growth Media - GM-9**	1.67			$0	$0	$0	$0	$0	$0	$0
54	**N27 - Growth Media - GM-10**	0.61			$0	$0	$0	$0	$0	$0	$0
55	**N27 - Growth Media - GM-11**	1.93			$0	$0	$0	$0	$0	$0	$0
56	**N27 - Growth Media - GM-12**	1.14			$0	$0	$0	$0	$0	$0	$0
57	**N27 - Growth Media - GM-13**	1.36			$0	$0	$0	$0	$0	$0	$0
58	**N27 - Growth Media - GM-14**	1.39			$0	$0	$0	$0	$0	$0	$0
59	**N27 - Growth Media - GM-15**	0.75			$0	$0	$0	$0	$0	$0	$0
60	**N27 - Growth Media - GM-16**	2.39			$0	$0	$0	$0	$0	$0	$0
61	**N27 - Growth Media - GM-17**	0.42			$0	$0	$0	$0	$0	$0	$0
62	**N28A - Material Site A (see "Quarries & Borrow Pits")**	0.10	0		$0	$0	$0	$0	$0	$0	$0
63	**N30 - Ore stockpile**	1.38	300	1	$91	$98	$189	$1,380	$1,380	$5,520	$8,280
64	**N34 - Exploration Core Stockpile**	0.73	200	1	$91	$98	$189	$0	$0	$0	$0
65	**N34 - Laydown Yard**	0.99	300	1	$91	$98	$189	$0	$0	$0	$0
66	**N34 - Log Storage 1**	0.22	100	1	$91	$98	$189	$0	$0	$0	$0
67	**N34 - Log Storage 2**	0.10	100	1	$91	$98	$189	$0	$0	$0	$0
68	**N34 - Log Storage 3**	0.14	100	1	$91	$98	$189	$0	$0	$0	$0
69	**N34 - Log Storage 4**	0.15	100	1	$91	$98	$189	$0	$0	$0	$0
70	**N34 - Log Storage 5**	0.19	100	1	$91	$98	$189	$0	$0	$0	$0
71	**N34 - Log Storage 6**	1.17	300	1	$91	$98	$189	$0	$0	$0	$0
72	**N34 - Log Storage 7**	0.45	200	1	$91	$98	$189	$0	$0	$0	$0
73	**N37 - Material Site 1 (see "Quarries & Borrow Pits")**	0.10			$0	$0	$0	$0	$0	$0	$0
74	**N37 - Material Site 2 (see "Quarries & Borrow Pits")**	0.10			$0	$0	$0	$0	$0	$0	$0
75	**N38 - GM18 - natural recovery, no costs**	5.84			$0	$0	$0	$0	$0	$0	$0
76	**N38 - GM19 - natural recovery, no costs**	2.06			$0	$0	$0	$0	$0	$0	$0
77	**N94 - Airstrip Clearance**	0.74	200	1	$91	$98	$189	$0	$0	$0	$0
78	**N95 - Diversion Channel Yard (no action)**	1.17	300		$0	$0	$0	$0	$0	$0	$0
79	**N99 - 2150 Portal**	11.24	700	10	$911	$981	$1,892	$11,240	$11,240	$44,960	$67,440
80	**ROW-01 - ROW Disturbance Area #1**	16.33	900	14	$1,276	$1,374	$2,650	$0	$0	$0	$0
81	**ROW-02 - ROW Disturbance Area #2**	25.39	1,100	22	$2,005	$2,159	$4,164	$0	$0	$0	$0
82	**ROW-03 - ROW Disturbance Area #3**	19.56	1,000	17	$1,549	$1,668	$3,217	$0	$0	$0	$0
83	**ROW-04 - ROW Disturbance Area #4**	22.50	1,000	20	$1,823	$1,963	$3,786	$0	$0	$0	$0
84	**ROW-05 - ROW Disturbance Area #5**	1.74	300	2	$182	$196	$378	$0	$0	$0	$0
85	**ROW-06 - ROW Disturbance Area #6**	5.62	500	5	$456	$491	$947	$0	$0	$0	$0
86	**ROW-07 - ROW Disturbance Area #7**	10.46	700	9	$820	$883	$1,703	$0	$0	$0	$0
87	**ROW-08 - ROW Disturbance Area #8**	12.45	800	11	$1,002	$1,079	$2,081	$0	$0	$0	$0
88	**ROW-09 - ROW Disturbance Area #9**	10.96	700	10	$911	$981	$1,892	$0	$0	$0	$0
89	**ROW-10 - ROW Disturbance Area #10**	5.55	500	5	$456	$491	$947	$0	$0	$0	$0
90	**ROW-11 - ROW Disturbance Area #11**	4.39	500	4	$365	$393	$758	$0	$0	$0	$0
91	**ROW-12 - Laydown Area**	15.33	900	13	$1,185	$1,276	$2,461	$0	$0	$0	$0
92	**ROW-14 - Campground**	8.60	700	8	$729	$785	$1,514	$0	$0	$0	$0
93	**ROW-B1 - Shaw Bridge**	0.10	100		$0	$0	$0	$0	$0	$0	$0
94	**ROW-B2 - Gilles Creek Bridge - no reclamation (public)**	0.10	100		$0	$0	$0	$0	$0	$0	$0
95	**ROW-B3 - Caribou Bridge (no reclamation public rd)**	0.10	100		$0	$0	$0	$0	$0	$0	$0
96	**ROW-B4 - Keystone Bridge**	0.10	100		$0	$0	$0	$0	$0	$0	$0
97	**ROW-T1 - Transmission Line (power poles only)**	1.31	300		$0	$0	$0	$0	$0	$0	$0
		389.61		294	**$26,790**	**$28,848**	**$55,638**	**$57,090**	**$57,090**	**$225,400**	**$339,580**

Closure Cost Estimate
Waste Disposal

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$56,242	$74,253	N/A	$130,495
Solid Waste - Off Site				$75,909
Hazardous Materials				$27,711
Hydrocarbon Contaminated Soils	$0	$0	$384,696	$384,696
TOTALS	**$56,242**	**$74,253**	**$384,696**	**$618,811**

Waste Disposal - User Input - Solid Waste

						Landfill (Bulk) Disposal			Dumpster
	Description (required)	ID Code	Waste Type (select)	Disposal Method (select)	Quantity cy	Distance to Landfill ft	Slope to Landfill % grade	Number of Trucks (user override)	Months Dumpster Rental months
1	Waste material generated during closure	P3	Waste Mgmt & Disposal	Dumpster	1,000	660000	0.0		12
2	Burn pit ashes haul to North Star Landfill (legacy quantity)	P3	Waste Mgmt & Disposal	Landfill (bulk)	1,640	660000	0.0		
3	Sludge from WTP to potential future landfill	P4-W	Waste Mgmt & Disposal	Landfill (bulk)	9,486	300	0.0		

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Hauling to North Star landfill - 125 miles from the Pogo
Demolition debris haulage covered under Foundations & Buildings crew of 2 dump trucks.

Waste Disposal - User Input - Hazardous Materials

	Description (required)	ID Code	Waste Type (select)	Container Type (select)	Vacuum Truck Size (select)	Liquid Quantity gallons	Soild Quantity cy	One Way Travel Distance to Disposal Site mi	One Way Travel Time to Disposal Site hr
1	Hazardous waste removal	P4	Process - Other	Solid 55-gal drum	Small (2,200 gal)		10	125	3.0
2	Hazardous liquid removal	P4	Process - Other	Liquid 55-gal drum	Small (2,200 gal	2,000		125	3.0

Notes:
1. Use Other Demo & Equip Removal Sheet for tank removal

Closure Cost Estimate
Waste Disposal

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Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$56,242	$74,253	N/A	$130,495
Solid Waste - Off Site				$75,909
Hazardous Materials				$27,711
Hydrocarbon Contaminated Soils	$0	$0	$384,696	$384,696
TOTALS	**$56,242**	**$74,253**	**$384,696**	**$618,811**

Waste Disposal - User Input - Hydrocarbon Contaminated Soils

	Description (required)	ID Code	Waste Type (select)	Disposal Method (select)	Quantity cy	Travel Distance to Offsite Disposal mi
1	**N08 Fuel area (assume 1 ft over disturbance excavation)**	**P3**	**Waste Mgmt & Disposal**	**Off site**	**968**	**105**
2	**# 170 - Red Path Maint. Shop HCS excav (length*3'*3')**	**P3**	**Waste Mgmt & Disposal**	**Off site**	**27**	**105**

Notes:
1. Use Yards or Landfills Sheets for bioremediation facility reclamation

HCS disposal at North Pole incinerator, 105 miles from the Pogo Mine
HCS generated during closure construction was estimated

Waste Disposal - Assumptions & Calculations

Solid Waste Disposal

Off site disposal assumes use of average rolloff dumpster [30 cy (m3), 10 ton (tonne)]
On site disposal assumes use of small loader/truck fleet for haulage
Average density for on site disposal = 2,600 lb/cy (1,540 kg/m3)
For on site disposal only 1 truck is required unless total truck hours > 8, only 2 trucks unless total truck hours are > 16

Hazardous Materials Disposal

Assumes all hazardous materials are known
Enter EITHER solid or liquid quantity each line.
If container type = 55 gallon (200 liter) drum then solid waste hauling costs apply
Average density for solids assumed to be 2,600 lb/cy (1,540 kg/m3)
Vacuum truck sizes: small = 2,200 gal (~8,300 litres), large = 5,000 gal (~19,000 litres)
Vacuum truck on site for 4 hours for each load

Hydrocarbon Contaminated Soils Disposal

Assumes all hazardous materials are known
On site disposal assumes biopad treatment
Exavation productivity =45 cy./hr (35 m3/hr) (Means Heavy Construction, 2006: 02315-424-0360)

Closure Cost Estimate
Waste Disposal

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Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$56,242	$74,253	N/A	$130,495
Solid Waste - Off Site				$75,909
Hazardous Materials				$27,711
Hydrocarbon Contaminated Soils	$0	$0	$384,696	$384,696
TOTALS	**$56,242**	**$74,253**	**$384,696**	**$618,811**

Waste Disposal - Solid Waste Disposal

	Description (required)	Waste Volume cy	Number of Off Site Dumpster Loads	Landfill Fleet Equipment	Landfill Fleet Productivity LCY/hr	Number of Trucks	Total Fleet Hours	Total Dumpster Cost $	Total Labor Cost $	Total Equipment Cost $	Total Waste Disposal Cost $
1	**Waste material generated during closure**	1,000	34					$75,909	$0	$0	$0
2	**Burn pit ashes haul to North Star Landfill (legacy quantity)**	1,640		725	654	218	3	$0	$48,797	$65,221	$114,018
3	**Sludge from WTP to potential future landfill**	9,486		725	458	2	21	$0	$7,445	$9,032	$16,477
		12,126					23	**$75,909**	**$56,242**	**$74,253**	**$130,495**

Waste Disposal - Hazardous Materials Disposal

	Description (required)	Liquid Waste Volume gallons	Solid Waste Volume cy	Number of Truck Loads	Tons of Waste Tons	Pick-up Fees $	Transport Fees $	Disposal Fees $	Total Hazardous Material Cost $
1	**Hazardous waste removal**		10	1	13	$10,649	$1,610	$1,976	$14,235
2	**Hazardous liquid removal**	2,000		1	8	$10,649	$1,610	$1,216	$13,475
		2,000	10		21	**$21,299**	**$3,220**	**$3,192**	**$27,711**

Waste Disposal - Hydrocarbon Contaminated Soils

	Description (required)	Quantity cy	Total Fleet Hours	Treatment Cost $	Transport Fees $	Disposal Fees $	Total Labor Cost $	Total Equipment Cost $	Total Waste Disposal Cost $
1	**N08 Fuel area (assume 1 ft over disturbance excavation)**	968	22	$0	$52,744	$320,420	$0	$0	$373,164
2	**# 170 - Red Path Maint. Shop HCS excav (length*3'*3')**	27	1	$0	$2,705	$8,827	$0	$0	$11,532
		995	23	**$0**	**$55,449**	**$329,247**	**$0**	**$0**	**$384,696**

Closure Cost Estimate
Well Abandonment

Project Name: Reclamation Cost Estimate - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Well Abandonment	Labor	Equipment	Materials	Totals
Production, Dewatering, Infiltration Wells	$0	$0	$0	$0
Monitoring Wells	$17,983	$3,712	$114	$21,809
TOTALS	**$17,983**	**$3,712**	**$114**	**$21,809**

Production, Dewatering and Infiltration Well Closure

	Description (required)	ID Code	Number of Holes	Casing Diam in	Average Depth[1] ft bgs	Depth to First Water ft bgs	Original Static Water Level ft bgs	Top of Slotted Casing[2] ft bgs	Blank Casing Below Top of Screen[2] ft	Type of Pump (if any) (select)	Depth to Pump ft bgs	Hole Plug Method (select)	Casing Volume per ft cf	Perforation Length[3,4] ft	Grout Volume per Hole[4,5] cy	Cement Volume per Hole[6] cy	Inert Media Volume per Hole[7] cy	Pump Removal Labor Cost $	Pump Removal Equip Cost $	Perf Labor Cost $	Perf Equip Cost[8] $	Grout + Cement Labor Cost[9] $	Grout + Cement Equip Cost[9] $	Grout + Cement Material Cost $	Inert Media Labor Cost[10] $	Inert Media Equip Cost[9] $	Total Cost $
																		$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

(1) For previously abandoned holes enter "0" for depth
(2) Wells abandoned per Nevada Administrative Code (NAC 534.420). Hole grouted and perforated from bottom to 50 feet (15.24m) above the top of the screen, or first water encountered or original static water level, depending on vertical hydraulic gradient and well construction parameters. Inert media (cuttings or alluvium) used from top of grout to top seal.
(3) Perforation length = amount of blank casing below first water (for confined aquifers) or predicted recovered water table (unconfined aquifers) + 50 feet (15.24m) of blank casing above water table
(4) Assumes 50' (15.24m) sanitary seal at top of hole. Therefore, perforation and grouting only required to bottom of sanitary seal.
(5) Assumes 100% loss to formation for grout (abandonite) for screened and perforated sections.
(6) Assumes 10' (3m) top seal of cement in casing only. See note 4.
(7) Inert material is cuttings or alluvium sourced locally.
(8) Includes perforation tool wear cost/ft of perforation (see Productivty Sheet).
(9) See Productivity Sheet for hourly production. Minimum 1 hr per hole + fixed hours per hole for move and setup. If no perforation required, use standard drill rig.
(10) See Productivity Sheet for hourly production. Minimum 1 hr per hole.

Notes:

Closure Cost Estimate
Well Abandonment

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Well Abandonment	Labor	Equipment	Materials	Totals
Production, Dewatering, Infiltration Wells	$0	$0	$0	$0
Monitoring Wells	$17,983	$3,712	$114	$21,809
TOTALS	**$17,983**	**$3,712**	**$114**	**$21,809**

Monitoring Well Closure

	Description (required)	ID Code	Number of Holes	Casing Diam in	Average Depth ft bgs	Top of Screen[1] ft bgs	Hole Plug Method (select)	Casing Volume per ft ft3	Grout Volume/ Well[2,3] cy	Cement Volume per Hole[4] cy	Inert Backfill Volume per Hole[5] cy	Total Grouting Hours/ Hole hr	Total Inert Media Hours/ Hole hr	Grout + Cement Labor Cost[6] $	Grout + Cement Equip Cost[6] $	Grout + Cement Material Cost $	Inert Material Labor Cost[7] $	Inert Material Equip Cost[7] $	Total Cost $
1	LT99-009	P4	1	2.0	27	17	Cement Pl	0.020		0.02			3.0	$0	$0	$0	$509	$105	$614
2	LL04-031	P4	1	2.0	63	0	Cement Pl	0.020		0.02			3.0	$0	$0	$0	$509	$105	$614
3	LL04-032	P4	1	2.0	59	0	Cement Pl	0.020		0.02			3.0	$0	$0	$0	$509	$105	$614
4	MW12-500	P4	1	6.0	37	17	Cement Pl	0.200		0.19			3.0	$0	$0	$4	$509	$105	$618
5	MW12-501	P4	1	6.0	27	12	Cement Pl	0.200		0.19			3.0	$0	$0	$4	$509	$105	$618
6	MW12-502	P4	1	6.0	17	7	Cement Pl	0.200		0.19			3.0	$0	$0	$4	$509	$105	$618
7	MW12-001A	P4	1	6.0	67	17	Cement Pl	0.200		0.19			3.0	$0	$0	$4	$509	$105	$618
8	MW12-001B	P4	1	6.0	160	130	Cement Pl	0.200		0.19	0.44		3.0	$0	$0	$4	$509	$105	$618
9	MW04-213	P4	1	4.0	153	0	Cement Pl	0.090		0.08			3.0	$0	$0	$2	$509	$105	$616
10	MW11-001A	P4	1	4.0	38	17	Cement Pl	0.090		0.08			3.0	$0	$0	$2	$509	$105	$616
11	MW11-001B	P4	1	4.0	76	55	Cement Pl	0.090		0.08			3.0	$0	$0	$2	$509	$105	$616
12	MW11-216	P4	1	4.0	234	193	Cement Pl	0.090		0.08	0.41		3.0	$0	$0	$2	$509	$105	$616
13	MW99-216	P4	1	1.0	500	450	Cement Pl	0.010		0.01	0.14		3.0	$0	$0	$0	$509	$105	$614
14	DRYTOE	P4	1	2.0	8	5	Cement Pl	0.020		0.02			3.0	$0	$0	$0	$509	$105	$614
15	DW-03	P4	1	8.0	79	35	Cement Pl	0.350		0.32			3.0	$0	$0	$7	$509	$105	$621
16	DW-02	P4	1	8.0	62	44	Cement Pl	0.350		0.32			3.0	$0	$0	$7	$509	$105	$621
17	SCW-5	P4	1	5.0	72	62	Cement Pl	0.140		0.13			3.0	$0	$0	$3	$509	$105	$617
18	SCW-6	P4	1	5.0	66	56	Cement Pl	0.140		0.13			3.0	$0	$0	$3	$509	$105	$617
19	SCW-7	P4	1	5.0	71	61	Cement Pl	0.140		0.13			3.0	$0	$0	$3	$509	$105	$617
20	SCW-8	P4	1	5.0	74	64	Cement Pl	0.140		0.13			3.0	$0	$0	$3	$509	$105	$617
21	SCW-9	P4	1	20.0	13	3	Cement Pl	2.180		2.02			3.0	$0	$0	$46	$509	$105	$660
22	13-H3	P4	1	2.0	211	149	Cement Pl	0.020		0.02	0.06		3.0	$0	$0	$0	$509	$105	$614
23	SP_G 13-758	P4	1	2.0	61	111	Cement Pl	0.020		0.02	0.03		3.0	$0	$0	$0	$509	$105	$614
24	SP_C 13-651	P4	1	2.0	115	0	Cement Pl	0.020		0.02			3.0	$0	$0	$0	$509	$105	$614
25	Exp12-01	P4	1	8.0	1,200	0	Cement Pl	0.350		0.32			6.4	$0	$0	$7	$1,085	$225	$1,317
26	Exp12-02	P4	1	8.0	440	360	Cement Pl	0.350		0.32	3.76		3.6	$0	$0	$7	$610	$127	$744
27	ED_K 13-562 (aka ED_K 13-652)	P4	1	2.0	389	359	Cement Pl	0.020		0.02	0.21		3.0	$0	$0	$0	$509	$105	$614
28	ED_K 13-597	P4	1	2.0	389	359	Cement Pl	0.020		0.02	0.21		3.0	$0	$0	$0	$509	$105	$614
29	EDW_C 13-695	P4	1	2.0	359	329	Cement Pl	0.020		0.02	0.19		3.0	$0	$0	$0	$509	$105	$614
30	H1-12-628	P4	1	2.0	389	359	Cement Pl	0.020		0.02	0.21		3.0	$0	$0	$0	$509	$105	$614
31	H2-12-630 (aka H1-12-630)	P4	1	2.0	389	359	Cement Pl	0.020		0.02	0.21		3.0	$0	$0	$0	$509	$105	$614
32	H3-12-633	P4	1	2.0	389	359	Cement Pl	0.020		0.02	0.21		3.0	$0	$0	$0	$509	$105	$614
33	M-12-731	P4	1	2.0	389	359	Cement Pl	0.020		0.02	0.21		3.0	$0	$0	$0	$509	$105	$614
34	N-12-685	P4	1	2.0	389	359	Cement Pl	0.020		0.02	0.21		3.0	$0	$0	$0	$509	$105	$614
														$0	**$0**	**$114**	**$17,983**	**$3,712**	**$21,809**

Wells abandoned per NAC 534.420 with bentonite grout placed to 50 feet above the top of the screen (see note 1).
(1) Assumes top of screen is at or above the static water level (in unconfined aquifers) or the depth of first water encountered (in confined aquifers).
(2) Assumes 25% loss to formation for grouting
(3) Grouting only required to 50' (15.24m) above the top of screen because monitor wells are constructed with a seal in the annular space.
(4) Assumes top 10' (3m) plugged with cement.
(5) Assumes hole plugged with inert material (cuttings or alluvium) above grout up to cement surface plug.
(6) See Productivity Sheet for hourly production. Minimum 1 hr per hole + fixed hours per hole for move and setup (see Productivty Sheet).
(7) See Productivity Sheet for hourly production. Minimum 1 hr per hole.

Notes:

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Well Abandonment				
	Labor	Equipment	Materials	Totals
Production, Dewatering, Infiltration Wells	$0	$0	$0	$0
Monitoring Wells	$17,983	$3,712	$114	$21,809
TOTALS	**$17,983**	**$3,712**	**$114**	**$21,809**

Well Construction

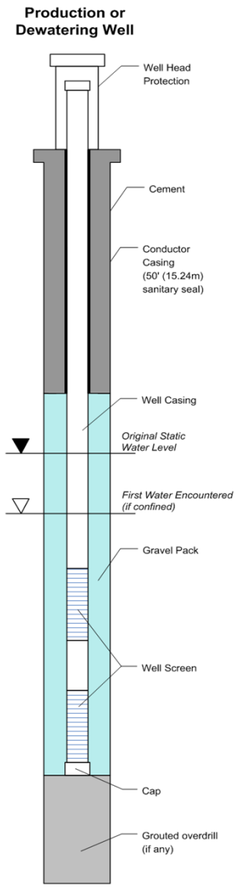

Figure 1 - Production Well

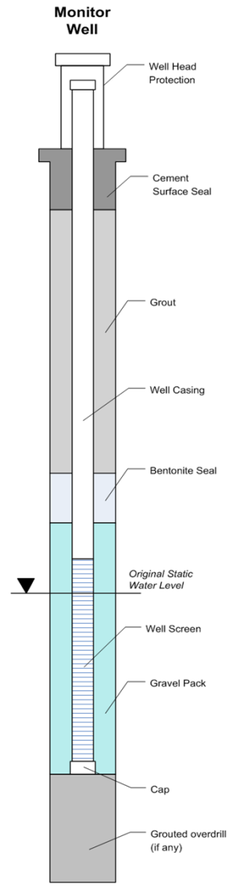

Figure 2 - Monitor Well

Closure Cost Estimate
Misc. Costs

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
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Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$4,612	$142	N/A	$4,754
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$263,781	$54,191	N/A	$317,972
Surface Pipe Removal	$387,301	$8,408	N/A	$395,709
Power Lines	$1,374,651	N/A	N/A	$1,374,651
Substations/Transformers	$442,128	N/A	N/A	$442,128
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Costs	$0	$0	$0	$0
TOTALS	**$2,472,473**	**$62,741**	**$0**	**$2,535,214**

Fence Removal

You must fill in ALL green and blue cells

	Description (required)	ID Code	Length ft	Type (select type)	Costs: Labor Cost $	Equipment Cost $	Total Cost $
1	**Substation fence**	**P4**	**645**	**Barbed 5-strand I**	$4,612	$142	$4,754
					$4,612	**$142**	**$4,754**

Notes: **Dimension from "147900.150-FENCE.xlsx"**

Fence Installation

You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Length ft	Input: Type (select type)	Costs: Labor Cost $	Equipment Cost $	Material Cost ($)	Total Cost $
					$0	**$0**	**$0**	**$0**

Notes:

Closure Cost Estimate
Misc. Costs

Project Name: Reclamation Cost Estimate - Reclamation Plan
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$4,612	$142	N/A	$4,754
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$263,781	$54,191	N/A	$317,972
Surface Pipe Removal	$387,301	$8,408	N/A	$395,709
Power Lines	$1,374,651	N/A	N/A	$1,374,651
Substations/Transformers	$442,128	N/A	N/A	$442,128
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Costs	$0	$0	$0	$0
TOTALS	**$2,472,473**	**$62,741**	**$0**	**$2,535,214**

Culvert & Buried Pipe Removal **You must fill in ALL green and blue cells**

	Description (required)	ID Code	Input: Length ft	Input: Type (select type)	Input: Location (select)	Costs: Labor Cost $	Costs: Equipment Cost $	Costs: Total Cost $
1	[P3] C2.11 - 1000 Remove Culverts - (1525 Portal access ro	P3	150	36 in (1m) Diamet	On site	$3,366	$692	$4,058
2	[P3] C2.11 - 1000 Remove Culverts - (Access road #7) - E03	P3	80	36 in (1m) Diamet	On site	$1,795	$369	$2,164
3	[P3] C2.11 - 1000 Remove Culverts - (Lower camp pond) - N	P3	200	36 in (1m) Diamet	On site	$4,488	$922	$5,410
4	[P3] C2.11 - 3000 Remove Storm drainage Culverts - (Main	P3	2848	36 in (1m) Diamet	On site	$63,909	$13,129	$77,038
5	[P3] C2.11 - 4000 Remove diversion ditch flume to Stilling b	P3	2517	36 in (1m) Diamet	On site	$56,481	$11,603	$68,084
6	[P3] C2.11 - 4000 Remove dam spill flume to seepage collec	P3	480	36 in (1m) Diamet	On site	$10,771	$2,213	$12,984
7	[P4] C2.11 - 1000 Remove Culverts - N06	P4	80	36 in (1m) Diamet	On site	$1,795	$369	$2,164
8	***ROW [P4] - R.009 - Remove culverts and restore drainag	ROW-P4	600	36 in (1m) Diamet	On site	$13,464	$2,766	$16,230
9	***ROW [P4] - R.009 - Remove culverts and restore drainag	ROW-P4	600	36 in (1m) Diamet	On site	$13,464	$2,766	$16,230
10	***ROW [P4] - R.009 - Remove culverts and restore drainag	ROW-P4	600	36 in (1m) Diamet	On site	$13,464	$2,766	$16,230
11	***ROW [P4] - R.009 - Remove culverts and restore drainag	ROW-P4	600	36 in (1m) Diamet	On site	$13,464	$2,766	$16,230
12	***ROW [P4] - R.009 - Remove culverts and restore drainag	ROW-P4	600	36 in (1m) Diamet	On site	$13,464	$2,766	$16,230
13	***ROW [P4] - R.009 - Remove culverts and restore drainag	ROW-P4	600	36 in (1m) Diamet	On site	$13,464	$2,766	$16,230
14	***ROW [P4] - R.009 - Remove culverts and restore drainag	ROW-P4	600	36 in (1m) Diamet	On site	$13,464	$2,766	$16,230
15	***ROW [P4] - R.009 - Remove culverts and restore drainag	ROW-P4	600	36 in (1m) Diamet	On site	$13,464	$2,766	$16,230
16	***ROW [P4] - R.009 - Remove culverts and restore drainag	ROW-P4	600	36 in (1m) Diamet	On site	$13,464	$2,766	$16,230
						$263,781	**$54,191**	**$317,972**

Notes: **ROW culvert removal costs do not include excavation. See Haul Materials for excavation quantities.**

Closure Cost Estimate
Misc. Costs

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$4,612	$142	N/A	$4,754
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$263,781	$54,191	N/A	$317,972
Surface Pipe Removal	$387,301	$8,408	N/A	$395,709
Power Lines	$1,374,651	N/A	N/A	$1,374,651
Substations/Transformers	$442,128	N/A	N/A	$442,128
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Costs	$0	$0	$0	$0
TOTALS	**$2,472,473**	**$62,741**	**$0**	**$2,535,214**

Surface Pipe Removal **You must fill in ALL green and blue cells**

			Input			Costs		
	Description (required)	ID Code	Length ft	Type (select type)	Location (select)	Labor Cost $	Equipment Cost $	Total Cost $
1	P-01 - Fire Water Pipeline	P3	1,484	6 in (150 mm) - 8	On site	$8,266	$178	$8,444
2	P-02 - Freshwater Pipeline	P3	14915	6 in (150 mm) - 8	On site	$83,077	$1,790	$84,867
3	P-03 - Fuel Pipeline	P3	167	0.75 in (20mm) - 4	On site	$665	$15	$680
4	P-04 - GF Pipeline	P3	418	0.75 in (20mm) - 4	On site	$1,664	$38	$1,702
5	P-05 - RTP Water Pipeline	P3	6,037	6 in (150 mm) - 8	On site	$33,626	$724	$34,350
6	P-07 - Potable Water Pipeline	P4	1768	0.75 in (20mm) - 4	On site	$7,037	$159	$7,196
7	P-08 - Treated Mine Water Pipeline	P4	5349	10 in (250 mm) - 1	On site	$49,639	$1,123	$50,762
8	P-09 - SSWR Pipeline	P3	14491	6 in (150 mm) - 8	On site	$80,715	$1,739	$82,454
9	P-10 - Stormwater Pipeline	P4	3,688	6 in (150 mm) - 8	On site	$20,542	$443	$20,985
10	P-11 - ORTW Treated Pipeline	P4	15397	6 in (150 mm) - 8	On site	$85,761	$1,848	$87,609
11	P-12 - Waste Water Pipeline	P4	2793	6 in (150 mm) - 8	On site	$15,557	$335	$15,892
12	P-14 - RTP Seepage Collection Wells	P4	135	6 in (150 mm) - 8	On site	$752	$16	$768
						$387,301	**$8,408**	**$395,709**

Notes: **Pipe info from "147900.150-PIPELINES.xlsx"**

Closure Cost Estimate
Misc. Costs

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$4,612	$142	N/A	$4,754
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$263,781	$54,191	N/A	$317,972
Surface Pipe Removal	$387,301	$8,408	N/A	$395,709
Power Lines	$1,374,651	N/A	N/A	$1,374,651
Substations/Transformers	$442,128	N/A	N/A	$442,128
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Costs	$0	$0	$0	$0
TOTALS	**$2,472,473**	**$62,741**	**$0**	**$2,535,214**

Power Line and Substation Removal — You must fill in ALL green and blue cells

			Input				Costs			Cost Breakdown	
	Description (required)	ID Code	Power Line Length miles	Power Line Type (select)	Number of Substations #	Location (select)	Power Line Removal $	Substation Removal $	Total Cost $	Labor Cost $	Equipment Cost $
1	Remove Electricity - Overhead electrical conductors on pov	P3	0.72	Double Pole		On-site	$21,810	$0	$21,810	$4,362	$17,448
2	Remove Electricity - Overhead electrical conductors (3 eac	P3	1.55	Double Pole		On-site	$46,953	$0	$46,953	$9,391	$37,562
3	Relocate sub station from the mill for Water treatment oper	P3			1	On-site	$0	$34,010	$34,010	$6,802	$27,208
4	Earth Station	P4			1	On-site	$0	$34,010	$34,010	$6,802	$27,208
5	Transformer Upper Level: Incinerator 13.8kV-480 V 45 kVA	P3			1	On-site	$0	$34,010	$34,010	$6,802	$27,208
6	Remove Transformers (Lower Portal: Warehouse, Truck Sh	P3			5	On-site	$0	$170,048	$170,048	$34,010	$136,038
7	Remove Transformer for Materials Handling at Conveyor P	P3			1	On-site	$0	$34,010	$34,010	$6,802	$27,208
8	1.7 Transformer: Airstrip 13.8kV-480 V 45 kVA Pole Mounte	P3			1	On-site	$0	$34,010	$34,010	$6,802	$27,208
9	Remove transformer for concrete batch plant Pole Mounted	P3			1	On-site	$0	$34,010	$34,010	$6,802	$27,208
10	Remove Transformer Upper Level at the RTP Pump house	P4			1	On-site	$0	$34,010	$34,010	$6,802	$27,208
11	Remove transmission power line conductor	ROW-P4	43.11	Double Pole	0	On-site	$1,305,888	$0	$1,305,888	$261,178	$1,044,710
12	Remove temporary substation for WTP	P2			1	On-site	$0	$34,010	$34,010	$6,802	$27,208
							$1,374,651	**$442,128**	**$1,816,779**	**$363,357**	**$1,453,422**

Closure Cost Estimate
Monitoring

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$46,351	$46,351	$185,404	$278,106
Erosion Maintenance	$9,400	$28,201	N/A	$37,601
Reclamation Monitoring	$69,028	$435	N/A	$69,463
Subtotal Reclamation Monitoring	**$124,779**	**$74,987**	**$185,404**	**$385,170**
Water Quality Monitoring	$0	$0	$0	$0
TOTAL MONITORING	**$124,779**	**$74,987**	**$185,404**	**$385,170**

Clear Sheet

Reclamation Maintenance

Description	Total Revegetation Surface Area (1,2) acres	% Area Requiring Reseeding	Seed Mix (select)	Area Requiring Reseeding acres	Seed $/acres	Labor $/acres	Equipment $/acres	Totals $
Revegetation Maintenance	927	**5%**	**Mix 1**	46.4	$4,000.00	$1,000.00	$1,000.00	
Labor								$46,351
Equipment								$46,351
Materials								$185,404
Cost/Acre								$6,000
							Subtotal	**$278,106**

Notes: 1) Surface area is NOT the same as footprint disturbance area typically used for permitting purposes.
2) If BRCE model, revegetation surface area determined by area included in PER, LOM or Surety estimate

	Total Volume Growth Media cy	% Volume Requiring Maintenance	Average Growth Media Placement Cost $/CY	Volume Requiring Replacement cy		Labor (assume: 25%) $/acres	Equipment (assume: 75%) $/acres	Total $
Erosion Maintenance	193,322	**5%**	$3.89	9,666		$9,400.00	$28,201.00	$37,601

Notes:

Closure Cost Estimate
Monitoring

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Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$46,351	$46,351	$185,404	$278,106
Erosion Maintenance	$9,400	$28,201	N/A	$37,601
Reclamation Monitoring	$69,028	$435	N/A	$69,463
Subtotal Reclamation Monitoring	**$124,779**	**$74,987**	**$185,404**	**$385,170**
Water Quality Monitoring	$0	$0	$0	$0
TOTAL MONITORING	**$124,779**	**$74,987**	**$185,404**	**$385,170**

Clear Sheet

Reclamation Monitoring

Description	Hrs/Day	Days/Year	Number of Years	Rate $/hr		
Field Work						
Field Geologist/Engineer	**10**	**2**	**7**	$112.06		$15,688
Range Scientist	**10**	**2**	**7**	$112.06		$15,688
Reporting						
Field Geologist/Engineer	**8**	**3**	**7**	$112.06		$18,826
Range Scientist	**8**	**3**	**7**	$112.06		$18,826
					Subtotal	**$69,028**
Travel						
	Hrs/Trip hr	**Trips/Year**	**Years**	**Truck Cost** $/hr		
Travel	**8**	**1**	**7**	$7.77		$435
					Subtotal	**$435**
					Total Reclamation Monitoring	**$69,463**

Notes:

Closure Cost Estimate
Constr. Mgmt

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Construction Management & Road Maintenance - Cost Summary

	Labor	Equipment	Materials	Totals
Construction Management	$768,672	$32,208	N/A	$800,880
Construction Support		$0		$0
Road Maintenance	$132,685	$159,883	$0	$292,568
TOTAL CONSTRUCTION MANAGEMENT	**$901,357**	**$192,091**	**$0**	**$1,093,448**

Clear Sheet

Construction Management

Construction Management Staff

Description	Duration mo.	Hours/ Month hr.	Number of Supervisors	Supervisor Rate $/hr	Labor Cost $	Equipment Cost[1] $	Totals $
Active Reclamation	**6**	**200**	**2**	$160.14	$384,336	$16,104	$400,440
Monitoring & Maintenance	**6**	**200**	**2**	$160.14	$384,336	$16,104	$400,440
				Total Staff	**$768,672**	**$32,208**	**$800,880**

Construction Management Support

Description	Duration mo.	Number of Units		Rental Rate $/mo	Generator Cost $/mo	Equipment Cost[1] $	Totals $
Temporary Office Rental						$0	$0
Temporary Toilets						$0	$0
					Total Support	**$0**	**$0**

Notes: Office rental assumes only 1 generator required for every 4 trailers

Total Construction Management **$800,880**

Road Maintenance

Description	Fleet Size (select)	Number	Duration mo.	Hours/ Month hr.	Labor Cost $	Equipment Cost $	Totals $
Active Reclamation							
Water Truck	**Medium**				$0	$0	$0
Grader	**Medium**	**1**	**156**	**9**	$132,685	$159,883	$292,568
Monitoring & Maintenance							
Water Truck	**Small**				$0	$0	$0
Grader	**Small**				$0	$0	$0

Description	Gallons/ Day	Days/ Month	Duration mo.	Cost/ Gallon $			Totals $
Water Fees							
Water Fees							$0
				Total Project Maintenance	**$132,685**	**$159,883**	**$292,568**

Notes: 1) Supervisor equipment = pickup truck
Active reclamation is Mine portion.
Monitoring and maintenance is ROW portion.

Closure Cost Estimate
Labor Rates

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Color Code Key	
User Input - Direct Input	Direct Input
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Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS			
Cost Basis/Project Region	Pogo Bond 2017	Equipment rental; Alaska Pamphlet 600 labor.	
Power Equipment Operators	Pogo Camp	$16.73	
Truck Drivers	Pogo Camp	$16.73	
Laborers	Pogo Camp	$16.73	

INDIRECT COSTS	
Unemployment (%)	
Retirement/SS/Medicare (%)	
Workman's Compensation (%)	
Other Indirects	
State Payroll Tax (13),(15),(17),(1	
Total Other Indirects	**0.00%**

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Labor Group	Base Rate ($/hr)	Zone Adjustment ($/hr)	Hourly Wage ($/hr)	Fringe ($/hr)	Retirement/ Medicare ($/hr)	Unemployment Insurance ($/hr)	Workman's Compensation ($/hr)	Other Indirect Costs ($/hr)	Additional User Markups to Base Rate† ($/hr)	Additional User Markups to Base Rate† %	Additional User Markups to Base Rate† ($/hr)	Total ($/hr)
Equipment Operators ($/hr) (2)													
Bulldozers													
D6R	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
D6R w/ Winch	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
D7R	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
D8R	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
D9R	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
D10R	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
D11R	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
Wheeled Dozers													
824G	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
834G	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
844	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
854G	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
Motor Graders													
120H	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
14G/H	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
16G/H	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
24M	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
Track Excavators													
312C	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
320C	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
325C	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
330C	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
345B	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
365BL	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
385BL	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
Scrapers													
631G	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
637G	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
Wheeled Loaders													
924G	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
928G	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
950G	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
966G	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
972G	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
980G	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
988G	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
990	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
992G	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
994D	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
L2350	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
Shovels													
PC2000	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
PC3000	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
PC4000	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
PC5500	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
PC8000	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
Hydraulic 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)													

Closure Cost Estimate
Labor Rates

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
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Program Constant (can override)	Alternate Input
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ZONE ADJUSTMENTS

Cost Basis/Project Region	Pogo Bond 2017	Equipment rental; Alaska Pamphlet 600 labor.	
Power Equipment Operators	Pogo Camp	$16.73	
Truck Drivers	Pogo Camp	$16.73	
Laborers	Pogo Camp	$16.73	

INDIRECT COSTS

Unemployment (%)	
Retirement/SS/Medicare (%)	
Workman's Compensation (%)	
Other Indirects	
State Payroll Tax (13),(15),(17),(1	
Total Other Indirects	**0.00%**

HOURLY LABOR RATE TABLE

Other Equipment													
420D 4WD Backhoe	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
428D 4WD Backhoe	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
CS533E Vibratory Roller	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
CS633E Vibratory Roller	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
CP533E Sheepsfoot Compactor	A2105	$68.64	$16.73	$85.37	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$85.37
CP633E Sheepsfoot Compactor	A2105	$68.64	$16.73	$85.37	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$85.37
Light Truck - 1.5 Ton	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
Supervisor's Truck	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
Flatbed Truck	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
Air Compressor + tools	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
Welding Equipment	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
Heavy Duty Drill Rig	N2204	$74.81	$16.73	$91.54	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.54
Pump (plugging) Drill Rig	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
Concrete Pump					$0.00							$0	
Gas Engine Vibrator	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
Generator 5KW					$0.00							$0	
HDEP Welder (pipe or liner)					$0.00							$0	
5 Ton Crane	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
20 Ton Crane	A1601	$72.20	$16.73	$88.93	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.93
50 Ton Crane	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13
120 Ton Crane	A1602	$74.40	$16.73	$91.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$91.13

NOTES:

(1) Equipment Type:	Catepillar model or equivalent, LeTourneau
(2) Equipment Operator Source:	SRCE User 16
(3) Zone Basis:	SRCE User 16

Truck Drivers ($/hr) (4)													
725	A2101	$71.97	$16.73	$88.70	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.70
730	A2101	$71.97	$16.73	$88.70	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.70
735	A2101	$71.97	$16.73	$88.70	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.70
740	A2102	$73.56	$16.73	$90.29	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$90.29
769D	A2102	$73.56	$16.73	$90.29	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$90.29
773E	A2102	$73.56	$16.73	$90.29	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$90.29
777D	A2102	$73.56	$16.73	$90.29	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$90.29
785C	A2102	$73.56	$16.73	$90.29	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$90.29
793C	A2102	$73.56	$16.73	$90.29	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$90.29
797B	A2102	$73.56	$16.73	$90.29	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$90.29
613E (5,000 gal) Water Wagon	A2105	$68.64	$16.73	$85.37	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$85.37
621E (8,000 gal) Water Wagon	A2105	$68.64	$16.73	$85.37	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$85.37
777D Water Truck	A2105	$68.64	$16.73	$85.37	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$85.37
785C Water Truck	A2105	$68.64	$16.73	$85.37	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$85.37
Dump Truck (10-12 yd3)	A2105	$68.64	$16.73	$85.37	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$85.37

NOTES:

(4) Truck Driver Source:	SRCE User 16
(5) Zone Basis:	SRCE User 16

Closure Cost Estimate
Labor Rates

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
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ZONE ADJUSTMENTS			
Cost Basis/Project Region	Pogo Bond 2017	Equipment rental; Alaska Pamphlet 600 labor.	
Power Equipment Operators	Pogo Camp	$16.73	
Truck Drivers	Pogo Camp	$16.73	
Laborers	Pogo Camp	$16.73	

INDIRECT COSTS	
Unemployment (%)	
Retirement/SS/Medicare (%)	
Workman's Compensation (%)	
Other Indirects	
State Payroll Tax (13),(15),(17),(1	
Total Other Indirects	**0.00%**

HOURLY LABOR RATE TABLE

Laborers ($/hr) (6,7)

General Laborer	N1201	$63.92	$16.73	$80.65		$0.00	$0.00	$0.00	$0.00			$0	$80.65
Skilled Laborer	N1203	$66.30	$16.73	$83.03		$0.00	$0.00	$0.00	$0.00			$0	$83.03
Driller's Helper	A1604	$70.34	$16.73	$87.07		$0.00	$0.00	$0.00	$0.00			$0	$87.07
Rodmen (reinforcing concrete)	N0401	$67.45	$16.73	$84.18		$0.00	$0.00	$0.00	$0.00			$0	$84.18
Cement finisher	N0401	$67.45	$16.73	$84.18		$0.00	$0.00	$0.00	$0.00			$0	$84.18
Carpenter	A0301	$73.28	$16.73	$90.01		$0.00	$0.00	$0.00	$0.00			$0	$90.01

NOTES:

(6) Laborer Source:	SRCE User 16
(7) Carpenter Source:	SRCE User 16
(8) Zone Basis:	SRCE User 16

Project Management and Technical Labor ($/hr) (9)

Project Manager		$143.41	$16.73	$160.14		$0.00	$0.00	$0.00	$0.00			$0	$160.14
Foreman		$78.50	$16.73	$95.23		$0.00	$0.00	$0.00	$0.00			$0	$95.23
Field Geologist/Engineer		$95.33	$16.73	$112.06		$0.00	$0.00	$0.00	$0.00			$0	$112.06
Field Tech/Sampler		$61.00	$16.73	$77.73		$0.00	$0.00	$0.00	$0.00			$0	$77.73
Range Scientist		$95.33	$16.73	$112.06		$0.00	$0.00	$0.00	$0.00			$0	$112.06
Senior Planning Engineer		$95.33	$16.73	$112.06		$0.00	$0.00	$0.00	$0.00			$0	$112.06
Project Engineer		$55.91	$16.73	$72.64		$0.00	$0.00	$0.00	$0.00			$0	$72.64
Mechanic/Fitter		$76.28	$16.73	$93.01		$0.00	$0.00	$0.00	$0.00			$0	$93.01
Surveyor (stake hop/grademan)		$66.94	$16.73	$83.67		$0.00	$0.00	$0.00	$0.00			$0	$83.67
		$78.50		$78.50		$0.00	$0.00	$0.00	$0.00			$0	$78.50
		$63.92		$63.92		$0.00	$0.00	$0.00	$0.00			$0	$63.92

NOTES:

(9) Project Manager:	Infomine 2016; Higher end of general manager
(9) Foreman Source:	Infominne 2016; Higher end of mine foreman
(9) Techical Labor Source:	Infomine 2016; higher end geologist, environmental technician; A0101; A2001; A2001+N1201
Other Labor Source:	
Other Labor Source:	
†Additional User Markups	
(These are added by the user to the	
base rate to account for site-specific	
conditions or corporate requirements)	

Closure Cost Estimate
Equipment Costs

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
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Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Monthly Rental Basis: 200 hrs month

EQUIPMENT RENTAL RATE TABLE

EQUIPMENT TYPE (1)	Monthly Owner/Rental Rate	Equipment Hourly Rate	Fuel/Lube/ Wear	Total Rate
Bulldozers				
D6R	$14,000.00	$70.00	$28.13	$98.13
D6R w/ Winch	$15,000.00	$75.00	$28.13	$103.13
D7R	$16,500.00	$82.50	$31.45	$113.95
D8R	$21,000.00	$105.00	$43.26	$148.26
D9R	$31,000.00	$155.00	$62.38	$217.38
D10R	$36,000.00	$180.00	$82.45	$262.45
D11R	$39,500.00	$197.50	$119.35	$316.85
Wheeled Dozers				
824G	do not use	$0.00	$28.60	$28.60
834G	do not use	$0.00	$33.52	$33.52
844	do not use	$0.00	$39.91	$39.91
854G	do not use	$0.00	$50.55	$50.55
Motor Graders				
120H	$11,475.00	$57.38	$32.92	$90.30
14G/H	$12,750.00	$63.75	$46.06	$109.81
16G/H	$34,000.00	$170.00	$55.84	$225.84
24M	$37,400.00	$187.00	$41.24	$228.24
Track Excavators				
312C	$6,500.00	$32.50	$13.84	$46.34
320C	$8,500.00	$42.50	$22.84	$65.34
325C	$11,000.00	$55.00	$28.51	$83.51
330C	$13,500.00	$67.50	$34.76	$102.26
345B	$17,500.00	$87.50	$41.35	$128.85
365BL	$24,000.00	$120.00	$52.34	$172.34
385BL	$31,000.00	$155.00	$67.84	$222.84
Scrapers				
631G	do not use	$0.00	$47.86	$47.86
637G	do not use	$0.00	$76.30	$76.30
Wheeled Loaders				
924G	$4,620.00	$23.10	$18.42	$41.52
928G	$6,050.00	$30.25	$21.56	$51.81
950G	$8,250.00	$41.25	$29.38	$70.63
966G	$12,000.00	$60.00	$40.66	$100.66
972G	$14,900.00	$74.50	$43.73	$118.23
980G	$18,250.00	$91.25	$47.39	$138.64
988G	$29,500.00	$147.50	$69.41	$216.91
990	do not use	$0.00	$100.15	$100.15
992G	do not use	$0.00	$133.82	$133.82
994D	do not use	$0.00	$95.78	$95.78
L2350	do not use	$0.00	$175.59	$175.59
Shovels				
PC2000	do not use	$0.00	$98.44	$98.44
PC3000	do not use	$0.00	$133.03	$133.03
PC4000	do not use	$0.00	$186.24	$186.24
PC5500	do not use	$0.00	$316.60	$316.60
PC8000	do not use	$0.00	$396.41	$396.41
Hydraulic Hammers				
H-120 (fits 325)	$8,550.00	$42.75	$6.17	$48.92
H-160 (fits 345)	$9,800.00	$49.00	$11.98	$60.98
H-180 (fits 365/385)	$11,200.00	$56.00	$14.48	$70.48
Demolition Shears				
S340 (fits 322/325/330)	do not use	$0.00	$0.00	$0.00
S365 (fits 330/345)	do not use	$0.00	$0.00	$0.00
S390 (fits 365/385)	do not use	$0.00	$0.00	$0.00
Demolition Grapples				
G315 (fits 322/325)	do not use	$0.00	$0.00	$0.00
G320 (fits 325/330)	do not use	$0.00	$0.00	$0.00
G330 (fits 345/365)	do not use	$0.00	$0.00	$0.00
Other Equipment				
420D 4WD Backhoe	$3,750.00	$18.75	$16.39	$35.14
428D 4WD Backhoe	$4,922.00	$24.61	$16.60	$41.21
CS533E Vibratory Roller			$9.98	$9.98
CS633E Vibratory Roller			$12.64	$12.64
CP533E Sheepsfoot Compactor	$7,500.00	$37.50	$9.98	$47.48
CP633E Sheepsfoot Compactor	$8,450.00	$42.25	$12.64	$54.89
Light Truck - 1.5 Ton	$719.55	$3.60	$4.17	$7.77
Supervisor's Truck	$772.20	$3.86	$2.84	$6.71
Flatbed Truck	$719.55	$3.60	$13.52	$17.11
Air Compressor + tools	$1,337.31	$6.69	$2.66	$9.35
Welding Equipment	$259.74	$1.30	$5.32	$6.62
Heavy Duty Drill Rig	$7,335.90	$36.68	$31.93	$68.61
Pump (plugging) Drill Rig	$7,335.90	$36.68	$26.61	$63.28
Concrete Pump	$7,800.00	$39.00	$26.61	$65.61
Gas Engine Vibrator	$168.48	$0.84	$2.66	$3.50
Generator 5KW	$161.46	$0.81	$3.99	$4.80
HDEP Welder (pipe or liner)	$5,148.00	$25.74	$5.32	$31.06
5 Ton Crane	$2,369.25	$11.85	$7.98	$19.83
20 Ton Crane	$6,610.50	$33.05	$10.64	$43.69
50 Ton Crane	$6,610.50	$33.05	$12.50	$45.56
120 Ton Crane	$7,271.55	$36.36	$13.83	$50.19
Trucks				
725	$16,200.00	$81.00	$37.76	$118.76
730	$18,000.00	$90.00	$39.09	$129.09
735	$19,000.00	$95.00	$52.81	$147.81
740	$22,000.00	$110.00	$53.94	$163.94
769D	do not use	$0.00	$42.01	$42.01
773E	do not use	$0.00	$52.52	$52.52
777D	do not use	$0.00	$75.71	$75.71
785C	do not use	$0.00	$64.52	$64.52
793C	do not use	$0.00	$111.08	$111.08
797B	do not use	$0.00	$156.30	$156.30
613E (5,000 gal) Water Wagon	$7,020.00	$35.10	$26.25	$61.35
621E (8,000 gal) Water Wagon	$12,870.00	$64.35	$43.11	$107.46
777D Water Truck	do not use	$0.00	$44.56	$44.56
785C Water Truck	do not use	$0.00	$64.52	$64.52
Dump Truck (10-12 yd^3)	$17,220.06	$86.10	$14.65	$100.75

NOTES:

(1) Power Equipment Source:	
(2) Power Equipment Type:	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels
(3) Drilliing Equipment Source:	
(4) Other Equipment Source:	
(5) Drill rig includes support (pipe) truck	

Closure Cost Estimate
Equipment Costs

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm

FUEL, LUBE AND WEAR CALCULATIONS

EQUIPMENT TYPE	PM Cost Per Hour (1)	Under carriage or Tires (2)	G.E.T Consumption (3)	Fuel Use Rate gal/hr (4)	Cost@ 2.66/gal	Total Hourly Equipment Cost
Bulldozers						
D6R	$5.92		$5.58	6.25	$16.63	$28.13
D6R w/ Winch	$5.92		$5.58	6.25	$16.63	$28.13
D7R	$5.92		$5.58	7.50	$19.95	$31.45
D8R	$6.51		$10.81	9.75	$25.94	$43.26
D9R	$7.65		$16.81	14.25	$37.91	$62.38
D10R	$11.03		$23.53	18.00	$47.89	$82.45
D11R	$13.89		$34.96	26.50	$70.50	$119.35
Wheeled Dozers						
824G		$0.00		10.75	$28.60	$28.60
834G		$0.00		12.60	$33.52	$33.52
844		$0.00		15.00	$39.91	$39.91
854G		$0.00		19.00	$50.55	$50.55
Motor Graders						
120H	$6.98	$3.71	$11.58	4.00	$10.64	$32.92
14G/H	$7.59	$5.08	$16.75	6.25	$16.63	$46.06
16G/H	$6.13	$6.87	$22.89	7.50	$19.95	$55.84
24M				15.50	$41.24	$41.24
Track Excavators						
312C	$4.48		$4.35	1.88	$5.00	$13.84
320C	$4.79		$5.02	4.90	$13.04	$22.84
325C	$4.61		$6.34	6.60	$17.56	$28.51
330C	$5.96		$6.98	8.20	$21.82	$34.76
345B	$6.01		$7.14	10.60	$28.20	$41.35
365BL	$6.34		$10.88	13.20	$35.12	$52.34
385BL	$6.67		$14.61	17.50	$46.56	$67.84
Scrapers						
631G	$7.96			15.00	$39.91	$47.86
637G	$13.12			23.75	$63.19	$76.30
Wheeled Loaders						
924G	$3.64	$2.66	$4.81	2.75	$7.32	$18.42
928G	$4.61	$2.66	$4.98	3.50	$9.31	$21.56
950G	$5.49	$4.00	$9.25	4.00	$10.64	$29.38
966G	$7.36	$6.37	$11.63	5.75	$15.30	$40.66
972G	$6.01	$6.37	$14.72	6.25	$16.63	$43.73
980G	$6.01	$6.71	$14.72	7.50	$19.95	$47.39
988G	$10.93	$10.53	$15.76	12.10	$32.19	$69.41
990	$11.93	$17.01	$25.99	17.00	$45.23	$100.15
992G	$12.94	$23.48	$36.21	23.00	$61.19	$133.82
994D				36.00	$95.78	$95.78
L2350				66.00	$175.59	$175.59
Shovels						
PC2000				37.00	$98.44	$98.44
PC3000				50.00	$133.03	$133.03
PC4000				70.00	$186.24	$186.24
PC5500				119.00	$316.60	$316.60
PC8000				149.00	$396.41	$396.41
Hydraulic Hammers						
H-120 (fits 325)	N/A		$6.17			$6.17
H-160 (fits 345)	N/A		$11.98			$11.98
H-180 (fits 365/385)	N/A		$14.48			$14.48
Demolition Shears						
S340 (fits 322/325/330)	N/A					$0.00
S365 (fits 330/345)	N/A					$0.00
S390 (fits 365/385)	N/A					$0.00
Demolition Grapples						
G315 (fits 322/325)	N/A					$0.00
G320 (fits 325/330)	N/A					$0.00
G330 (fits 345/365)	N/A					$0.00
Other Equipment						
420D 4WD Backhoe	$3.85	$0.68	$3.87	3.00	$7.98	$16.39
428D 4WD Backhoe	$3.94	$0.68	$3.99	3.00	$7.98	$16.60
CS533E Vibratory Roller				3.75	$9.98	$9.98
CS633E Vibratory Roller				4.75	$12.64	$12.64
CP533E Sheepsfoot Compactor				3.75	$9.98	$9.98
CP633E Sheepsfoot Compactor				4.75	$12.64	$12.64
Light Truck - 1.5 Ton		$0.18		1.50	$3.99	$4.17
Supervisor's Truck		$0.18		1.00	$2.66	$2.84
Flatbed Truck		$1.01		4.70	$12.50	$13.52
Air Compressor + tools			N/A	1.00	$2.66	$2.66
Welding Equipment			N/A	2.00	$5.32	$5.32
Heavy Duty Drill Rig				12.00	$31.93	$31.93
Pump (plugging) Drill Rig				10.00	$26.61	$26.61
Concrete Pump			N/A	10.00	$26.61	$26.61
Gas Engine Vibrator			N/A	1.00	$2.66	$2.66
Generator 5KW			N/A	1.50	$3.99	$3.99
HDEP Welder (pipe or liner)			N/A	2.00	$5.32	$5.32
5 Ton Crane				3.00	$7.98	$7.98
20 Ton Crane				4.00	$10.64	$10.64
50 Ton Crane				4.70	$12.50	$12.50
120 Ton Crane				5.20	$13.83	$13.83
Trucks						
725	$8.30	$13.50	$3.46	4.70	$12.50	$37.76
730	$8.30	$13.50	$3.46	5.20	$13.83	$39.09
735	$8.30	$21.50	$3.46	7.35	$19.55	$52.81
740	$8.30	$22.63	$3.46	7.35	$19.55	$53.94
769D	$9.41	$4.12	$3.87	9.25	$24.61	$42.01
773E	$8.23	$8.68	$4.35	11.75	$31.26	$52.52
777D	$10.87	$15.41	$4.87	16.75	$44.56	$75.71
785C				24.25	$64.52	$64.52
793C				41.75	$111.08	$111.08
797B				58.75	$156.30	$156.30
613E (5,000 gal) Water Wagon	$6.73	$3.56		6.00	$15.96	$26.25
621E (8,000 gal) Water Wagon	$7.63	$6.88		10.75	$28.60	$43.11
777D Water Truck				16.75	$44.56	$44.56
785C Water Truck				24.25	$64.52	$64.52
Dump Truck (10-12 yd3) (5)	N/A	$0.81	N/A	5.20	$13.83	$14.65

Notes:

(1) PM Source:	
(2) Undercarriage Source:	
(3) G.E.T. Source:	CAT Historical Data
(4) Fuel Use Source:	Caterpillar Handbook, Edition 35, Ch. 20; or estimated average for smaller vehicles
(5) Dump Truck Oper. Cost Source:	Means Heavy Construction (2008)

Closure Cost Estimate
Equipment Costs

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
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TIRE COST TABLES

Equipment	Tire Size	# of Tires Per Piece of Equipment	Cost Per Tire	Tire Cost (1)(2)	Life Expectency Hours (Low/Zone A) (3)	Tire Cost per Hour
Bulldozers						
D6R			N/A			
D6R w/ Winch			N/A			
D7R			N/A			
D8R			N/A			
D9R			N/A			
D10R			N/A			
D11R			N/A			
Wheeled Dozers						
824G	29.5R25	4		$0.00	3,500	$0.00
834G	35/65-R33	4		$0.00	3,500	$0.00
844	45/65-R39	4		$0.00	3,500	$0.00
854G	45/65-R45	4		$0.00	3,500	$0.00
Motor Graders						
120H	13PR24	6	$2,165.31	$12,991.84	3,500	$3.71
14G/H	20.5R25	6	$2,964.27	$17,785.59	3,500	$5.08
16G/H	23.5R25	6	$4,009.82	$24,058.94	3,500	$6.87
24M	23.5R25	6		$0.00	3,500	
Track Excavators						
312C			N/A			
320C			N/A			
325C			N/A			
330C			N/A			
345B			N/A			
365BL			N/A			
385BL			N/A			
Scrapers						
631G	37.25R35	4		$0.00	4,000	
637G	37.25R35	4		$0.00	4,000	
Wheeled Loaders						
924G	17.5R25	4	$2,987.31	$11,949.26	4,500	$2.66
928G	17.5R25	4	$2,987.31	$11,949.26	4,500	$2.66
950G	26.5R25	4	$4,500.52	$18,002.09	4,500	$4.00
966G	26.5R25	4	$7,165.56	$28,662.24	4,500	$6.37
972G	26.5R25	4	$7,165.56	$28,662.24	4,500	$6.37
980G	29.5R25	4	$7,543.48	$30,173.93	4,500	$6.71
988G	35/65-33	4	$11,846.52	$47,386.08	4,500	$10.53
990	41.25/70-39	4	$19,131.12	$76,524.48	4,500	$17.01
992G	45/65R45	4	$26,415.72	$105,662.89	4,500	$23.48
994D	55/85R57	4		$0.00	4,500	
L2350	55/85R57	4		$0.00	4,500	
Shovels						
PC2000			N/A			
PC3000			N/A			
PC4000			N/A			
PC5500			N/A			
PC8000			N/A			
Hydraulic Hammers						
H-120 (fits 325)			N/A			
H-160 (fits 345)			N/A			
H-180 (fits 365/385)			N/A			
Demolition Shears						
S340 (fits 322/325/330)			N/A			
S365 (fits 330/345)			N/A			
S390 (fits 365/385)			N/A			
Demolition Grapples						
G315 (fits 322/325)			N/A			
G320 (fits 325/330)			N/A			
G330 (fits 345/365)			N/A			
Other Equipment						
420D 4WD Backhoe	340/80R18-19.5LR24	2	$1,024.86	$2,049.72	3,000	$0.68
428D 4WD Backhoe	340/80R18-16.9R28	2	$1,024.86	$2,049.72	3,000	$0.68
CS533E Vibratory Roller			N/A			
CS633E Vibratory Roller			N/A			
CP533E Sheepsfoot Compactor			N/A			
CP633E Sheepsfoot Compactor			N/A			
Light Truck - 1.5 Ton		4	137.8377	$551.35	3,000	$0.18
Supervisor's Truck		4	137.8377	$551.35	3,000	$0.18
Flatbed Truck		22	137.8377	$3,032.43	3,000	$1.01
Air Compressor + tools			N/A			
Welding Equipment			N/A			
Heavy Duty Drill Rig		4		$0.00	3,000	
Pump (plugging) Drill Rig		4		$0.00	3,000	
Concrete Pump			N/A			
Gas Engine Vibrator			N/A			
Generator 5KW			N/A			
HDEP Welder (pipe or liner)			N/A			
5 Ton Crane		4		$0.00	3,000	
20 Ton Crane		4		$0.00	3,000	
50 Ton Crane		6		$0.00	3,000	
120 Ton Crane		6		$0.00	3,000	
Trucks						
725	23.5R25	6	$4,500.52	$27,003.13	2,000	$13.50
730	23.5R25	6	$4,500.52	$27,003.13	2,000	$13.50
735	26.5R25	6	$7,165.56	$42,993.36	2,000	$21.50
740	29.5R25	6	$7,543.48	$45,260.89	2,000	$22.63
769D	18.00R33	6	$4,123.91	$24,743.46	6,000	$4.12
773E	24.00R35	6	$7,232.72	$43,396.31	5,000	$8.68
777D	27.00R49	6	$12,843.03	$77,058.19	5,000	$15.41
785C	33.00R51	6		$0.00	4,000	
793C	40.00R57	6		$0.00	4,000	
797B	40.00R57	6		$0.00	4,000	
613E (5,000 gal) Water Wagon	23.5R25	6	$3,561.85	$21,371.13	6,000	$3.56
621E (8,000 gal) Water Wagon	33.25R29	6	$9,172.32	$55,033.92	8,000	$6.88
777D Water Truck	27.00R49	6		$0.00	5,000	
785C Water Truck	33.00R51	6		$0.00	4,000	
Dump Truck (10-12 yd3)		10	$487.69	$4,876.91	6,000	$0.81

Notes:

(1) Unit Cost Basis:	
(2) Cost Basis:	
(3) Tire Cost Source:	
(4) Tire Wear Source:	

Closure Cost Estimate
Material Costs

Project Name: Reclamation Cost Estimate - Reclamation Plan
Date of Submittal: February 15, 2017
File Name: Pogo_SRCE_Version_1_4_1_016c_147900_150_ft_mj_20170214_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Revegetation Materials

Seed Mixes

Seed Mix	Description	Cost/Acre
None		
Mix 1	Basins	$4,000.00
Mix 2	Low Hills	
Mix 3	Uplands	
Mix 4	Riparian or Custom	
User Mix 1		
User Mix 2		
User Mix 3		
User Mix 4		

	Cost/lb	lbs/Acre	Cost/Acre
User Mix 5 (from Seed Mix sheet)	#DIV/0!	$0.00	$0.00

Notes:

Mulch

Item	Cost/lb	lbs/Acre	Cost/Acre
None			
Straw Mulch		10	
Hydro Mulch		10	
Timber Mulch		10	
		10	

Notes:

Closure Cost Estimate
Material Costs

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Cost Data File: Pogo_CDF_147900_150_FNL_20170214.xlsm
Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Amendments			
Item	**Cost/lb**	**lbs/Acre**	**Cost/Acre**
None			
Organic Matter		**10**	
Treated Sludge		**10**	
Chemical		**10**	
		10	
Notes:			

Closure Cost Estimate
Material Costs

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Cost Estimate Type: Surety Cost Basis: Pogo Bond 2017

Well Abandonment Materials

Description	Cost/50lb bag	Units	Cost/unit*
Cement	$4.75	cy	$22.62
Grout (Low Grade Bentonite)	$10.12	cy	$48.19
Inert Material/Cuttings		cy	
		cy	
		cy	

* Assumes 1 bag mixes with water to make 0.21 y3 or 0.16 m3 of grout/cement slurry.

Monitoring Costs

Description	Units	Cost/unit
Monitor Well Pump	ea.	$2,827.00
Sampling Supplies	ea.	$7.00
Helicopter (per episode - 3 hrs+$15	ea.	$3,276.00
Courier cost	ea.	$630.30
Profile 10a - ORTW 001&011 week	ea.	$78.00
Profile 10b - ORTW 001 monthly	ea.	$164.00
Profile 11b - ORTW 011 quarterly	ea.	$198.00
Profile 12a - STP 002 weekly	ea.	$123.00
Profile 12b - STP 002 monthly	ea.	$63.00
Profile 13s - RTP surface water	ea.	$105.00
Profile 12c - PWTP1 monthly	ea.	$35.00
Profile 12d - PWTP1 bi-annual	ea.	$1,075.00
Profile 12e - PWT1 annual	ea.	$475.00
Profile 13g - RTP wells	ea.	$405.00
Profile 8 - fish tissue	ea.	$5,828.00
WET 001 Annually	ea.	$1,500.00
Profile 11a	ea.	$75.00
SRK. Profiles for Reclamation.2017.rev (003).pdf		

Closure Cost Estimate
Material Costs

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Fuel, Etc.

Description	Units	Cost/unit	User Overrides
Off-road Diesel - delivered (1)	$/gal	$2.661	
Pickup Truck Mileage	$/mi	$0.535	
Electical Power	$/kWh	$0.124	
Dust suppressant	**$/m2**	**$0.02**	
Camp Costs (HY)	**USD/day**	**$1,900.00**	
Camp Costs (Closure & Recl)	**USD/day/man**	**$43.18**	
Camp Costs (Water Treatment)	**USD/day**	**$1,900.00**	

Closure Cost Estimate
Material Costs

Revegetation Method

Slopes

Disturbance Type	Seed Application Method	Labor Cost/Acre	Equipment Cost/Acre	Total Cost/Acre
Waste Rock Dumps	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Heap Leach	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Tailings	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Quarries & Borrow Pits	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00

Flat Areas and Undifferentiated

Disturbance Type	Seed Application Method	Labor Cost/Acre	Equipment Cost/Acre	Total Cost/Acre
Exploration Trenches	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Exploration Roads	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Waste Rock Dumps	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Heap Leach	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Tailings	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Quarries & Borrow Pits	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Roads	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Pits	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Haul Material	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Foundations & Buildings	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Sediment & Drainge Control	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Process Ponds	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Landfills	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Yards, Etc.	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00
Revegetation Maintenance	**Hydroseeding**	$1,000.00	$1,000.00	$2,000.00

Closure Cost Estimate
Misc. Unit Costs

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Revegetation

	Means Number	Unit	Crew	Daily Output	Daily Output User	Materials	Labor	Equipment	Total	Notes
Seeding - Broadcast Hand (1)		acres							$0.00	
Seeding - Broadcast Mechanical (1)		acres					$5.17	$220.76	$225.93	
Seeding - Drill (1)		acres		365					$0.00	
Seeding - Hydroseeding (1)				365			$1,000.00	$1,000.00	$2,000.00	
Shrub Planting - bare root 6-10 in (150- 250mm) (2)	02910-400-0561	ea.	1 Clab	365			$1.77	$0.00	$1.77	
Tree Planting - bare root 11-16 in (270- 400mm) (3)	02910-400-0562	ea.	1 Clab	260			$2.48	$0.00	$2.48	
Cactus Planting (4)		ea.	1 Clab						$0.00	
NOTES:										
(1) Seeding Source:	Hydroseeding from Fred Scott Enterprises; mechanical broadcast is helicopter provided by Aurora Aviation Services									
(2) Shrub Source:	mechanical broadcast is helicopter provided by Aurora Aviation Services									
(3) Tree Source:										
(4) Cactus Source:										

Building and Wall Demolition

Hourly productivity rates and crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data .
All equipment, labor and material unit costs are from Labor Costs, Equipment Costs and Material Costs spreadsheets

	Means Number	Unit	Crew	Daily Output	Daily Output User	Labor	Equipment	Premium	Total	Notes
Building Demolition										
Lg. steel	02220-110-0012	C.F.	B-8	21500		$0.23	$0.11		$0.34	
Lg. concrete	02220-110-0050	C.F.	B-8	15300		$0.32	$0.16		$0.48	
Lg. masonry	02220-110-0080	C.F.	B-8	20100		$0.24	$0.12		$0.36	
Lg. mixed	02220-110-0100	C.F.	B-8	20100		$0.24	$0.12		$0.36	
Sm. steel	02220-110-0500	C.F.	B-3	14800		$0.28	$0.14		$0.42	
Sm. concrete	02220-110-0600	C.F.	B-3	11300		$0.37	$0.18		$0.55	
Sm. masonry	02220-110-0650	C.F.	B-3	14800		$0.28	$0.14		$0.42	
Sm. wood	02220-110-0700	C.F.	B-3	14800		$0.28	$0.14		$0.42	
Wall Demolition										
Block 4 in (100 mm) thick	02220-130-2000	S.F.	1 Clab	180		$3.58	$0.00	20%	$4.30	
Block 6 in (150 mm) thick	02220-130-2040	S.F.	1 Clab	170		$3.80	$0.00	20%	$4.56	
Block 8 in (200 mm) thick	02220-130-2080	S.F.	1 Clab	150		$4.30	$0.00	20%	$5.16	
Block 12 in (300 mm) thick	02220-130-2100	S.F.	1 Clab	150		$4.30	$0.00	20%	$5.16	
Conc 6 in (150 mm) thick	02220-130-2400	S.F.	B-9	160		$25.34	$0.47	10%	$28.39	
Conc 8 in (200 mm) thick	02220-130-2420	S.F.	B-9	140		$28.96	$0.53	10%	$32.44	
Conc 10 in (250 mm) thick	02220-130-2440	S.F.	B-9	120		$33.78	$0.62	10%	$37.84	
Conc 12 in (300 mm) thick	02220-130-2500	S.F.	B-9	100		$40.54	$0.75	10%	$45.42	

Closure Cost Estimate
Misc. Unit Costs

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Waste Disposal

Unit rates from Means Heavy Construction 2006 Edition by permission of R.S.Means/Reed Construction Data .

	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment		Total	Notes
Rubbish Handling										
Dumpster delivery (average for all sizes)	02220-350-0910	ea.			$101.00				$101.00	
Haul (average for all sizes)	02220-350-0920	ea.			$194.22				$194.22	
Rent per month (average for all sizes)	02220-350-0940	ea.			$101.00				$101.00	
Disposal fee per ton (tonne) (average for all sizes)	02220-350-0950	ton			$72.54				$72.54	
NOTES:										
Dumpster Cost Source	Solid Waste Fees 2016-2017.pdf									
Dumpster Disposal Fee Source:	NV*1.17									
Hazardous Material Handling - Solids (+ Liquids in drums)										
Pickup fees 55 gal (200 L). drums	02110-300-1100	ea.			$287.82				$287.82	
Bulk material (average)	02110-300-1220/1230	ton			$470.93				$470.93	
Transport - truck load (80 drums, 25 cy (m3), 18 tons)	02110-300-1260/1270	mile			$6.44				$6.44	
Dump site solid disposal fee	02110-300-6000/6020	ton			$152.00				$152.00	
NOTES:										
Solid Handling Cost Source	NV*1.17									
Solid Disposal Fee Source:										
Hazardous Material Handling - Liquids										
Vacuum Truck Pickup (2200 gal/8300 L)	02110-300-3110	hr.			$168.48				$168.48	
Vacuum Truck Pickup (5000 gal/19000 L)	02110-300-3120	hr.			$244.53				$244.53	
Dump site liquid disposal fee	02110-300-6000/6020	ton			$332.87				$332.87	
NOTES:										
Liquid Handling Cost Source	NV*1.17									
Liquid Disposal Fee Source:	Fairbanks North Star Borough FY17 Solid Waste user Fee Schedule									
Hydrocarbon Contaminated Soils (HCS)										
Insitu Biotreatment	02115-200-2020/2021	C.Y.			$79.17				$79.17	
HCS disposal fee	02115-200-2050/2055	C.Y.			$331.01				$331.01	
NOTES:										
Insitu Treatment Cost Source										
HCS Disposal Fee Source:										

Closure Cost Estimate
Misc. Unit Costs

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Concrete Structure Installation

Weekly dumpster rental rates from Means Heavy Construction 2005 Edition with permission by R.S.Means/Reed Construction Data .
Weekly dumpster rental rates include haul to off-site disposal site and disposal fees

	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment	Premium	Total	Notes
Reinforced Concrete Bulkheads and Shaft Covers										
Grade walls - 15 in (400mm) thick, 8 ft (2.5m) high	03310-240-4300	C.Y.	C-14D	80.02	$160.29	$230.65	$7.58		$398.52	includes reinforcing
Grade walls - 15 in (400mm) thick, 12 ft (3.7m) high	03310-240-4350	C.Y.	C-14D	26.2	$160.29	$704.46	$23.15		$887.90	includes reinforcing
Elevated conc, 1-way beam & slab - 15ft (4.6m) span	03310-240-2700	C.Y.	C-14B	20.59	$291.33	$924.58	$29.46		$1,245.37	includes reinforcing
Elevated conc, 1-way beam & slab - 25ft (7.5m) span	03310-240-2750	C.Y.	C-14B	28.36	$274.95	$671.26	$21.39		$967.60	includes reinforcing
Bat Gate/Foam Plug Installation										
Bat Gate (5)		ea.								materials $/ea. Installed
Culvert Gate (5)		ea.								materials $/ea. Installed
Adit Foam Plug (6)		ea./C.Y.								materials $/cy placed
Production Opening Foam Plug (6)		ea./C.Y.								materials $/cy placed

NOTES:

(5) Bat Gate Source:	NV 2016 reinforced concrete costs adjusted between Fairbanks and Reno
(6) Foam Plug Source:	

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Misc. Linear Projects

Hourly productivity rates and crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data .
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	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment	Premium	Total	Notes
Fencing Installation										
Barbed 3-strand	02820-170-1650	L.F.	B-80A	760	$0.56	$3.48	$0.08		$4.12	
Barbed 4-strand	extrapolated	L.F.	B-80A	570	$0.75	$4.64	$0.11		$5.50	
Barbed 5-strand	02820-130-0920	L.F.	B-80A	456	$0.94	$5.80	$0.14		$6.88	
Chain link 8-10ft (2.5-3m) Install	02820-130-0920	L.F.	B-80C	180	$45.05	$14.71	$0.35		$60.11	
Wood stockade fence 6 ft (2 m) high - Install	02820-510-1240	L.F.	B-80C	150	$18.72	$17.65	$0.41		$36.78	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
Fencing Removal										
Barbed 3-strand Removal	02220-220-1600	L.F.	2 Clab	430		$4.66	$0.14		$4.80	
Barbed 4-strand Removal	extrapolated	L.F.	2 Clab	355		$5.64	$0.18		$5.82	
Barbed 5-strand Removal	02220-220-1650	L.F.	2 Clab	280		$7.15	$0.22		$7.37	
Chain link 8-10 ft (2.5-3 m) Removal	02220-220-1700	L.F.	B-6	445		$4.54	$0.93		$5.47	
Wood, all types 4-6 ft ("1.5-2 m) high - Removal	02220-220-1775	L.F.	2 Clab	430		$4.66	$0.14		$4.80	
	user	L.F.								
	user	L.F.							$0.00	
	user	L.F.							$0.00	
	user	L.F.							$0.00	
Culvert Removal										
12 in (300 mm) Diameter	02220-220-2900	L.F.	B-6	175		$11.54	$2.37		$13.91	
18 in (450 mm) Diameter	02220-220-2930	L.F.	B-6	150		$13.46	$2.76		$16.22	
24 in (600 mm) Diameter	02220-220-2960	L.F.	B-6	120		$16.83	$3.45		$20.28	
36 in (1m) Diameter	02220-220-3000	L.F.	B-6	90		$22.44	$4.61		$27.05	
Pipeline Removal										
0.75 in (20mm) - 4 in (100 mm) diameter	02220-381-1600	L.F.	B-20	700		$3.98	$0.09		$4.07	
6 in (150 mm) - 8 in (200 mm)	02220-381-1700	L.F.	B-20	500		$5.57	$0.12		$5.69	
10 in (250 mm) - 18 in (450 mm)	02220-381-1800	L.F.	B-20	300		$9.28	$0.21		$9.49	
20 in (500 mm) - 36 in (1 m)	02220-381-1900	L.F.	B-20	200		$13.91	$0.31		$14.22	
Pipe and Drainpipe Installation										
Water 4in (100mm) 40ft (12m) length, welded HDPE	02510-760-0100	L.F.	B-22A	400	$26.36	$10.27	$3.85		$40.48	
Water 6in (150mm) 40ft (12m) length, welded HDPE	02510-760-0200	L.F.	B-22A	380	$73.17	$10.81	$4.06		$88.04	
Water 12in (300mm) 40ft (12m) length, welded HDPE	02510-760-0500	L.F.	B-22A	260	$203.11	$15.79	$5.93		$224.83	
Drain 4in (100mm) perforated PVC	02620-630-2100	L.F.	B-14	315	$14.98	$15.13	$1.09		$31.20	
Drain 6in (150mm) perforated PVC	02620-630-2110	L.F.	B-14	300	$32.98	$15.89	$1.14		$50.01	
Drain 4in (100mm) corrugated, perf or plain	02620-660-0040	L.F.	2 Clab	1200	$6.85	$1.67	$0.05		$8.57	
Drain 6in (150mm) corrugated., perf or plain	02620-660-0060	L.F.	2 Clab	900	$15.91	$2.22	$0.07		$18.20	

Closure Cost Estimate
Misc. Unit Costs

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Drain Rock Preparation										
Crushing		C.Y.								
Screening		C.Y.							$1.09	
TOTAL									$1.09	
Misc.										
Backhoe work	02210-700-0120	C.Y.	B-11M	28		$25.41	$10.04		$35.45	
Powerline and Transformer Removal										
Single Pole		mile							$26,505.86	
Double Pole		mile							$30,292.00	
Transformer (9)		ea.							$34,009.56	
NOTES:										
(7) Single Pole Source:	User 4									
(8) Double Pole Source:	User 4									
(9) Transformer Source:	NV*1.17									

Erosion and Sedimentation Control

Hourly productivity rates and crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data .
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	Means Number	Unit	Crew	Daily Output	Materials	Labor	Equipment	Premium	Total	Notes
Rip-Rap & Rock Lining										
Rip-Rap 3/8 to 1/4 CY (m3) pieces, grouted	02370-450-0110	S.Y.	B-13	80	do not use	$50.90	$4.56		$55.46	assumes on-site source of rip-rap
Rip-Rap 18 in (450 mm) min thick, no grout	02370-450-0200	S.Y.	B-13	53	$0.00	$76.82	$6.88		$83.70	assumes on-site source of rip-rap
Gabions, 6 in (150 mm) deep	02370-450-0400	S.Y.	B-13	200	$37.20	$20.36	$1.82		$59.38	assumes on-site source rock fill for gabions
Gabions, 9 in (250 mm) deep	02370-450-0500	S.Y.	B-13	163	$46.66	$24.98	$2.24		$73.88	assumes on-site source rock fill for gabions
Gabions, 12 in (300 mm) deep	02370-450-0200	S.Y.	B-13	153	$68.09	$26.61	$2.38		$97.08	assumes on-site source rock fill for gabions
Gabions, 18 in (450 mm) deep	02370-450-0200	S.Y.	B-13	102	$90.16	$39.92	$3.57		$133.65	assumes on-site source rock fill for gabions
Gabions, 36 in (1m) deep	02370-450-0200	S.Y.	B-13	60	$146.28	$67.86	$6.07		$220.21	assumes on-site source rock fill for gabions
HDEP Liner Installation										
Finish grading large area	2310-100-0100	S.F.	B-11L	54000		$0.03	$0.02		$0.05	
Compaction-riding, vibrating roller - 12in (300mm) lifts	2315-310-5100	C.Y.	B-10Y	2600		$0.52	$0.03		$0.55	
60 mil HDPE	2660-610-0010	S.F.	3 Skwk	1600	$0.32	$1.69	$0.33	10%	$2.58	
	user	S.F.	3 Skwk						$0.00	
	user	S.F.	3 Skwk						$0.00	
	user	S.F.	3 Skwk						$0.00	
	user	S.F.	3 Skwk						$0.00	

Closure Cost Estimate
Misc. Unit Costs

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Construction Management Support											
Office Trailer, Furnished, no hook-ups		0150-500-0250	mo.			$4,097.10				$4,097.10	
Toilet Portable, chemical		1590-400-6410	mo.			$207.80				$207.80	
TOTAL						$4,304.90				$4,304.90	
Pump and Casing Removal											
	Pump Type	**Measurement**	**Unit**				**Labor**	**Equipment**		**Total**	**Notes**
Pump Removal											
Submersible		ft to pump	L.F.				$3.39	$7.38		$10.77	
Line Shaft		ft to pump	L.F.				$7.92	$17.22		$25.14	
NOTES:											
(10) Pump Removal Source:		Liner from Agru "Budget Estimate 02012017.pdf" including delivery									

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EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
RIPPING						
Rip road						
Waste rock dumps, heaps, tails - rip flat surfaces						
Surface preparation						
Scarify						
Small Dozer w/ multi-shank						
D6R				$98.13	$91.13	$189.26
Totals				$98.13	$91.13	$189.26
Medium Dozer w/ multi-shank						
D9R				$217.38	$91.13	$308.51
Totals				$217.38	$91.13	$308.51
Large Dozer w/ multi-shank						
D10R				$262.45	$91.13	$353.58
Totals				$262.45	$91.13	$353.58
Grader w/ multi-shank						
16G/H				$225.84	$91.13	$316.97
Totals				$225.84	$91.13	$316.97
GRADING						
Grading storage and structure areas						
Grading waste rock dumps and heaps						
Grading landfills						
Constructing pit safety berms						
Small Dozer Fleet						
D7R				$113.95	$91.13	$205.08
Totals				$113.95	$91.13	$205.08
Medium Dozer Fleet						
D8R				$148.26	$91.13	$239.39
Totals				$148.26	$91.13	$239.39
Large Dozer Fleet						
D10R				$262.45	$91.13	$353.58
Totals				$262.45	$91.13	$353.58
EXPLORATION GRADING						
Backfilling and grading exploration trenches						
Grading flat exploration roads						
Small Dozer Fleet						
D7R				$113.95	$91.13	$205.08
Totals				$113.95	$91.13	$205.08
Medium Dozer Fleet						
D8R				$148.26	$91.13	$239.39
Totals				$148.26	$91.13	$239.39
Large Dozer Fleet						
D8R				$148.26	$91.13	$239.39
Totals				$148.26	$91.13	$239.39

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EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
EXCAVATING						
Earthen Berms						
Diversion ditch excavation and backfill						
Underground openings backfill - excavate and place						
Pit berm construction (excavator option)						
Small Excavator						
325C				$83.51	$88.93	$172.44
Totals				$83.51	$88.93	$172.44
Medium Excavator						
345B				$128.85	$88.93	$217.78
Totals				$128.85	$88.93	$217.78
Large Excavator						
385BL				$222.84	$88.93	$311.77
Totals				$222.84	$88.93	$311.77
EXCAVATE AND RECONTOUR						
Recontour large roads (haul roads, access roads, etc.)						
Ponds - Excavate and pull liner and bury						
Small Excavator + Dozer						
325C				$83.51	$88.93	$172.44
D7R				$113.95	$91.13	$205.08
Total Equipment				$197.46	$180.06	$377.52
Medium Excavator + Dozer						
330C				$102.26	$88.93	$191.19
D9R				$217.38	$91.13	$308.51
Totals				$319.64	$180.06	$499.70
Large Excavator + Dozer						
385BL				$222.84	$88.93	$311.77
D10R				$262.45	$91.13	$353.58
Totals				$485.29	$180.06	$665.35
EXPLORATION ROAD/PAD RECONTOUR						
Recontour small roads (exploration roads, service roads, etc.)						
Cut and Fill reclamation on slopes						
Drill pad recountour						
Drill sump backfill						
Small Dozer						
D6R				$98.13	$91.13	$189.26
Totals				$98.13	$91.13	$189.26
Large Dozer						
D8R				$148.26	$91.13	$239.39
Totals				$148.26	$91.13	$239.39
Grader						
14G/H				$109.81	$91.13	$200.94
Totals				$109.81	$91.13	$200.94
Small Excavator						
320C				$65.34	$88.93	$154.27
Totals				$65.34	$88.93	$154.27
Medium Excavator						
345B				$128.85	$88.93	$217.78
Totals				$128.85	$88.93	$217.78

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EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
LOAD, HAUL AND PLACE MATERIAL						
Rock placement						
Haul overburden for backfill						
Haul borrow for backfill						
Haul cover or growth media						
Small Truck/Loader Fleet						
725				$118.76	$88.70	$207.46
966G	**Loader**			$100.66	$91.13	$191.79
D6R		1		$98.13	$91.13	$189.26
Totals				$317.55	$270.96	$588.51
Medium Truck/Loader Fleet						
740				$163.94	$90.29	$254.23
988G	**Loader**			$216.91	$91.13	$308.04
D7R		1		$113.95	$91.13	$205.08
Totals				$494.80	$272.55	$767.35
Large Truck/Loader Fleet						
740				$163.94	$90.29	$254.23
988G	**Loader**			$216.91	$91.13	$308.04
D8R		1		$148.26	$91.13	$239.39
Totals				$529.11	$272.55	$801.66
Extra Large Truck/Loader Fleet						
785C				$64.52	$90.29	$154.81
992G	**Loader**			$133.82	$91.13	$224.95
D11R		1		$316.85	$91.13	$407.98
Totals				$515.19	$272.55	$787.74
Scraper/Dozer Fleet						
631G				$47.86	$88.93	$136.79
D10R				$262.45	$91.13	$353.58
D7R		1		$113.95	$91.13	$205.08
Totals				$424.26	$271.19	$695.45
Tandem Scraper Fleet						
637G				$76.30	$88.93	$165.23
D7R		1		$113.95	$91.13	$205.08
Totals				$190.25	$180.06	$370.31
MISC. LOAD AND HAUL AND EARTHWORKS						
Sludge removal						
Drainage controls						
Misc. - Cat 325B Excavator / 10-12 yd3 Truck						
325C				$83.51	$88.93	$172.44
Dump Truck (10-12 yd3)				$100.75	$85.37	$186.12
Totals				$184.26	$174.30	$358.56
Misc. - Cat D9R Dozer/ Loader (5 yd3) / 10-12 yd3 Truck						
D9R				$217.38	$91.13	$308.51
966G				$100.66	$91.13	$191.79
Dump Truck (10-12 yd3)				$100.75	$85.37	$186.12
Totals				$418.79	$267.63	$686.42
Misc. - Cat D6 Dozer / Cat 966 Loader / 10-12 yd3 Truck						
D6R				$98.13	$91.13	$189.26
966G				$100.66	$91.13	$191.79
Dump Truck (10-12 yd3)				$100.75	$85.37	$186.12
Totals				$299.54	$267.63	$567.17

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EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
CONCRETE BREAKING						
Slab demolition						
Footing demolition						
Wall demolition						
Small - Cat 325B Excavator w/ H140D s Hammer						
325C				$83.51	$88.93	$172.44
H-120 (fits 325)				$48.92	$0.00	$48.92
D9R				$217.38	$91.13	$308.51
Totals				$349.81	$180.06	$529.87
Medium - Cat 345B Excavator w/ H180D s Hammer						
345B				$128.85	$88.93	$217.78
H-160 (fits 345)				$60.98	$0.00	$60.98
D9R				$217.38	$91.13	$308.51
Totals				$407.21	$180.06	$587.27
Large - Cat 385B Excavator w/ H180D s Hammer						
385BL				$222.84	$88.93	$311.77
H-180 (fits 365/385)				$70.48	$0.00	$70.48
D9R				$217.38	$91.13	$308.51
Totals				$510.70	$180.06	$690.76
DRILL HOLE ABANDONMENT						
Drill Hole - Grout or Cement						
Pump (plugging) Drill Rig				$63.28	$88.93	$152.21
Driller's Helper		2		$0.00	$174.14	$174.14
Totals				$63.28	$263.07	$326.35
Drill Hole - Inert Media (Means Crew B-11M+ 1 Laborer)						
420D 4WD Backhoe				$35.14	$88.93	$124.07
General Laborer		1		$0.00	$80.65	$80.65
Totals				$35.14	$169.58	$204.72
Drill Hole - Casing Perforation or Removal						
Heavy Duty Drill Rig				$68.61	$91.54	$160.15
Driller's Helper		2		$0.00	$174.14	$174.14
Totals				$68.61	$265.68	$334.29
MAINTENANCE FLEET						
Road Grading, Dust Suppression, Clean Up						
Maintenance - Small Water Truck and Cat 14G Grader						
613E (5,000 gal) Water Wagon				$61.35	$85.37	$146.72
120H				$90.30	$91.13	$181.43
Totals				$151.65	$176.50	$328.15
Maintenance - Medium Water Truck and Cat 16G Grader						
613E (5,000 gal) Water Wagon				$61.35	$85.37	$146.72
14G/H				$109.81	$91.13	$200.94
Totals				$171.16	$176.50	$347.66
Maintenance - Large Water Truck and Cat 16G Grader						
777D Water Truck				$44.56	$85.37	$129.93
16G/H				$225.84	$91.13	$316.97
Totals				$270.40	$176.50	$446.90
PROJECT SUPERVISION						
Foreman		1		$0.00	$95.23	$95.23
Supervisor's Truck		1		$6.71	$88.93	$95.64
Totals				$6.71	$184.16	$190.87

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EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
MEANS CREW DEFINITIONS						
Crew composition from Means Heavy Construction 2005 Edition by permission of R.S.Means/Reed Construction Data . For use with misc. unit costs where Means is the source for productivity						
1 Clab - Seedling Planting/Block Wall Demolition						
General Laborer		1		$0.00	$80.65	$80.65
Totals				$0.00	$80.65	$80.65
2 Clab - Barbed Wire/Wood Fence Removal, Drainpipe Installation, Pumping, Evaporation						
General Laborer		2		$0.00	$161.30	$161.30
Light Truck - 1.5 Ton		1		$7.77	$88.93	$96.70
Totals				$7.77	$250.23	$258.00
2 Clab + Excavator - Pond Liner Cut and Fold						
General Laborer		2		$0.00	$161.30	$161.30
325C				$83.51	$88.93	$172.44
Totals				$83.51	$250.23	$333.74
2 Clab + Welder - Bat Gates						
General Laborer		2		$0.00	$161.30	$161.30
Welding Equipment				$6.62	$88.93	$95.55
Light Truck - 1.5 Ton		1		$7.77	$88.93	$96.70
Totals				$14.39	$339.16	$353.55
3 Clab - Foam Adit Plugs						
General Laborer		2		$0.00	$161.30	$161.30
420D 4WD Backhoe				$35.14	$88.93	$124.07
Light Truck - 1.5 Ton		1		$7.77	$88.93	$96.70
Totals				$42.91	$339.16	$382.07
3 Clab + Welder - Culvert Bat Gate						
General Laborer		2		$0.00	$161.30	$161.30
Welding Equipment				$6.62	$88.93	$95.55
420D 4WD Backhoe				$35.14	$88.93	$124.07
Light Truck - 1.5 Ton		1		$7.77	$88.93	$96.70
Totals				$49.53	$428.09	$477.62
3 Clab D - 3 Laborers + Foreman - Decontamination						
General Laborer		3		$0.00	$241.95	$241.95
Foreman		1		$0.00	$95.23	$95.23
Supervisor's Truck		1		$6.71	$88.93	$95.64
Light Truck - 1.5 Ton		1		$7.77	$88.93	$96.70
Totals				$14.48	$515.04	$529.52
3 SKWK - Liner Installation						
Skilled Laborer		3		$0.00	$249.09	$249.09
HDEP Welder (pipe or liner)		1		$31.06	$0.00	$31.06
420D 4WD Backhoe		1		$35.14	$88.93	$124.07
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
Totals				$66.20	$338.02	$404.22

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EQUIPMENT FLEETS

ACTIVITY AND FLEET		Standard Labor Crew	User Defined Labor Crew	EQUIPMENT UNIT COST (Hourly)	TOTAL LABOR UNIT COST (Hourly)	TOTAL COST (Hourly)
B-3 - Small Building Demoltion						
LABOR						
General Laborer		2		$0.00	$161.30	$161.30
Foreman		1		$0.00	$95.23	$95.23
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
EQUIPMENT						
928G		1		$51.81	$91.13	$142.94
Dump Truck (10-12 yd3)		2		$201.50	$170.74	$372.24
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
Totals				$253.31	$518.40	$771.71
B-6 - Chain Link Fence/Culvert Removal						
General Laborer		2		$0.00	$161.30	$161.30
928G		1		$51.81	$91.13	$142.94
Totals				$51.81	$252.43	$304.24
B-8 - Large Building Demolition						
LABOR						
General Laborer		2		$0.00	$161.30	$161.30
Foreman		1		$0.00	$95.23	$95.23
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
EQUIPMENT						
928G		1		$51.81	$91.13	$142.94
20 Ton Crane		1		$43.69	$88.93	$132.62
Dump Truck (10-12 yd3)		2		$201.50	$170.74	$372.24
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
Totals				$297.00	$607.33	$904.33
B-9 - Concrete Wall Demolition						
General Laborer		4		$0.00	$322.60	$322.60
Foreman		1		$0.00	$95.23	$95.23
Air Compressor + tools				$9.35	$88.93	$98.28
Totals				$9.35	$506.76	$516.11

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EQUIPMENT FLEETS

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B-10Y - General Compaction						
General Laborer		1		$0.00	$80.65	$80.65
CS533E Vibratory Roller		1		$9.98	$88.93	$98.91
Totals				$9.98	$169.58	$179.56
B-11L - Fine Grading for Evaporation Pond Liner Base						
General Laborer		1		$0.00	$80.65	$80.65
14G/H		1		$109.81	$91.13	$200.94
Totals				$109.81	$171.78	$281.59
B-11M - Backhoe Work						
420D 4WD Backhoe		1		$35.14	$88.93	$124.07
Totals				$35.14	$88.93	$124.07
B-12G - Rip-Rap Machine Placed (Modified)						
966G		1		$100.66	$91.13	$191.79
325C		1		$83.51	$88.93	$172.44
Light Truck - 1.5 Ton		1		$7.77	$88.93	$96.70
Totals				$191.94	$268.99	$460.93
B-13 - Grouted Rip-Rap & Gabion Baskets						
General Laborer		4		$0.00	$322.60	$322.60
Foreman		1		$0.00	$95.23	$95.23
50 Ton Crane		1		$45.56	$91.13	$136.69
Totals				$45.56	$508.96	$554.52
B-14 PVC Drain Pipe Installation						
Foreman		1		$0.00	$95.23	$95.23
General Laborer		4		$0.00	$322.60	$322.60
420D 4WD Backhoe		1		$35.14	$88.93	$124.07
Light Truck - 1.5 Ton		1		$7.77	$88.93	$96.70
Totals				$42.91	$595.69	$638.60
B-20 - Remove Pipelines						
Foreman		1		$0.00	$95.23	$95.23
Skilled Laborer		1		$0.00	$83.03	$83.03
General Laborer		1		$0.00	$80.65	$80.65
Light Truck - 1.5 Ton		1		$7.77	$88.93	$96.70
Totals				$7.77	$347.84	$355.61
B-22A - HDEP Installation - Pipe or Liner						
Skilled Laborer		1		$0.00	$83.03	$83.03
General Laborer		2		$0.00	$161.30	$161.30
D7R		1		$113.95	$91.13	$205.08
Light Truck - 1.5 Ton		1		$7.77	$88.93	$96.70
420D 4WD Backhoe		1		$35.14	$88.93	$124.07
Generator 5KW		1		$4.80	$0.00	$4.80
HDEP Welder (pipe or liner)		1		$31.06	$0.00	$31.06
Totals				$192.72	$513.32	$706.04
B-80A - Install Barbed Wire Fence						
General Laborer		3		$0.00	$241.95	$241.95
Light Truck - 1.5 Ton		1		$7.77	$88.93	$96.70
Totals				$7.77	$330.88	$338.65

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EQUIPMENT FLEETS

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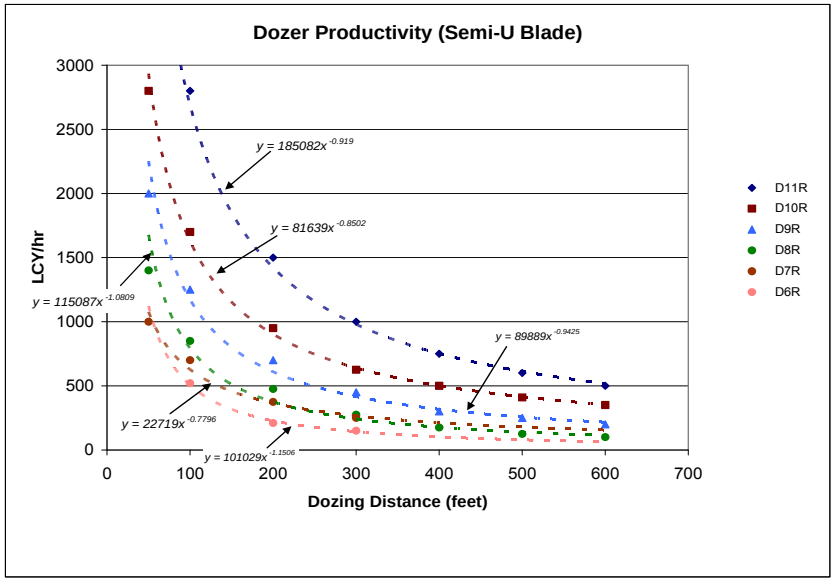
B-80C - Install Chain Link Fence (Flatbed truck has small crane)						
General Laborer		3		$0.00	$241.95	$241.95
Light Truck - 1.5 Ton		1		$7.77	$88.93	$96.70
Totals				$7.77	$330.88	$338.65
C-14B - Elevated Concrete Slabs (Reinforced Concrete Shaft Covers)						
Foreman		1		$0.00	$95.23	$95.23
Supervisor's Truck		1		$6.71	$88.93	$95.64
Carpenter		16		$0.00	$1,440.16	$1,440.16
General Laborer		2		$0.00	$161.30	$161.30
Rodmen (reinforcing concrete)		4		$0.00	$336.72	$336.72
Cement finisher		2		$0.00	$168.36	$168.36
Gas Engine Vibrator		1		$3.50	$88.93	$92.43
Concrete Pump		1		$65.61	$0.00	$65.61
Totals				$75.82	$2,379.63	$2,455.45
C-14D - Concrete Walls Formed in Place (Reinforced Concrete Adit Bulkheads)						
Foreman		1		$0.00	$95.23	$95.23
Supervisor's Truck		1		$6.71	$88.93	$95.64
Carpenter		18		$0.00	$1,620.18	$1,620.18
General Laborer		2		$0.00	$161.30	$161.30
Rodmen (reinforcing concrete)		2		$0.00	$168.36	$168.36
Cement finisher		1		$0.00	$84.18	$84.18
Gas Engine Vibrator		1		$3.50	$88.93	$92.43
Concrete Pump		1		$65.61	$0.00	$65.61
Totals				$75.82	$2,307.11	$2,382.93

Productivity - Bulldozers

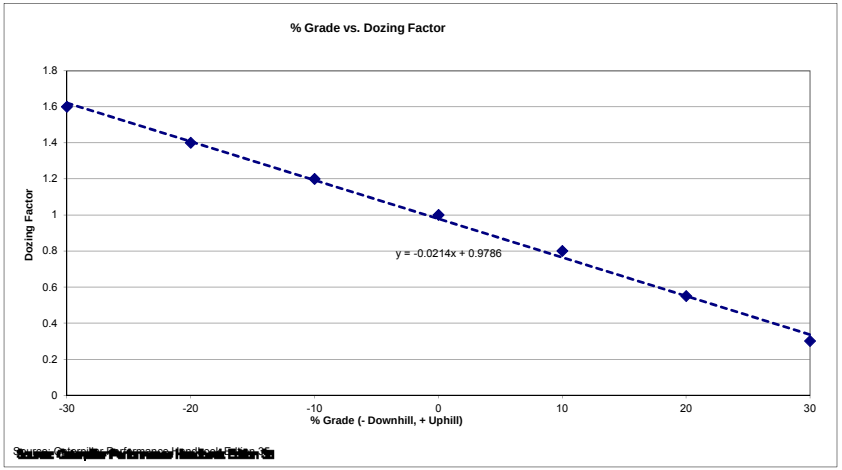
Dozer Specifications						
Description	**D11R**	**D10R**	**D9R**	**D8R**	**D7R**	**D6R**
Blade Width (SU) (ft)	18.33	15.92	14.17	12.92	12.08	10.67
Shank Guage (3 shanks) (ft)	9.83	8.67	7.67	7.08	6.5	6.5
Pocket Spacing (ft)	4.75	4.33	3.87	3.58	3.25	3.25
Ripping Width (Ripper + 1 Pocket) (ft)	14.58	13	11.54	10.66	9.75	9.75
Ripping Speed (mph)	1	1	1	1	1	1
Ripping Maneuver (turn) Time (min)	0.25	0.25	0.25	0.25	0.25	0.25
Altitude Deration Factor	1	1	1	1	1	1
Ripping Hourly Production (excluding maneuvering time) (ft)	5,280	5,280	5,280	5,280	5,280	5,280
Source: Caterpillar Performance Handbook Edition 35						

Dozer Productivity vs. Grading Distance						
Average Dozing Distance (feet)	**Production (LCY/hr)**					
	D11R	**D10R**	**D9R**	**D8R**	**D7R**	**D6R**
50	4,800	2,800	2,000	1,400	1,000	
100	2,800	1,700	1,250	850	700	520
200	1,500	950	700	475	375	210
300	1,000	625	450	275	250	150
400	750	500	300	175		
500	600	410	250	125		
600	500	350	200	100		
Source: Caterpillar Performance Handbook Edition 35						
dozer productivity = k x Dozing Distance^{p} (see graph)						
k =	185082	81639	89889	115087	22719	101029
p =	-0.919	-0.8502	-0.9425	-1.0809	-0.7796	-1.1506



Productivity - Bulldozers (cont.)

% Grade vs. Dozing Factor	
% Grade	**Dozing Factor**
-30	1.6
-20	1.4
-10	1.2
0	1
10	0.8
20	0.55
30	0.3
Source: Caterpillar Performance Handbook Edition 35	
% Grade Dozing Factor = -0.0214x + 0.9786 (see graph)	



Job Condition Correction Factors - Bulldozers	
OPERATOR	
Average	0.75
MATERIAL (1)	
Loose stockpile	1.2
Normal	1
Hard to cut; frozen — with tilt cylinder	0.8
Hard to drift; "dead" (dry,non-cohesive material) or very sticky material	0.8
Rock, ripped or blasted	0.6
SLOT DOZING OR SIDE BY SIDE (1)	1.2
VISIBILITY	
Good conditions	1
JOB EFFICIENCY	
50 min/hr	0.83
(1) Selected in facility worksheets. Other factors included as standard factors.	
Source: Caterpillar Performance Handbook Edition 35	

Material Densities(1)		
Material	**lb/cy**	**kg/m³**
Alluvium	2,900	1,720
Basalt	3,300	1,960
Clay - Dry	2,500	1,480
Granite - broken	2,800	1,660
Gravel	2,550	1,510
LS - broken	2,600	1,540
LS - crushed	2,600	1,540
Sandstone	2,550	1,510
Shale	2,100	1,250
Stone - crushed	2,700	1,600
Tailings - Coarse (dry, loose sand)	2,400	1,420
Tailings - Slimes (loose sand & clay)	2,700	1,600
Topsoil	1,600	950
(1) Source: Caterpillar Performance Handbook Edition 35		

Note: uses Sand & Gravel - Dry from Caterpillar Handbook

Productivity - Scrapers

Scraper Specifications		
Description	**631G**	**637G**
Empty Weight	100,600	112,760
Payload Capacity (cy)		
Struck	24	24
Heaped	34	34
Average	29	29
Loaded by	One D10R	Self*
Load Time (min)	1	1
Maneuver and Spread (min)	1	1
Job Efficiency	1	1
Rolling Resistance**	3	3
Altitude Deration Factor	1	1

* Requires pair

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials			Downhill Scraper Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)											
			631G						637G PP					
Material	**lb/cy**	**Scraper Load lb**	**Loaded Weight (lbs)**	**22**	**16**	**10**	**5**	**1**	**Loaded Weight (lbs)**	**25**	**15**	**10**	**5**	**1**
Alluvium	2,900	84,100	184,700	7.5	10	13	33	33	196,860	7	10	18.5	34	34
Basalt	3,300	95,700	196,300	7.5	10	13	24.5	33	208,460	7	10	18.5	25	34
Clay - Dry	2,500	72,500	173,100	7.5	10	13	33	33	185,260	7	10	18.5	34	34
Granite - broken	2,800	81,200	181,800	7.5	10	13	33	33	193,960	7	10	18.5	34	34
Gravel	2,550	73,950	174,550	7.5	10	13	33	33	186,710	7	10	18.5	34	34
LS - broken	2,600	75,400	176,000	7.5	10	13	33	33	188,160	7	10	18.5	34	34
LS - crushed	2,600	75,400	176,000	7.5	10	13	33	33	188,160	7	10	18.5	34	34
Sandstone	2,550	73,950	174,550	7.5	10	13	33	33	186,710	7	10	18.5	34	34
Shale	2,100	60,900	161,500	7.5	10	18	33	33	173,660	10	13.5	18.5	34	34
Stone - crushed	2,700	78,300	178,900	7.5	10	13	33	33	191,060	7	10	18.5	34	34
Tailings - Coarse (dry, loose sand)	2,400	69,600	170,200	7.5	10	13	33	33	182,360	7	10	18.5	34	34
Tailings - Slimes (loose sand & clay)	2,700	78,300	178,900	7.5	10	13	33	33	191,060	7	10	18.5	34	34
Topsoil	1,600	46,400	147,000	7.5	10	18	33	33	159,160	10	13.5	18.5	34	34
			Empty	10	18	24.5	33	33	Empty	10	13.5	18.5	34	34

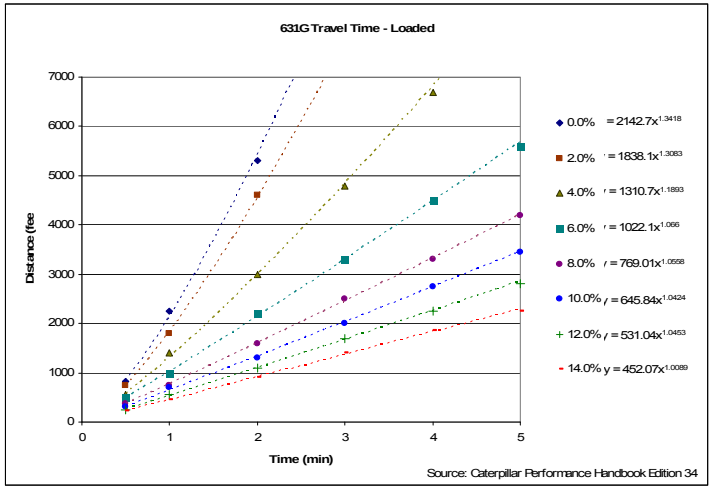
Source: Caterpillar Performance Handbook Edition 34

Productivity - Scrapers (cont.)

631G Scraper Travel Time - Uphill Loaded								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	825	2,250	5,300				2142.7	1.3418
2	750	1,800	4,600				1838.1	1.3083
4	550	1,400	3,000	4,800	6,700		1310.7	1.1893
6	490	1,000	2,200	3,300	4,500	5,600	1022.1	1.066
8	375	750	1,600	2,500	3,300	4,200	769.01	1.0558
10	300	700	1,300	2,000	2,750	3,450	645.84	1.0424
12	250	550	1,100	1,700	2,250	2,800	531.04	1.0453
14	225	450	900	1,400	1,850	2,250	452.07	1.0089

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

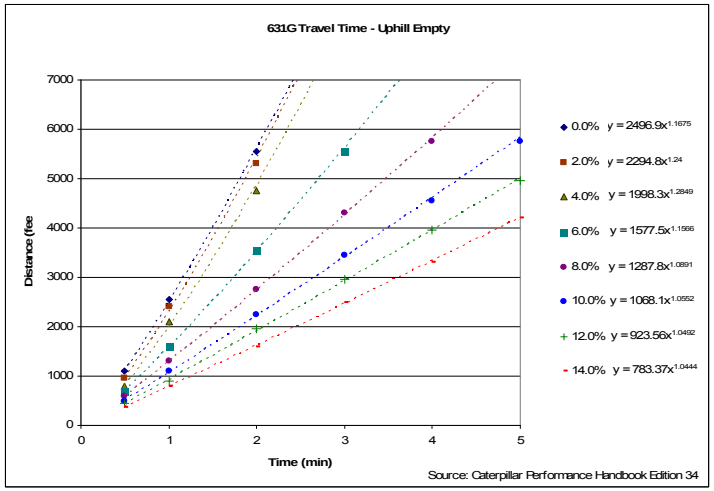


Source: Caterpillar Performance Handbook Edition 34

631G Scraper Travel Time - Uphill Empty								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	1,100	2,550	5,550				2496.9	1.1675
2	950	2,400	5,300				2294.8	1.24
4	800	2,100	4,750				1998.3	1.2849
6	700	1,600	3,550	5,550			1557.5	1.1566
8	600	1,300	2,750	4,300	5,750		1287.8	1.0891
10	500	1,100	2,250	3,450	4,550	5,750	1068.1	1.0552
12	450	900	1,950	2,950	3,950	4,950	923.56	1.0492
14	375	800	1,600	2,500	3,300	4,200	783.37	1.0444

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Source: Caterpillar Performance Handbook Edition 34

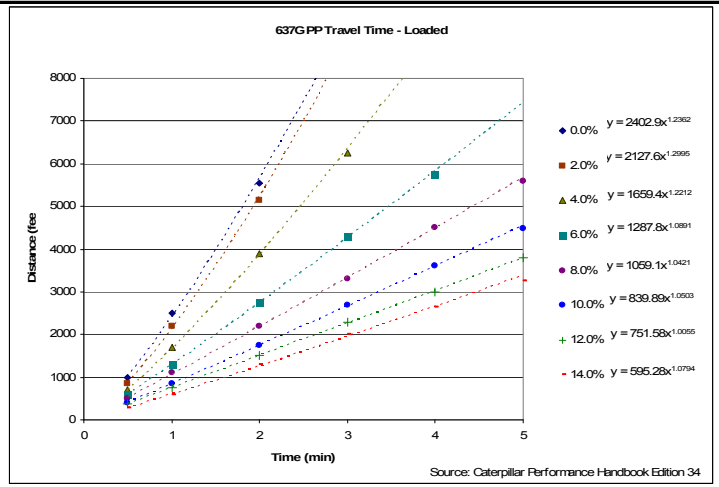
Productivity - Scrapers (cont.)

637G Push-Pull Scraper Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,000	2,500	5,550				2402.9	1.2362
2	850	2,200	5,150				2127.6	1.2995
4	700	1,700	3,900	6,250			1659.4	1.2212
6	600	1,300	2,750	4,300	5,750		1287.8	1.0891
8	500	1,100	2,200	3,300	4,500	5,600	1059.1	1.0421
10	400	850	1,750	2,700	3,600	4,475	839.89	1.0503
12	375	750	1,500	2,300	3,000	3,800	751.58	1.0055
14	275	600	1,300	2,000	2,650	3,250	595.28	1.0794

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



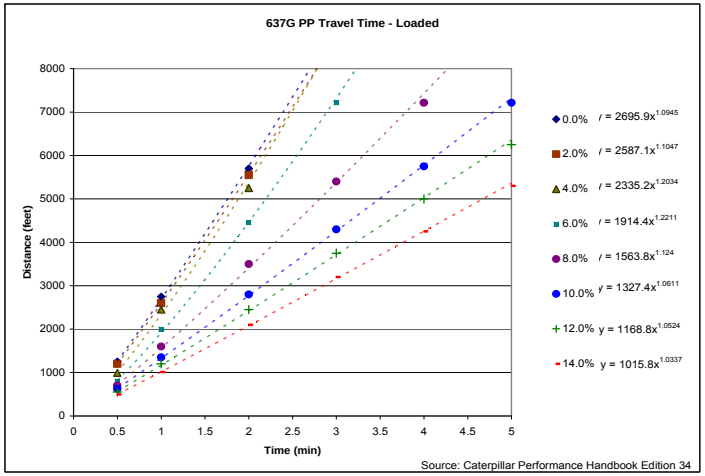
Source: Caterpillar Performance Handbook Edition 34

637G Push-Pull Scraper Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,250	2,750	5,700				2695.9	1.0945
2	1,200	2,600	5,550				2587.1	1.1047
4	990	2,450	5,250				2335.2	1.0234
6	800	2,000	4,450	7,216			1914.4	1.2211
8	700	1,600	3,500	5,400	7,216		1563.8	1.124
10	625	1,350	2,800	4,300	5,750	7,216	1327.4	1.0611
12	550	1,200	2,450	3,750	5,000	6,250	1168.8	1.0524
14	495	1,010	2,100	3,200	4,250	5,300	1015.8	1.0337

Travel Time (min) = $\sqrt[p]{\frac{distance}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Source: Caterpillar Performance Handbook Edition 34

Productivity - Haul Trucks

Haul Truck Specifications						
Description	**769D**	**773E**	**777D**	**785C**	**793C**	**797B**
Chassis Weight (lb)	53,506	70,330	113,160	170,000	259,500	473,600
Body Weight (lb)	17,350	20,300	34,785	36,788	70,785	104,200
Standard Liner Weight (lb)	7,000	8,600	12,040	16,846	24,418	8,800
Total Truck Weight (lb)	77,856	99,230	159,985	223,634	354,703	586,600
Payload Capacity (cy)						
Struck	21.6	34.8	55	78.5	126	228
Heaped	31.7	46	78.6	102	169	290
Average	26.65	40.4	66.8	90.25	147.5	259
Maneuver to Load Time (min)	0.7	0.7	0.7	0.7	0.7	0.7
Maneuver and Dump Time (min)	1.1	1.1	1.1	1.1	1.1	1.1
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5	2.5
Altitude Deration Factor	1	1	1	1	1	1

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials					Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)														
					769D					773E					777D				
Material	**lb/cy**	**Truck (769D) Load lb**	**Truck (773E) Load lb**	**Truck (777D) Load lb**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**
Alluvium	2,900	77,285	117,160	193,720	155,141	11	11	15	26	216,390	7	7	13	23	353,705	7	9	12	29
Basalt	3,300	87,945	133,320	220,440	165,801	11	11	11	20	232,550	7	7	13	23	380,425	7	7	12	21
Clay - Dry	2,500	66,625	101,000	167,000	144,481	11	11	15	26	200,230	7	9	13	23	326,985	7	9	16	29
Granite - broken	2,800	74,620	113,120	187,040	152,476	11	11	15	26	212,350	7	7	13	23	347,025	7	9	12	29
Gravel	2,550	67,958	103,020	170,340	145,814	11	11	15	26	202,250	7	9	13	23	330,325	7	9	16	29
LS - broken	2,600	69,290	105,040	173,680	147,146	11	11	15	26	204,270	7	9	13	23	333,665	7	9	12	29
LS - crushed	2,600	69,290	105,040	173,680	147,146	11	11	15	26	204,270	7	9	13	23	333,665	7	9	12	29
Sandstone	2,550	67,958	103,020	170,340	145,814	11	11	15	26	202,250	7	9	13	23	330,325	7	9	16	29
Shale	2,100	55,965	84,840	140,280	133,821	11	11	15	26	184,070	7	9	13	31	300,265	7	9	16	29
Stone - crushed	2,700	71,955	109,080	180,360	149,811	11	11	15	26	208,310	7	7	13	23	340,345	7	9	12	29
Tailings - Coarse (dry, loose sand)	2,400	63,960	96,960	160,320	141,816	11	11	15	26	196,190	7	9	13	23	320,305	7	9	16	29
Tailings - Slimes (loose sand & clay)	2,700	71,955	109,080	180,360	149,811	11	11	15	26	208,310	7	7	13	23	340,345	7	9	12	29
Topsoil	1,600	42,640	64,640	106,880	120,496	11	11	15	26	163,870	7	9	17	31	266,865	9	12	16	29
					Empty	15	15	26	36	Empty	13	17	23	42	Empty	16	16	29	39

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials					Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)														
					785C					793C					797B				
Material	**lb/cy**	**Truck (785C) Load lb**	**Truck (793C) Load lb**	**Truck (797B) Load lb**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**
Alluvium	2,900	261,725	427,750	751,100	485,359	8	8	14	27	782,453	7	7	10	17	1,337,700	7	7	9	17
Basalt	3,300	297,825	486,750	854,700	521,459	8	8	14	27	841,453	7	7	10	17	1,441,300	7	7	9	17
Clay - Dry	2,500	225,625	368,750	647,500	449,259	8	11	14	36	723,453	7	7	10	25	1,234,100	7	7	9	23
Granite - broken	2,800	252,700	413,000	725,200	476,334	8	8	14	27	767,703	7	7	10	17	1,311,800	7	7	9	17
Gravel	2,550	230,138	376,125	660,450	453,772	8	8	14	36	730,828	7	7	10	25	1,247,050	7	7	9	23
LS - broken	2,600	234,650	383,500	673,400	458,284	8	8	14	27	738,203	7	7	10	25	1,260,000	7	7	9	23
LS - crushed	2,600	234,650	383,500	673,400	458,284	8	8	14	27	738,203	7	7	10	25	1,260,000	7	7	9	23
Sandstone	2,550	230,138	376,125	660,450	453,772	8	8	14	36	730,828	7	7	10	25	1,247,050	7	7	9	23
Shale	2,100	189,525	309,750	543,900	413,159	8	11	14	36	664,453	7	7	10	25	1,130,500	7	7	13	23
Stone - crushed	2,700	243,675	398,250	699,300	467,309	8	8	14	27	752,953	7	7	10	17	1,285,900	7	7	9	23
Tailings - Coarse (dry, loose sand)	2,400	216,600	354,000	621,600	440,234	8	11	14	36	708,703	7	7	10	25	1,208,200	7	7	9	23
Tailings - Slimes (loose sand & clay)	2,700	243,675	398,250	699,300	467,309	8	8	14	27	752,953	7	7	10	17	1,285,900	7	7	9	23
Topsoil	1,600	144,400	236,000	414,400	368,034	8	11	19	36	590,703	7	10	13	25	1,001,000	7	9	13	23
					Empty	14	19	36	36	Empty	10	13	17	33	Empty	13	17	23	42

Source: Caterpillar Performance Handbook Edition 35

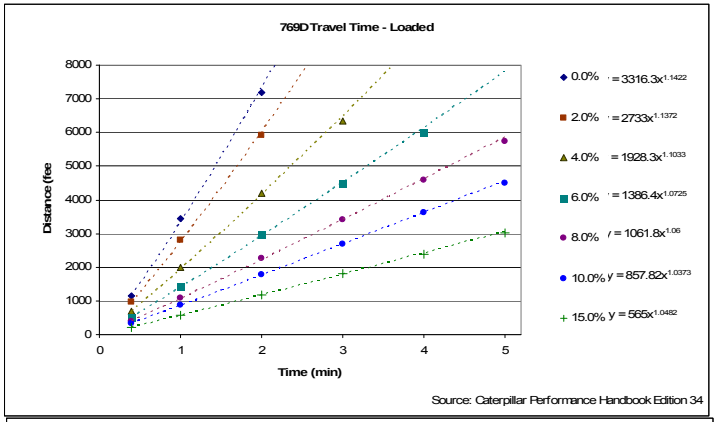
Productivity - Haul Trucks (cont.)

769D Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.4	1	2	3	4	5		
0	1,148	3,428	7,183				3316.3	1.1422
4	689	1,984	4,198	6,330			1928.3	1.1033
6	508	1,427	2,952	4,510	6,002		1386.4	1.0725
8	394	1,082	2,263	3,411	4,592	5,740	1061.8	1.06
10	328	869	1,771	2,690	3,608	4,510	857.82	1.0373
15	213	574	1,181	1,804	2,394	3,018	565	1.0482

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



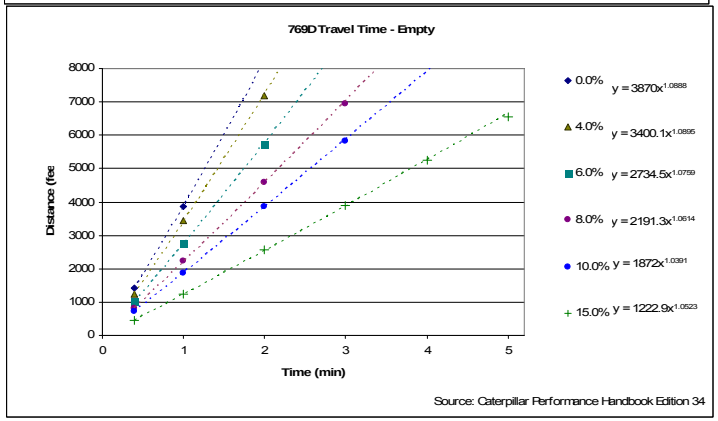
Source: Caterpillar Performance Handbook Edition 34

769D Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.4	1	2	3	4	5		
0	1,427	3,870					3870	1.0888
4	1,246	3,444	7,183				3400.1	1.0895
6	1,017	2,755	5,740				2734.5	1.0759
8	820	2,230	4,592	6,954			2191.3	1.0614
10	722	1,870	3,870	5,838			1872	1.0391
15	459	1,246	2,558	3,903	5,248	6,560	1222.9	1.0523

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Source: Caterpillar Performance Handbook Edition 34

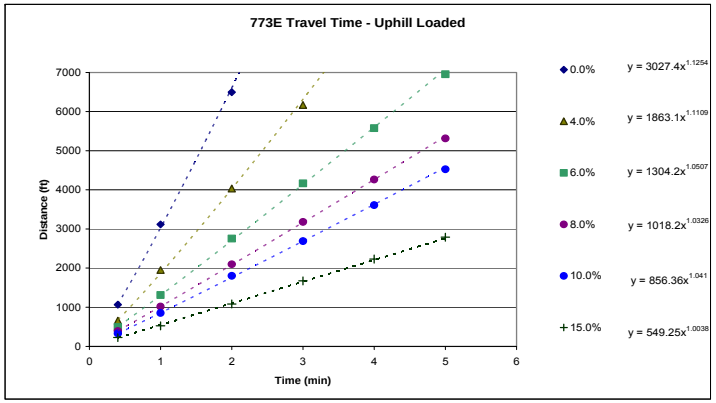
Productivity - Haul Trucks (cont.)

773E Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.4	1	2	3	4	5		
0	1,066	3,117	6,496				3027.4	1.1254
4	656	1,952	4,035	6,168			1863.1	1.1109
6	492	1,312	2,756	4,167	5,577	6,955	1304.2	1.0507
8	394	1,017	2,100	3,182	4,265	5,315	1018.2	1.0326
10	328	853	1,804	2,690	3,609	4,528	856.36	1.041
15	226	525	1,083	1,673	2,231	2,789	549.25	1.0038

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

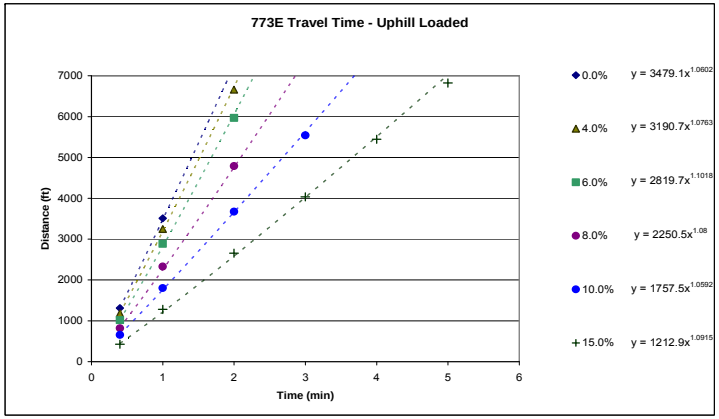


773E Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.4	1	2	3	4	5		
0	1,312	3,510	7,218				3479.1	1.0602
4	1,181	3,248	6,660				3190.7	1.0763
6	1,017	2,887	5,971				2819.7	1.1018
8	820	2,329	4,790	7,218			2250.5	1.08
10	656	1,804	3,675	5,545			1757.5	1.0592
15	427	1,280	2,657	4,035	5,446	6,824	1212.9	1.0915

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

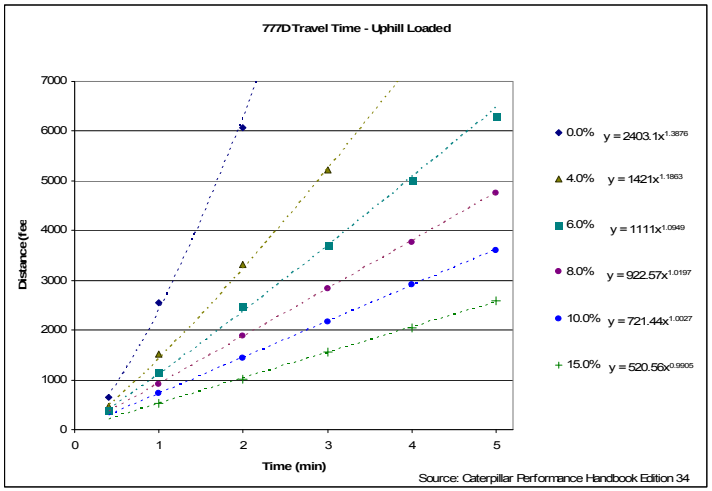


Productivity - Haul Trucks (cont.)

777D Haul Truck Travel Time - Uphill Loaded								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.4	1	2	3	4	5		
0	656	2,558	6,068				2403.1	1.3876
4	459	1,509	3,313	5,215	7,085		1412	1.1863
6	394	1,148	2,460	3,706	5,018	6,298	1111	1.0949
8		918	1,886	2,837	3,772	4,756	922.57	1.0197
10		722	1,443	2,165	2,919	3,608	721.44	1.0027
15		525	1,017	1,558	2,034	2,591	520.56	0.9905

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

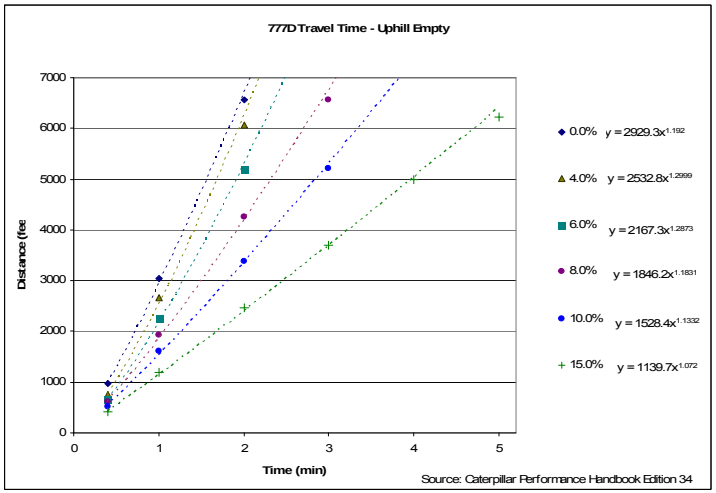


Source: Caterpillar Performance Handbook Edition 34

777D Haul Truck Travel Time - Uphill Empty								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.4	1	2	3	4	5		
0	968	3,034	6,560				2929.3	1.192
4	754	2,657	6,068				2532.8	1.2999
6	656	2,247	5,182				2167.3	1.2873
8	607	1,935	4,248	6,560			1846.2	1.1831
10	525	1,607	3,378	5,215	7,282		1528.4	1.1332
15	410	1,197	2,460	3,706	4,986	6,232	1139.7	1.072

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Source: Caterpillar Performance Handbook Edition 34

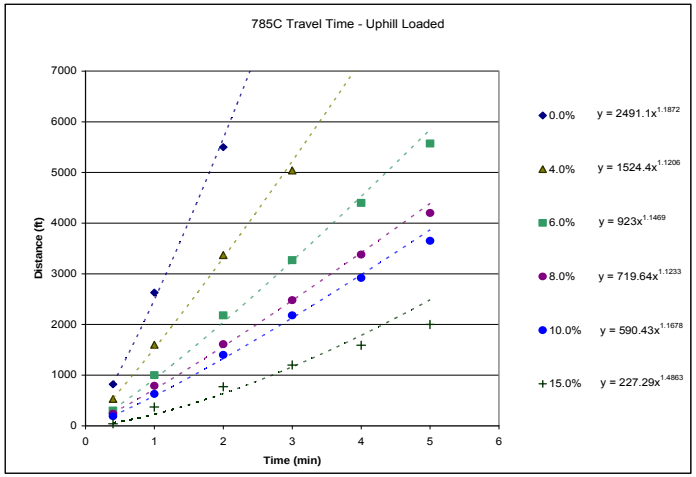
Productivity - Haul Trucks (cont.)

785C Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	820	2,630	5,500				2491.1	1.1872
4	530	1,600	3,370	5,040			1524.4	1.1206
6	300	1,000	2,180	3,270	4,400	5,570	923	1.1469
8	240	790	1,610	2,480	3,380	4,200	719.64	1.1233
10	190	630	1,400	2,180	2,920	3,650	590.43	1.1678
15	40	370	770	1,200	1,590	2,000	227.29	1.4863

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

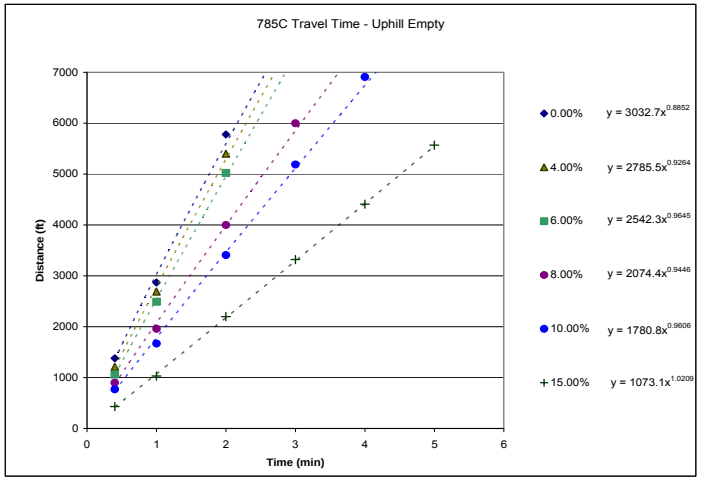


785C Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
0	1,380	2,870	5,780				3032.7	0.8852
4	1,210	2,690	5,400				2785.5	0.9264
6	1,060	2,490	5,020				2542.3	0.9645
8	900	1,960	4,000	6,000			2074.4	0.9446
10	770	1,670	3,410	5,190	6,910		1780.8	0.9606
15	430	1,030	2,200	3,320	4,410	5,570	1073.1	1.0209

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



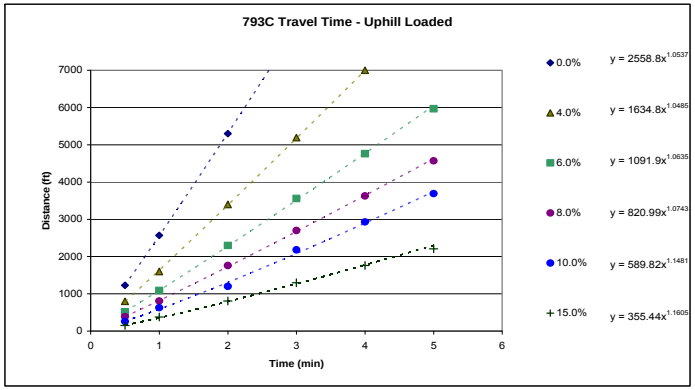
Productivity - Haul Trucks (cont.)

793C Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,230	2,570	5,300				2558.8	1.0537
4	800	1,600	3,400	5,190	7,000		1634.8	1.0485
6	520	1,090	2,300	3,560	4,760	5,970	1091.9	1.0635
8	390	810	1,760	2,700	3,630	4,570	820.99	1.0743
10	260	630	1,200	2,180	2,930	3,690	589.82	1.1481
15	150	380	810	1,300	1,760	2,210	355.44	1.1605

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

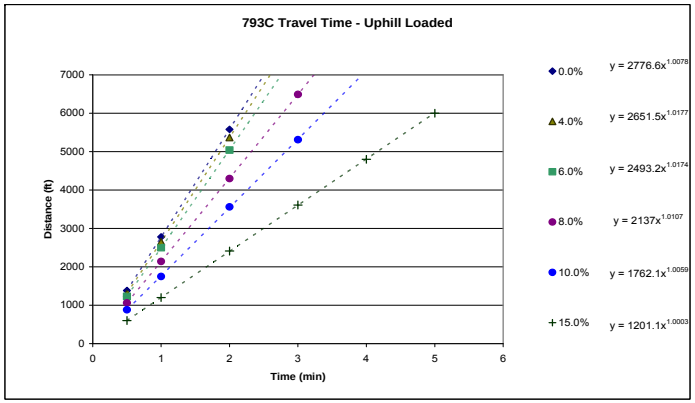


793C Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	1,380	2,780	5,580				2776.6	1.0078
4	1,310	2,650	5,370				2651.5	1.0177
6	1,230	2,500	5,040				2493.2	1.0174
8	1,060	2,140	4,300	6,490			2137	1.0107
10	880	1,750	3,560	5,310			1762.1	1.0059
15	600	1,200	2,410	3,610	4,800	6,000	1201.1	1.0003

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

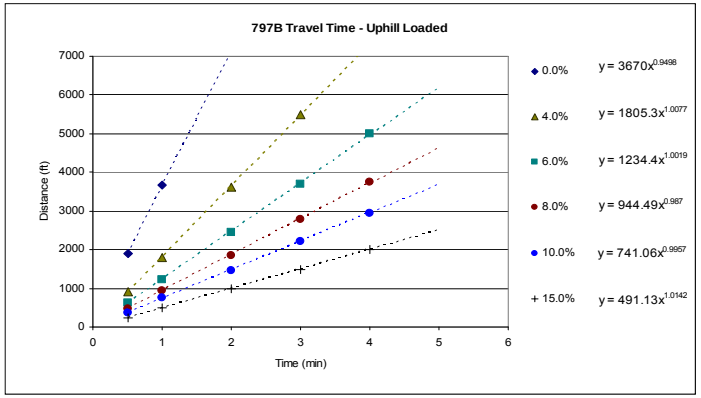


Productivity - Haul Trucks (cont.)

797B Haul Truck Travel Time - Uphill Loaded								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	1,900	3,670					3670	0.9498
4	900	1,800	3,620	5,480			1805.3	1.0077
6	620	1,230	2,450	3,700	5,000		1234.4	1.0019
8	480	940	1,850	2,790	3,750		944.49	0.987
10	370	750	1,460	2,220	2,950		741.06	0.9957
15	240	500	1,000	1,480	2,000		491.13	1.0142

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

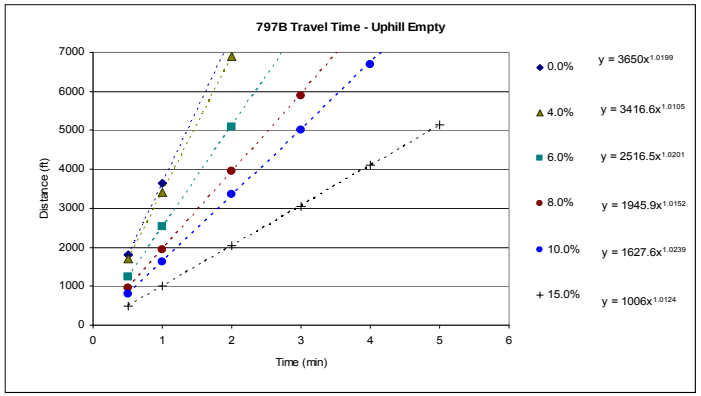
Source: Caterpillar Performance Handbook Edition 35



797B Haul Truck Travel Time - Uphill Empty								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	1,800	3,650					3650	1.0199
4	1,700	3,400	6,900				3416.6	1.0105
6	1,240	2,520	5,100				2516.5	1.0201
8	960	1,950	3,960	5,900			1945.9	1.0152
10	800	1,620	3,350	5,000	6,700		1627.6	1.0239
15	500	1,000	2,040	3,050	4,100	5,130	1006	1.0124

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Productivity - Articulated Trucks

Articulated Truck Specifications				
Description	**725**	**730**	**735**	**740**
Chassis Weight (lb)				
Body Weight (lb)				
Standard Liner Weight (lb)				
Operating Weight (Empty) (lb)	50,120	51,220	65,830	72,070
Payload Capacity (cy)				
Struck	14.5	17.1	19.3	23.3
Heaped	18.8	22.1	31.8	30.2
Average	16.65	19.6	25.55	26.75
Maneuver to Load Time (min)	0.7	0.7	0.7	0.7
Maneuver and Dump Time (min)	1.1	1.1	1.1	1.1
Job Efficiency	0.83	0.83	0.83	0.83
Rolling Resistance**	2.5	2.5	2.5	2.5
Altitude Deration Factor	1	1	1	1

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials				Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)									
				725					730				
Material	**lb/cy**	**Truck (725) Load lb**	**Truck (730) Load lb**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**
Alluvium	2,900	48,285	56,840	98,405	9	9	13	30	108,060	5	8	13	29
Basalt	3,300	54,945	64,680	105,065	5	9	13	22	115,900	5	8	13	29
Clay - Dry	2,500	41,625	49,000	91,745	9	13	13	30	100,220	8	8	13	29
Granite - broken	2,800	46,620	54,880	96,740	9	13	13	30	106,100	5	8	13	29
Gravel	2,550	42,458	49,980	92,578	9	13	13	30	101,200	8	8	13	29
LS - broken	2,600	43,290	50,960	93,410	9	13	13	30	102,180	8	8	13	29
LS - crushed	2,600	43,290	50,960	93,410	9	13	13	30	102,180	8	8	13	29
Sandstone	2,550	42,458	49,980	92,578	9	13	13	30	101,200	8	8	13	29
Shale	2,100	34,965	41,160	85,085	9	13	22	30	92,380	8	13	13	29
Stone - crushed	2,700	44,955	52,920	95,075	9	13	13	30	104,140	8	8	13	29
Tailings - Coarse (dry, loose sand)	2,400	39,960	47,040	90,080	9	13	13	30	98,260	8	8	13	29
Tailings - Slimes (loose sand & clay)	2,700	44,955	52,920	95,075	9	13	13	30	104,140	8	8	13	29
Topsoil	1,600	26,640	31,360	76,760	9	13	22	30	82,580	8	13	22	35
				Empty	13	13	22	30	Empty	13	13	22	35

Source: Caterpillar Performance Handbook Edition 35

Weight of Materials				Downhill Haul Truck Speed - Grade Retarding vs. Effective Grade (Grade - Rolling Resistance)									
				735					740				
Material	**lb/cy**	**Truck (735) Load lb**	**Truck (740) Load lb**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**	**Loaded Weight (lbs)**	**20**	**15**	**10**	**5**
Alluvium	2,900	74,095	77,575	139,925	7	9	13	27	149,645	7	9	17	23
Basalt	3,300	84,315	88,275	150,145	7	9	13	27	160,345	7	9	13	23
Clay - Dry	2,500	63,875	66,875	129,705	7	9	13	27	138,945	9	13	17	31
Granite - broken	2,800	71,540	74,900	137,370	7	9	13	27	146,970	7	9	17	23
Gravel	2,550	65,153	68,213	130,983	7	9	13	27	140,283	7	9	17	31
LS - broken	2,600	66,430	69,550	132,260	7	9	13	27	141,620	7	9	17	31
LS - crushed	2,600	66,430	69,550	132,260	7	9	13	27	141,620	7	9	17	31
Sandstone	2,550	65,153	68,213	130,983	7	9	13	27	140,283	7	9	17	31
Shale	2,100	53,655	56,175	119,485	9	9	18	27	128,245	7	13	17	31
Stone - crushed	2,700	68,985	72,225	134,815	7	9	13	27	144,295	7	9	17	23
Tailings - Coarse (dry, loose sand)	2,400	61,320	64,200	127,150	7	9	13	27	136,270	9	13	17	31
Tailings - Slimes (loose sand & clay)	2,700	68,985	72,225	134,815	7	9	13	27	144,295	7	9	17	23
Topsoil	1,600	40,880	42,800	106,710	9	13	18	36	114,870	9	13	17	31
				Empty	13	18	27	42	Empty	17	17	23	31

Source: Caterpillar Performance Handbook Edition 35

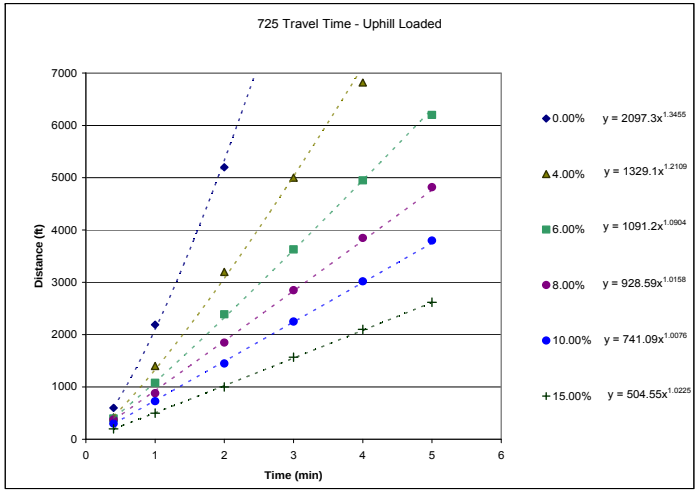
Productivity - Articulated Trucks (cont.)

725 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	600	2,190	5,200				2097.3	1.3455
4	420	1,400	3,200	5,000	6,820		1329.1	1.2109
6	400	1,080	2,390	3,630	4,950	6,200	1091.2	1.0904
8	380	880	1,850	2,850	3,850	4,820	928.59	1.0158
10	300	729	1,450	2,250	3,020	3,800	741.09	1.0076
15	200	500	1,000	1,570	2,100	2,620	504.55	1.0225

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

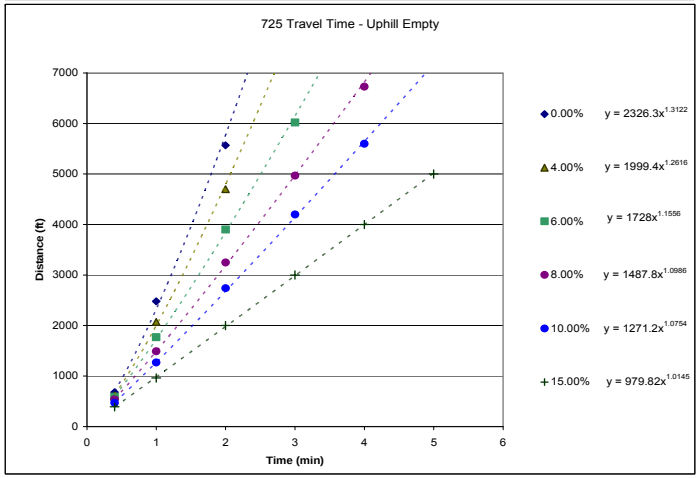


725 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	680	2,480	5,570				2326.3	1.3122
4	620	2,070	4,700				1999.4	1.2616
6	590	1,770	3,900	6,020			1728	1.1556
8	540	1,490	3,250	4,970	6,730		1487.8	1.0986
10	470	1,270	2,740	4,200	5,600	7,050	1271.2	1.0754
15	390	960	2,000	3,000	4,000	5,000	979.82	1.0145

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

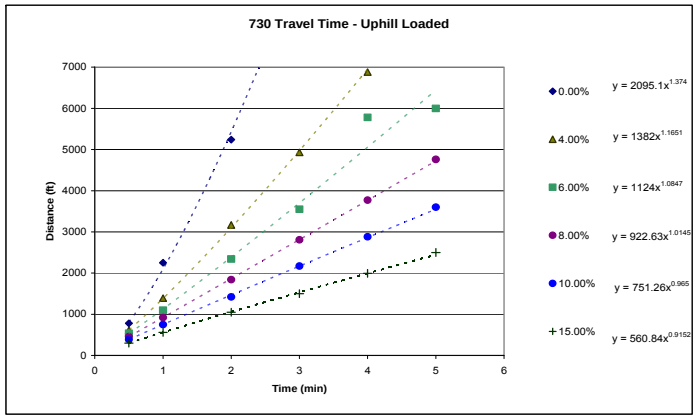


Productivity - Articulated Trucks (cont.)

730 Articulated Truck Travel Time - Uphill Loaded								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	780	2,250	5,240				2095	1.374
4	610	1,390	3,170	4,930	6,880		1382	1.1651
6	540	1,100	2,340	3,550	5,780	6,000	112	1.0847
8	460	920	1,840	2,810	3,770	4,760	922.63	1.0145
10	390	750	1,420	2,170	2,880	3,600	751.26	0.965
15	300	560	1,050	1,500	1,995	2,500	560.84	0.9152

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

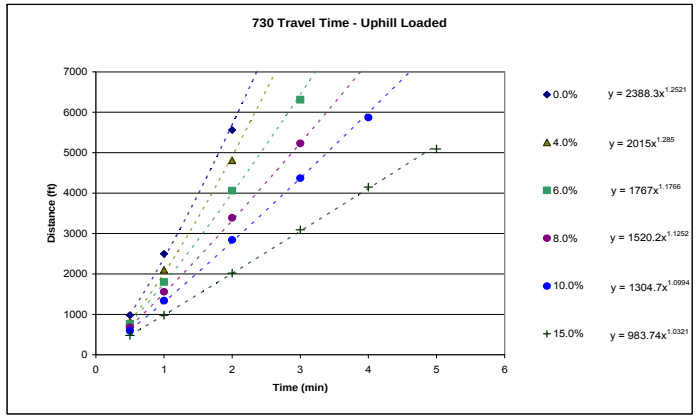
Source: Caterpillar Performance Handbook Edition 35



730 Haul Truck Travel Time - Uphill Empty								
Total Resistance (%) (rolling + grade)	Time (min)						k	p
	0.5	1	2	3	4	5		
0	980	2,500	5,560				2388	1.25621
4	810	2,100	4,810				2015	1.285
6	770	1,800	4,060	6,310			1767	1.1766
8	680	1,560	3,390	5,230	7,070		1520.2	1.1252
10	595	1,340	2,840	4,370	5,870		1304.7	1.0994
15	480	980	2,020	3,090	4,150	5,090	983.74	1.0321

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



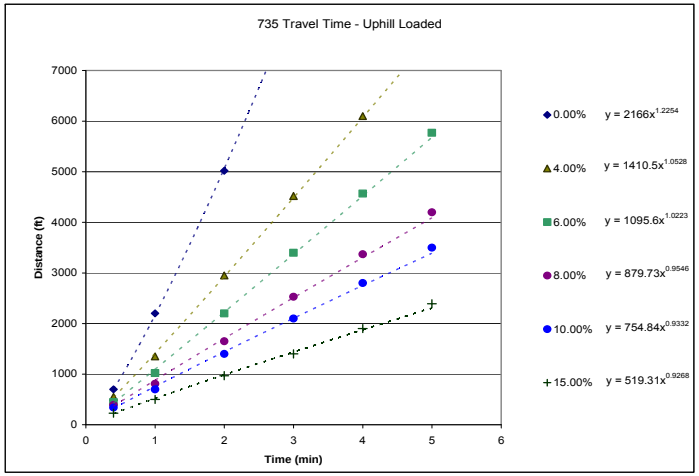
Productivity - Articulated Trucks (cont.)

735 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	700	2,200	5,020				2166	1.2254
4	550	1,350	2,950	4,520	6,100		1410.5	1.0528
6	450	1,020	2,200	3,400	4,570	5,770	1095.6	1.0223
8	390	810	1,650	2,530	3,370	4,200	879.73	0.9546
10	340	700	1,400	2,100	2,800	3,500	754.84	0.9332
15	230	500	970	1,400	1,900	2,390	519.31	0.9268

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

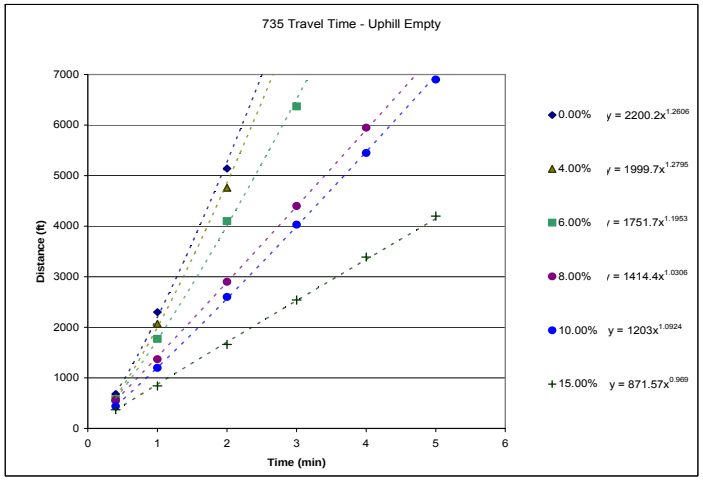


735 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	680	2,300	5,140				2200.2	1.2606
4	610	2,070	4,760				1999.7	1.2795
6	580	1,770	4,100	6,370			1751.7	1.1953
8	560	1,370	2,900	4,400	5,950		1414.4	1.0306
10	440	1,200	2,600	4,030	5,450	6,900	1203	1.0924
15	370	840	1,660	2,540	3,390	4,200	871.57	0.969

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



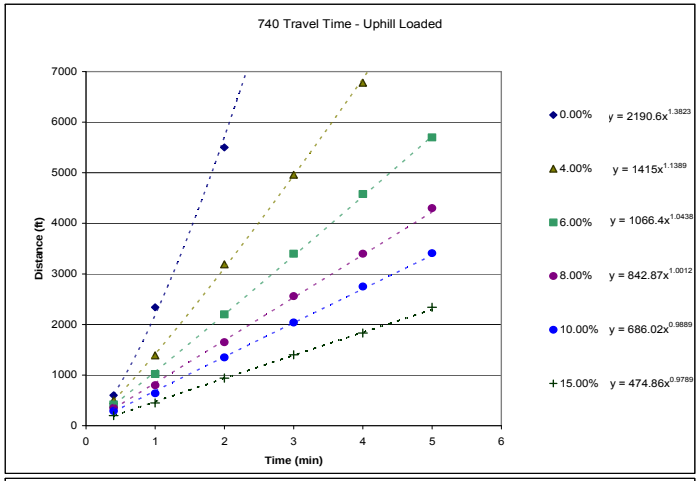
Productivity - Articulated Trucks (cont.)

740 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	600	2,340	5,500				2190.6	1.3823
4	500	1,390	3,190	4,960	6,780		1415	1.1389
6	420	1,020	2,200	3,400	4,580	5,700	1066.4	1.0438
8	350	800	1,650	2,560	3,400	4,300	842.87	1.0012
10	290	640	1,350	2,040	2,750	3,410	686.02	0.9889
15	200	450	940	1,400	1,830	2,340	474.86	0.9789

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35

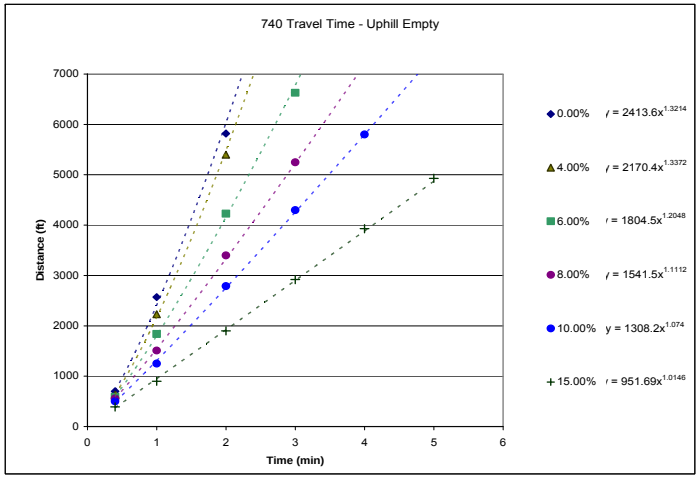


740 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
0	700	2,570	5,820				2413.6	1.3214
4	630	2,230	5,400				2170.4	1.3372
6	590	1,840	4,230	6,630			1804.5	1.2048
8	560	1,510	3,400	5,250	7,120		1541.5	1.1112
10	500	1,250	2,790	4,300	5,800		1308.2	1.074
15	390	900	1,900	2,920	3,930	4,930	951.69	1.0146

Travel Time (min) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



Productivity - Wheel Loaders

Wheel Loader Specifications

Description	924G	928G	950G	966G	972G	972G (2)	980G	988G	988G(2)	990	992G	992G(2)	994D	L2350
Payload Capacity (cy)														
Struck	2.2	2.5	3.46	4.46	4.71	4.71	6.34	6.9	6.9	9.5	13.2	13.2	18	
Heaped	2.7	3.25	4	5.25	5.5	5.5	7.25	8.33	8.33	11.25	16	16	22.5	
Average	2.45	2.875	3.73	4.855	5.105	5.105	6.795	7.615	7.615	10.375	14.6	14.6	20.25	53
Matched Truck	N/A	N/A	N/A	725	730	735	N/A	740	769D	773D	777D	785C	793C	797B
Average Cycle Time (min)	0.45	0.45	0.5	0.5	0.5	0.5	0.55	0.55	0.55	0.55	0.6	0.6	0.6	0.75
Passes to Fill Truck	N/A	N/A	N/A	3	4	5	N/A	4	3	4	5	6	7	5
Altitude Deration Factor	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Operator Efficiency	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Time to Fill Truck	N/A	N/A	N/A	1.5	2	2.5	N/A	2.2	1.65	2.2	3	3.6	4.2	3.75
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Loader matched to small truck fleet
Loader matched to medium truck fleet
Loader matched to large truck fleet
Loader matched to extra large truck fleet

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered
992G (2) - can be used to load 785 with 6 passes

Source: Caterpillar Performance Handbook Edition 35; LeTourneau/actual Chilean mine operating data for L2350.

Wheeled Loaders	General Purpose	Spade Nose-Rock
928G	3.25 cubic yard	not available
966G	5.0 cubic yard	not available
972G	5.5 cubic yard	not available
988G	not available	8.3 cubic yard
992G	not available	16.0 cubic yard

note: capacities are 2:1 heaped, SAE standards
NOTES: Buckets for both Track Excavators and Wheel Loaders are offered by CECo & available for the rental rates quoted. Bucket sizes and capacities obtained from CATERPILLAR PERFORMANCE HANDBOOK, ED 34; Section 12, Wheel Loader and Section 4, Excavators

Bucket capacity and width dictated by material weight and configuration, ie., shot, loose, tight bank, stockpile, rock, etc. Typical Nevada applications were used to determine above bucket capacities as related to materials & densities. Job site specifics may alter specific bucket requirements. (Cashman Equipment, Elko, Nevada - February 21, 2005)

Productivity - Shovels

Shovel Specifications (Komatsu equivalent)

Description	PC2000	PC3000	PC4000	PC5500	PC8000
Payload Capacity (cy)					
Struck	10.46	18.84	26.16	33.48	47.09
Heaped	14.39	25.9	35.97	46.04	64.75
Average	12.43	22.37	31.07	39.76	55.92
Matched Truck	740	777D	785C	793C	797B
Average Cycle Time (min)	0.49	0.49	0.59	0.59	0.69
Passes to Fill Truck	2.05	2.84	3.38	4.69	5.11
Altitude Deration Factor	1	1	0.9	1	1
Operator Efficiency	1	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83	0.83
Time to Fill Truck	1.68	2.33	3.32	4.61	5.86
Rolling Resistance**	2.5	2.5	2.5	2.5	2.5

Shovel matched to small truck fleet
Shovel matched to medium truck fleet
Shovel matched to large truck fleet
Shovel matched to extra large truck fleet

**A firm, smooth, rolling roadway with dirt or light surfacing, flexing slightly under load or undulating, maintained fairly regularly, watered
992G (2) - can be used to load 785 with 6 passes

Source: Caterpillar Performance Handbook Edition 35; Komatsu actual Peruvian mine (Lagunas Norte) operating data for PC4000.

Productivity - Motor Graders

Motor Grader Specifications

Description	120H	14G/H	16G/H	24M
Grader Width (ft)	8	9.25	10.08	14.04
Blade Width (ft)	12	14	16	16
Ripper Width (7 shanks) (ft)	7.6	8.5	9.75	12.83
Road Maintence Speed (mph)				
Minimum	3	3	3	3
Maximum	9.5	9.5	9.5	9.5
Average	6.25	6.25	6.25	6.25
Hourly Production	33,000	33,000	33,000	33,000
Ripping Speed (mph)	1	1	1	1
Minimum	0	0	0	0
Maximum	3	3	3	3
Average	1.5	1.5	1.5	1.5
Altitude Deration Factor	1	1	1	1
Hourly Production (with job efficiency correction & altitude deration factors) (excluding manuever time)	6,574	6,574	6,574	6,574
Maneuver time per pass (min)	0.5	0.5	0.5	0.5
Operator Efficiency	1	1	1	1
Job Efficiency	0.83	0.83	0.83	0.83

Source: Caterpillar Performance Handbook Edition 35

Productivity - Excavators

Track Excavator Specifications							
Description	**312C**	**320C**	**325C**	**330C**	**345B**	**365BL**	**385BL**
Bucket Capacity (cy)	0.68	1.57	2.22	2.22	3	4.6	7.3
Fill Factor	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Average Bucket Load (cy)	0.612	1.413	1.998	1.998	2.7	4.14	6.57
Soil Type	packed earth	hard clay	hard clay	hard clay	hard clay	hard clay	hard clay
Job Condition	med-hard	med-hard	med-hard	med-hard	med-hard	med-hard	med-hard
Cycle Times (minutes) - based on hard clay							
Load Bucket	0.07	0.09	0.09	0.09	0.13	0.1	0.19
Swing Loaded	0.06	0.06	0.06	0.07	0.07	0.09	0.06
Dump Bucket	0.03	0.03	0.04	0.04	0.02	0.04	0.03
Swing Empty	0.05	0.05	0.06	0.07	0.06	0.07	0.07
Total Cycle Time	0.21	0.23	0.25	0.27	0.28	0.3	0.35
Job Efficiency	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Operator Efficiency	1	1	1	1	1	1	1
Altitude Deration Factor	1	1	1	1	1	1	1
Corrected Productivity (LCY/hr)	145	306	398	369	480	687	935
Exploration Road Cycle Time (1) (min)	N/A	0.38	0.4	N/A	0.42	N/A	N/A
Exploration Road Corr Prod (LCY/hr)	N/A	185	249	N/A	320	N/A	N/A
Track Width (ft)	8.17	9.17	9.83	10.5	11.42	11.5	11.5
Ditch/Trench Excavation							
Bucket Capacity (cy)	0.42	0.58	0.88	0.89	2.09	3.27	2.75
Fill Factor	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Corrected Productivity (LCY/hr)	50	63	88	82	186	271	196

Source: Caterpillar Performance Handbook Edition 35

Track Excavators	Hvy Duty Rock	Extreme Service Exc (e.g. haulroad recontour)	Hvy Duty Trench
312C	30", 0.68 cubic yd	47", 0.94 cubic yd	22", .42 cubic yd
320C	30", 0.90 cubic yd	55.1", 1.57 cubic yd	23.6", .58 cubic yd
325C	36", 1.25 cubic yd	60", 2.22 cubic yd	30", .88 cubic yd
330C	36", 1.25 cubic yd	60", 2.22 cubic yd	30", .89 cubic yd
345B	43.2", 1.69 cubic yd	65", 3.0 cubic yd	48", 2.09 cubic yd
365BL	60", 3.25 cubic yd	82", 4.6 cubic yd	59", 3.27 cubic yd
385BL	85", 6.30 cubic yd.	96.0, 7.30 cubic yd	57", 2.75 cubic yd

Note: capacities are 2:1 heaped, SAE standards

NOTES: Buckets for both Track Excavators and Wheel Loaders are offered by CECo &

available for the rental rates quoted. Bucket sizes and capacities obtained from CATERPILLAR PERFORMANCE HANDBOOK, ED 34; Section 12, Wheel Loader and Section 4, Excavators Bucket capacity and width dictated by material weight and configuration, ie., shot, loose, tight bank, stockpile, rock, etc. Typical Nevada applications were used to determine above bucket capacities as related to materials & densities. Job site specifics may alter specific bucket requirements (Cashman Equipment, Elko, Nevada - February 21, 2005)

(1) Exploration cycle time assumes feathering/smoothing performed by excavator

Concrete Breaking Production

Track Excavator w/Hammer Specifications			
Description	**325C**	**345B**	**385BL**
Hydraulic Hammer	H120D s	H160D s	H180D s
Material	reinforced concrete		
Min Shift Production (yd3/8hr)	160	300	350
Max Shift Production (yd3/8hr)	300	850	1,550
Avg Shift Production (8hr)	230	575	950
Job Efficiency	0.83	0.83	0.83
Altitude Deration Factor	1	1	1

Source: Caterpillar Performance Handbook Edition 35

Drill Hole Plugging Productivity

Drill Hole Plugging Productivity		
Description	**Drill Rig**	**Pump Rig**
Move-to-hole, set-up, tear-down [1]	2	2
Trip in tremmie pipe [1]	500	
Pulling casing (threaded, not cemented)	200	
Single-pass perforating (water wells)	Productivity(all p	Passes
4	60	4
6	60	4
8	50	4
12	45	6
18	40	9
24	28	12
time [2] (hr)	2	
Perforation tool cost (wear cost)[3]	2.5	
Inert Material Placement (backfill)		
Grouting/Cement [4] (cy/hr)		5.33
Cuttings (see below) (cy/hr)		3.5

Sources:
1. Drillers daily logs from Newmont, Barrick, New West Gold, Agnico Eagle, Idaho General Mines Inc.
2. Drillers daily logs from Newmont, Barrick, Target Minerals
3. Drillers daily logs from Newmont
4. WDC Exploration, Dec 2005

Sournce: WDC Exploration, Dec 2005

Cuttings Placement Productivity		
Shift productivity (Means 02210-700-0120; Crew B11M)	28	cy / shift
Shift length	8	hours
Estimated Hourly Productivity	3.5	cy / hour

Altitude Deration Table

MODEL	Elevation											
	0-760 m (0-2500')		760-1500 m (2500-5000')		1500-2300 m (5000-7000')		2300-3000 m (7500-10,000')		3000-3800 m (10,000-12,000')		3800-4600 m (12,500-15,000')	
	CAT	User	CAT	User	CAT	User	CAT	User	CAT	User	CAT	User
Bulldozers												
D6R	100		100		100		100		92		84	
D6R w/ Winch	100		100		100		100		92		84	
D7R	100		100		100		100		100		96	
D8R	100		100		100		93		85		77	
D9R	100		100		100		93		85		77	
D10R	100		100		100		100		97		89	
D11R	100		100		100		93		85		77	
Wheeled Dozers												
824G	100		100		100		100		92		84	
834G	100		100		100		100		92		84	
844	100		100		100		100		100		96	
854G	100		100		100		93		85		77	
Graders												
120H	100		100		100		100		96		93	
14G/H	100		100		100		100		98		96	
16G/H	100		100		100		100		98		96	
24M	100		100		100		100		98		96	
Excavators												
312C	100		100		100		83		78		73	
320C	100		100		90		87		83		76	
325C	100		100		100		100		100		100	
330C	100		100		100		100		100		100	
345B	100		100		100		100		93		93	
365BL	100		100		100		86		86		86	
385BL	100		100		100		93		85		78	
Scrapers												
631G	100		100		100		100		97		90	
637G	100		100		100		95		87		80	
Loaders												
924G	100		100		100		100		97		89	
928G	100		100		100		100		92		85	
950G	100		100		100		100		100		100	
966G	100		100		100		100		96		88	
972G	100		100		92		84		77		70	
980G	100		100		100		100		96		88	
988G	100		100		100		95		85		75	
990	100		100		100		100		92		85	
992G	100		100		100		100		93		87	
994D	100		100		100		100		96		88	
L2350	100		100		100		100		96		90	
Shovels												
PC2000	100		100		100		100		96		90	
PC3000	100		100		100		100		96		90	
PC4000	100		100		100		100		96		90	
PC5500	100		100		100		100		96		90	
PC8000	100		100		100		100		96		90	
Other Equipment												
420D 4WD Backhoe	99		97		95		91		91		91	
428D 4WD Backhoe	99		97		95		91		91		91	
CS533E Vibratory Roller	100		100		98		95		91		86	
CS633E Vibratory Roller	100		100		100		100		91		86	
CP533E Sheepsfoot Compactor	100		100		98		95		91		100	
CP633E Sheepsfoot Compactor	100		100		100		100		91		86	
Light Truck - 1.5 Ton												
Supervisor's Truck												
Flatbed Truck												
Air Compressor + tools												
Welding Equipment												
Heavy Duty Drill Rig												
Pump (plugging) Drill Rig												
Concrete Pump												
Gas Engine Vibrator												
Generator 5KW												
HDEP Welder (pipe or liner)												
5 Ton Crane												

20 Ton Crane												
50 Ton Crane												
120 Ton Crane												
Trucks												
725	100		100		100		100		100		95	
730	100		100		100		100		100		95	
735	100		100		100		100		99		91	
740	100		100		100		100		99		91	
769D	100		100		100		93		88		82	
773E	100		100		100		100		93		85	
777D	100		100		100		100		93		87	
785C	100		100		100		93		86		80	
793C	100		100		100		100		100		93	
797B	100		100		100		100		100		93	
613E (5,000 gal) Water Wagon	100		100		100		100		95		87	
621E (8,000 gal) Water Wagon	100		100		100		100		97		90	
777D Water Truck	100		100		100		100		93		87	
785C Water Truck	100		100		100		93		86		80	
Dump Truck (10-12 yd^3) (5)												

Notes:
User entered deration value will override values from CAT Performance Handbook, except L2350 Loader: data from actual mine performance in Chile.
Komatsu altitude deration assumed from LeTourneau L2350

Closure Cost Estimate
User 1

Inflation

Based on Consumer Price Index for Anchorage from US Department of Labor, Bureau of Labor S

(http://www.bls.gov/regions/west/data/consumerpriceindex_anchorage_table.pdf)

Year	For all urban Consumers (CPI-U)	
	Annual Average	Percent Change
2012	205.916	2.20
2013	212.381	3.10
2014	215.805	1.60
2015	216.909	0.50
2016	217.83	0.40

Average =	1.56
Computed Inflation Mutiplier for next 5-year =	**1.08**

Closure Cost Estimate
User 2

Mine + ROW Cost Estimate Total

A. Earthwork/Recontouring	Labor	Equipment	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$114,695	$198,196	$0	$312,891
Well Abandonment	$17,983	$3,712	$114	$21,809
Pits	$0	$0	N/A	$0
Quarries & Borrow Areas	$637	$1,039	$0	$1,676
Underground Openings	$16,907	$556	$3,847	$21,310
Process Ponds	$4,513	$5,609	$0	$10,122
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$156,875	$288,669	$0	$445,544
Landfills	$0	$0	$0	$0
Tailings	$0	$0	$0	$0
Foundation & Buildings Areas	$202,659	$249,918	$0	$452,577
Yards, Etc.	$593,479	$771,973	$0	$1,365,452
Drainage & Sediment Control	$3,860,994	$664,866	$11,133	$4,536,993
Generic Material Hauling	$277,394	$566,386	$0	$843,780
Other User Costs (from Other User sheet)	$50,503	$75,425	$198,938	$324,866
Other**	$0	$0	$0	$0
Subtotal	**$5,296,639**	**$2,826,349**	**$214,032**	**$8,337,020**
Mob/Demob if included in Other User sheet	$63,217	$126,433	$0	$189,650
Mob/Demob	$0	$0	$0	$0
Subtotal "A"	**$5,359,856**	**$2,952,783**	**$214,032**	**$8,526,670**
B. Revegetation/Stabilization	**Labor**	**Equipment**	**Materials**	**Total**
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$106,949	$106,949	$392,441	$606,339
Well Abandonment	0	0	0	N/A
Pits	$0	$0	$0	$0
Quarries & Borrow Areas	$0	$0	$0	$0
Underground Openings	0	0	0	N/A
Process Ponds	$1,000	$1,000	$2,400	$4,400
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$80,440	$80,440	$321,760	$482,640
Landfills	$0	$0	$0	$0
Tailings	$0	$0	$0	$0
Foundation & Buildings Areas	$182,000	$182,000	$84,400	$448,400
Yards, Etc.	$57,090	$57,090	$225,400	$339,580
Drainage & Sediment Control	$37,682	$40,270	$180,960	$258,912
Generic Material Hauling	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$1,902	$81,198	$1,471,252	$1,554,352
Other**	$0	$0	$0	$0
Subtotal "B"	**$467,063**	**$548,947**	**$2,678,613**	**$3,694,623**
C. Detoxification/Water Treatment/Disposal of Was	**Labor**	**Equipment**	**Materials**	**Total**
Process Ponds/Sludge	$0	$0	$0	$0
Heaps	$0	$0	$0	$0
Dumps (Waste & Landfill)	$0		$0	$0
Tailings		$0	$0	$0
Surplus Water Disposal	$0		$0	$0
Monitoring	$0	$0	$0	$0
Miscellaneous	$0	$0	$0	$0
Solid Waste - On Site	$56,242	$74,253	N/A	$130,495
Solid Waste - Off Site	0	0	0	$75,909
Hazardous Materials	0	0	0	$27,711
Hydrocarbon Contaminated Soils	$0	$0	$384,696	$384,696
Pumping (from Solution Mgmt sheet)	$0	$0	N/A	$0
Evaporation (from Solution Mgmt sheet)	$0	$0	$0	$0
Treatment (from Solution Mgmt sheet)	$477,605	$607,171	$3,608,422	$4,693,198
Decontamination (from Solution Mgmt sheet)	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$357,760	$0	$0	$357,760
Other**	$0	$0	$0	$0
Subtotal "C"	**$891,607**	**$681,424**	**$3,993,118**	**$5,669,769**

Closure Cost Estimate
User 2

D. Structure, Equipment and Facility Removal, an	Labor	Equipment	Materials	Total
Foundation & Buildings Areas	$4,987,434	$1,143,091	$0	$6,130,525
Other Demolition	$180,000	$180,000	$20,000	$380,000
Equipment Removal	$60,000	$70,000	$170,000	$300,000
Fence Removal	$4,612	$142	$0	$4,754
Fence Installation	$0	$0	$0	$0
Culvert Removal	$263,781	$54,191	N/A	$317,972
Pipe Removal	$387,301	$8,408	N/A	$395,709
Powerline Removal	#REF!	#REF!	$0	$1,374,651
Transformer Removal	#REF!	#REF!	$0	$442,128
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Misc. Costs	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$129,720	$48,720	$878,040	$1,056,480
Other**	$0	$0	$0	$0
Subtotal "D"	**$7,829,627**	**$1,504,552**	**$1,068,040**	**$10,402,219**

E. Monitoring	Labor	Equipment	Materials	Total
Reclamation Monitoring and Maintenance	$124,779	$74,987	$185,404	$385,170
Ground and Surface Water Monitoring	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$835,386	$230,617	$918,476	$1,984,480
Subtotal "E"	**$960,165**	**$305,604**	**$1,103,880**	**$2,369,650**

F. Construction Management & Support	Labor	Equipment	Materials	Total
Construction Management	$768,672	$32,208	N/A	$800,880
Construction Support	$0	$0	$0	$0
Road Maintenance	$132,685	$159,883	$0	$292,568
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**	$0	$0	$0	$0
Subtotal "F"	**$901,357**	**$192,091**	**$0**	**$1,093,448**

G. Closure Planning, G&A, HR	Labor	Equipment	Materials	Total
Closure Planning				$0
General & Administration				$2,977,952
Human Resources				$13,551,108
Other User Costs (from Other User sheet)				$134,338
Other**				$0
Subtotal "G"				**$16,663,398**

Subtotal Operational & Maintenance Costs	Labor	Equipment	Materials	Total
Subtotal A through G	**$16,409,675**	**$6,319,740**	**$9,057,683**	**$48,419,777**

Indirect Costs			Percentage	Total
Contractor Profit: Calculated as 8% of the total Direct Costs			8%	$3,873,582
Contractor Overhead: Calculated as 6% of the total Direct Costs			6%	$2,905,187
Performance and Payment Bond: Calculated as 3% of the total Direct Costs			3%	$1,452,593
Liability Insurance: Calculated as 1.5% of the total Labor Costs			1.5%	$246,145
Contract Administration: Calculated as 7% of the total Direct Costs			7%	$3,389,384
Engineering Redesign: Calculated as 5% of the total Direct Costs			5%	$2,420,989
Contingency: Calculated as 8% of the total Direct Costs			8%	$3,873,582
Subtotal Indirect Costs				**$18,161,463**
Total Indirect Costs as % of Total Direct Costs				38%
Total Direct & Indirect Costs				**$66,581,240**
Inflation Proofing			8%	$5,326,499
GRAND TOTAL with inflation proofing				**$71,907,739**

Closure Cost Estimate
User 2

Mine - Holding Costs

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

C. Detoxification/Water Treatment/Disposal of Was	Labor	Equipment	Materials	Total
Process Ponds/Sludge				
Heaps				
Dumps (Waste & Landfill)				
Tailings				
Surplus Water Disposal				
Monitoring				
Miscellaneous				
Solid Waste - On Site				
Solid Waste - Off Site				
Hazardous Materials				
Hydrocarbon Contaminated Soils				
Pumping (from Solution Mgmt sheet)	$0	$0	$0	$0
Evaporation (from Solution Mgmt sheet)	$0	$0	$0	$0
Treatment (from Solution Mgmt sheet)	$0	$92,682	$566,027	$658,709
Decontamination (from Solution Mgmt sheet)	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				
Subtotal "C"	**$0**	**$92,682**	**$566,027**	**$658,709**

Closure Cost Estimate
User 2

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

E. Monitoring	Labor	Equipment	Materials	Total
Reclamation Monitoring and Maintenance				$0
Ground and Surface Water Monitoring				
Other User Costs (from Other User sheet)	$119,150	$56,419	$198,685	$374,254
Subtotal "E"	**$119,150**	**$56,419**	**$198,685**	**$374,254**

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

G. Closure Planning, G&A, HR			Materials	Total
Closure Planning				
General & Administration				$818,635
Human Resources				$2,037,204
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				
Subtotal "G"				**$2,855,839**

Subtotal Operational & Maintenance Costs	Labor	Equipment	Materials	Total
Subtotal A through G	**$119,150**	**$149,101**	**$764,712**	**$3,888,802**
			check:	$0

Indirect Costs				
Contractor Profit: Calculated as 8% of the total Direct Costs			8%	$311,104
Contractor Overhead: Calculated as 6% of the total Direct Costs			6%	$233,328
Performance and Payment Bond: Calculated as 3% of the total Direct Costs			3%	$116,664
Liability Insurance: Calculated as 1.5% of the total Labor Costs			1.5%	$1,787
Contract Administration: Calculated as 7% of the total Direct Costs			7%	$272,216
Engineering Redesign: Calculated as 5% of the total Direct Costs			5%	$194,440
Contingency: Calculated as 8% of the total Direct Costs			8%	$311,104
Subtotal Indirect Costs				**$1,440,644**
Total Indirect Costs as % of Total Direct Costs				37%
Total Direct & Indirect Costs				**$5,329,446**
Inflation Proofing			8%	$426,356
GRAND TOTAL with inflation proofing				**$5,755,802**

Closure Cost Estimate
User 2

Mine Cost Items

A. Earthwork/Recontouring	Labor	Equipment	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$73,281	$124,679	$0	$197,960
Well Abandonment	$17,983	$3,712	$114	$21,809
Pits	$0	$0		$0
Quarries & Borrow Areas	$637	$1,039	$0	$1,676
Underground Openings	$16,907	$556	$3,847	$21,310
Process Ponds	$4,513	$5,609	$0	$10,122
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$156,875	$288,669	$0	$445,544
Landfills	$0	$0	$0	$0
Tailings	$0	$0	$0	$0
Foundation & Buildings Areas	$202,659	$249,918	$0	$452,577
Yards, Etc.	$356,265	$477,574	$0	$833,839
Drainage & Sediment Control	$3,860,994	$664,866	$11,133	$4,536,993
Generic Material Hauling	$277,394	$566,386	$0	$843,780
Other User Costs (from Other User sheet)	$50,503	$75,425	$198,938	$324,866
Other**	$0	$0	$0	$0
Subtotal	**$5,018,011**	**$2,458,433**	**$214,032**	**$7,690,476**
	0	0	0	0
Mob/Demob if included in Other User sheet	$126,433	$0	$63,217	$189,650
Mob/Demob	$0	$0	$0	$0
Subtotal "A"	**$5,081,228**	**$2,584,867**	**$214,032**	**$7,880,126**

B. Revegetation/Stabilization	Labor	Equipment	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$106,949	$106,949	$392,441	$606,339
Well Abandonment	0	0	0	
Pits	$0	$0	$0	$0
Quarries & Borrow Areas	$0	$0	$0	$0
Underground Openings	0	0	0	
Process Ponds	$1,000	$1,000	$2,400	$4,400
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$80,440	$80,440	$321,760	$482,640
Landfills	$0	$0	$0	$0
Tailings	$0	$0	$0	$0
Foundation & Buildings Areas	$182,000	$182,000	$84,400	$448,400
Yards, Etc.	$57,090	$57,090	$225,400	$339,580
Drainage & Sediment Control	$37,682	$40,270	$180,960	$258,912
Generic Material Hauling	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**	$0	$0	$0	$0
Subtotal "B"	**$465,161**	**$467,749**	**$1,207,361**	**$2,140,271**

C. Detoxification/Water Treatment/Disposal of Was	Labor	Equipment	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	$56,242	$74,253		$130,495
Solid Waste - Off Site	0	0	0	$75,909
Hazardous Materials	0	0	0	$27,711
Hydrocarbon Contaminated Soils	$0	$0	$384,696	$384,696
Pumping (from Solution Mgmt sheet)	$0	$0		$0
Evaporation (from Solution Mgmt sheet)	$0	$0	$0	$0
Treatment (from Solution Mgmt sheet)	$477,605	$514,489	$3,042,395	$4,034,489
Decontamination (from Solution Mgmt sheet)	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$357,760	$0	$0	$357,760
Other**	$0	$0	$0	$0
Subtotal "C"	**$891,607**	**$588,742**	**$3,427,091**	**$5,011,060**

Closure Cost Estimate
User 2

D. Structure, Equipment and Facility Removal, and	Labor	Equipment	Materials	Total
Foundation & Buildings Areas	$4,987,434	$1,143,091	$0	$6,130,525
Other Demolition	$180,000	$180,000	$20,000	$380,000
Equipment Removal	$60,000	$70,000	$170,000	$300,000
Fence Removal	$4,612	$142	$0	$4,754
Fence Installation	$0	$0	$0	$0
Culvert Removal	$142,605	$29,297		$171,902
Pipe Removal	$387,301	$8,408		$395,709
Powerline Removal	#REF!	#REF!		$68,763
Transformer Removal	#REF!	#REF!	$0	$442,128
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Misc. Costs	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$129,720	$48,720	$878,040	$1,056,480
Other**	$0	$0	$0	$0
Subtotal "D"	**$7,447,273**	**$434,948**	**$1,068,040**	**$8,950,261**

E. Monitoring	Labor	Equipment	Materials	Total
Reclamation Monitoring and Maintenance	$124,779	$74,987	$185,404	$385,170
Ground and Surface Water Monitoring	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$716,237	$174,198	$719,791	$1,610,226
Subtotal "E"	**$841,016**	**$249,185**	**$905,195**	**$1,995,396**

F. Construction Management & Support	Labor	Equipment	Materials	Total
Construction Management	$384,336	$16,104		$400,440
Construction Support	$0	$0	$0	$0
Road Maintenance	$132,685	$159,883	$0	$292,568
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**	$0	$0	$0	$0
Subtotal "F"	**$517,021**	**$175,987**	**$0**	**$693,008**

G. Closure Planning, G&A, HR			Materials	Total
Closure Planning	0	0		$0
General & Administration	0	0	0	$2,095,917
Human Resources	0	0	0	$10,851,075
Other User Costs (from Other User sheet)	$0	$134,338	$0	$134,338
Other**	**$0**	**$0**	**$0**	$0
Subtotal "G"	**$0**	**$0**	**$0**	**$13,081,330**

Subtotal Operational & Maintenance Costs	Labor	Equipment	Materials	Total
Subtotal A through G	**$15,243,305**	**$4,635,817**	**$6,821,719**	**$39,751,452**

check: $ 0

Indirect Costs				
Contractor Profit: Calculated as 8% of the total Direct Costs			8%	$3,180,116
Contractor Overhead: Calculated as 6% of the total Direct Costs			6%	$2,385,087
Performance and Payment Bond: Calculated as 3% of the total Direct Costs			3%	$1,192,544
Liability Insurance: Calculated as 1.5% of the total Labor Costs			1.5%	$228,650
Contract Administration: Calculated as 7% of the total Direct Costs			7%	$2,782,602
Engineering Redesign: Calculated as 5% of the total Direct Costs			5%	$1,987,573
Contingency: Calculated as 8% of the total Direct Costs			8%	$3,180,116
Subtotal Indirect Costs				**$14,936,687**
Total Indirect Costs as % of Total Direct Costs				38%
Total Direct & Indirect Costs				**$54,688,139**
Inflation Proofing			8%	$4,375,051
GRAND TOTAL with inflation proofing				**$59,063,190**

Closure Cost Estimate
User 2

ROW Cost Items

A. Earthwork/Recontouring	Labor	Equipment	Materials	Total
Exploration				
Exploration Roads & Drill Pads				
Roads	$41,414	$73,517	$0	$114,931
Well Abandonment	$0	$0	$0	$0
Pits				
Quarries & Borrow Areas				
Underground Openings				
Process Ponds				
Heaps				
Waste Rock Dumps				
Landfills				
Tailings				
Foundation & Buildings Areas				
Yards, Etc.	$237,214	$294,399	$0	$531,613
Drainage & Sediment Control				
Generic Material Hauling	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				
Subtotal	**$278,628**	**$367,916**	**$0**	**$646,544**
Mob/Demob if included in Other User sheet	$0	$0	$0	$0
Mob/Demob				
Subtotal "A"	**$278,628**	**$367,916**	**$0**	**$646,544**

B. Revegetation/Stabilization	Labor	Equipment	Materials	Total
Exploration				
Exploration Roads & Drill Pads				
Roads				
Well Abandonment				
Pits				
Quarries & Borrow Areas				
Underground Openings				
Process Ponds				
Heaps				
Waste Rock Dumps				
Landfills				
Tailings				
Foundation & Buildings Areas				
Yards, Etc.				
Drainage & Sediment Control				
Generic Material Hauling				
Other User Costs (from Other User sheet)	$1,902	$81,198	$1,471,252	$1,554,352
Other**				
Subtotal "B"	**$1,902**	**$81,198**	**$1,471,252**	**$1,554,352**

C. Detoxification/Water Treatment/Disposal of Was	Labor	Equipment	Materials	Total
Process Ponds/Sludge				
Heaps				
Dumps (Waste & Landfill)				
Tailings				
Surplus Water Disposal				
Monitoring				
Miscellaneous				
Solid Waste - On Site				
Solid Waste - Off Site				
Hazardous Materials				
Hydrocarbon Contaminated Soils				
Pumping (from Solution Mgmt sheet)				
Evaporation (from Solution Mgmt sheet)				
Treatment (from Solution Mgmt sheet)				
Decontamination (from Solution Mgmt sheet)				
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				
Subtotal "C"	**$0**	**$0**	**$0**	**$0**

Closure Cost Estimate
User 2

D. Structure, Equipment and Facility Removal, and	Labor	Equipment	Materials	Total
Foundation & Buildings Areas				$0
Other Demolition				
Equipment Removal				
Fence Removal	$0	$0	$0	$0
Fence Installation	$0	$0	$0	$0
Culvert Removal	$121,176	$24,894	$0	$146,070
Pipe Removal	$0	$0	$0	$0
Powerline Removal	$261,178	$1,044,710	$0	$1,305,888
Transformer Removal	$0	$0	$0	$0
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Misc. Costs				
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				
Subtotal "D"	**$382,354**	**$1,069,604**	**$0**	**$1,451,958**

E. Monitoring	Labor	Equipment	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"				

F. Construction Management & Support	Labor	Equipment	Materials	Total
Construction Management	$384,336	$16,104	$0	$400,440
Construction Support	$0	$0	$0	$0
Road Maintenance	$0	$0	$0	$0
Other User Costs (from Other User sheet)				
Other**				
Subtotal "F"	**$384,336**	**$16,104**	**$0**	**$400,440**

G. Closure Planning, G&A, HR			Materials	Total
Closure Planning				
General & Administration				$63,400
Human Resources				$662,829
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				
Subtotal "G"				**$726,229**

Subtotal Operational & Maintenance Costs	Labor	Equipment	Materials	Total
Subtotal A through G	**$1,047,220**	**$1,534,822**	**$1,471,252**	**$4,779,523**
			check:	0

Indirect Costs			
Contractor Profit: Calculated as 8% of the total Direct Costs		8%	$382,362
Contractor Overhead: Calculated as 6% of the total Direct Costs		6%	$286,771
Performance and Payment Bond: Calculated as 3% of the total Direct Costs		3%	$143,386
Liability Insurance: Calculated as 1.5% of the total Labor Costs		1.5%	$15,708
Contract Administration: Calculated as 7% of the total Direct Costs		7%	$334,567
Engineering Redesign: Calculated as 5% of the total Direct Costs		5%	$238,976
Contingency: Calculated as 8% of the total Direct Costs		8%	$382,362
Subtotal Indirect Costs			**$1,784,132**
Total Indirect Costs as % of Total Direct Costs			37%
Total Direct & Indirect Costs			**$6,563,655**
Inflation Proofing		8%	$525,092
GRAND TOTAL with inflation proofing			**$7,088,748**

Closure Cost Estimate
User 3

Distance (ft)	Road Sheet Input	Source	From Elevation	Destination	To Elevation	Slope (%)
20,560	-0.03	E02	1,760	Drystack (N18)	2,460	-3.40
	0.00	In place		In place (cut/fill)		
973	0.00	N27 next to ponds	1,760	Mineralized rock storage (E02)	1,760	0.00
2,763	0.09	N08 Fuel island	1,760	1525 Portal	1,525	8.51
973	0.00	N27 next to ponds	1,760	N08	1,760	0.00
	0.00	General		In place (cut/fill)		
3,498	0.12	N27 next to ponds	1,760	E01	1,340	12.01
6,497	0.00	#6 access road	1,340	Material site 23	1,320	0.31
6,497	0.00	N27 next to ponds	1,760	In place	1,760	0.00
3,727	-0.05	Burn Pit	1,340	1525 Portal	1,525	-4.96
	0.00	#6 Road	1,340	Material site 23	1,320	
	0.00	General		General		
	0.00	#7 Road	1,380	Material site A	1,480	
	0.00	General		in place		
	0.00	#1 road (N13)	1,540	in place (cut/fill)		
4,788	0.05	N27 below mill bench	1,760	Access road #1 (N13)	1,540	4.59
	0.00	Mill bench (N14)		In place (cut/fill)		
	0.00	#1 road (N15)	1,540	In place (cut/fill)		
1,926	0.00	Mill bench (N16)	1,760	In place (cut/fill) (short haul)	1,760	0.00
5,464	0.09	N27 below RTP	2,020	Access road #1 (N13)	1,540	8.78
1,787	-0.01	N27 on Airstrip	1,340	Airstrip (N07)	1,360	-1.12
	0.00	1525 Portal bench (N01)	1,360	In place (cut/fill)	1,360	
5,691	0.00	N27 next to ponds	1,760	In place (cut/fill)	1,760	0.00
9,657	0.01	Material site A	1,480	Seepage Well	1,360	1.24
100	0.00	N27 below mill bench	1,760	In place	1,760	0.00
4,677	-0.03	Material site B	2,320	Drystack (N18)	2,460	-2.99
100	0.00	N27 below RTP dam	2,020	RTP dam	2,020	0.00
2,144	-0.03	N17 RTP dam	2,080	2150 Portal	2,150	-3.26
7,701	-0.06	N25 storm pond	1,720	2150 Portal	2,150	-5.58
7,701	-0.06	N25 storm pond	1,720	2150 Portal	2,150	-5.58
10,097	0.05	N27 below RTP dam	2,020	Material site A	1,480	5.35
4,172	-0.13	N27 below mill bench	1,760	Material site B	2,320	-13.42
100	0.00	N27 below RTP dam	2,020	Material site C	2,020	0.00
3,365	-0.01	1690 Portal (N10)	1,680	In place (cut/fill) (short haul) (N10)	1,700	-0.59
	0.00	N27 next to storm pond	1,720	1690 Portal (N10)	1,700	
100	0.00	N27 next to ORTW	1,360	ORTW (N31)	1,360	0.00
4,869	0.00	N32	1,920	Stilling Basin	1,920	0.00
1,129	0.09	N27 below RTP dam	2,020	Stilling Basin	1,920	8.86
	0.00	General		N18	2,460	
20,120	-0.03	E02	1,760	Drystack (N18)	2,460	-3.48
5,768	0.07	N27 next to ponds	1,760	E01	1,340	7.28
20,120	-0.03	E02	1,760	Drystack (N18)	2,460	-3.48
4,056	-0.06	N14 Mill Area	1,900	2150 Portal	2,150	-6.16
6,915	0.14	GM 16 and GM 17	2,280	#6 road	1,340	13.59

Closure Cost Estimate
User 4

Power Transmission Line

Crew	#	Unit labor ($/hr)	Unit equip. ($/hr)	Labor subtotal	Equip. subtotal
Truck	2	$ 88.93	$ 7.77	$ 177.86	$ 15.54
Dump truck (for disposal)	2	$ 85.37	$ 100.75	$ 170.74	$ 201.50
Electricians (A0702 in Pamphlet 600)	3	$ 76.88		$ 230.64	$ -
Electrician Foreman (A0705)	1	$ 95.43		$ 95.43	$ -
Chain saw (RSMeans 01 54 33 40 6100, adjusted)	1		$ 0.95		$ 0.95
Aerial Lift Truck (40-ft boom) (RSMeans 01 54 33 60 0120, adjusted)	1		$ 53.98	$ -	$ 53.98
				$ 674.67	**$ 271.97**

Demolition of Wood Pole Powerline			
12" Ponderosa Pine Poles treated	**Crew Hrs (per pole)**	**Labor ($/per pole)**	**Equip ($/per pole)**
"	2	$ 1,349.34	$ 543.94

Average interval of poles (ft): 800
Average number of poles per mile: 14

	Labor subtotal per mile	Equip. subtotal per mile	Total per mile	
Single pole demolition cost per mile:	$ 18,891	$ 7,615	$ 26,506	<-- into CDF, "Misc. Unit Costs" sheet
Double pole demolition cost per mile (proportioned with NV 2016 costs):	$ 21,589	$ 8,703	$ 30,292	<-- into CDF, "Misc. Unit Costs" sheet

Nevada Standard Powerline and Transformer Removal (August 2016)	Total (Nevada)
Single Pole Powerlines	$ 40,559
Double Pole Powerlines	$ 46,353

Source: "srce_cdf_1_12_std_2016.xlsm" from http://ndep.nv.gov/bmrr/cost.htm

Closure Cost Estimate
User 5

Water Treatment Cost

Water treatment costs ($/gal):	$ 0.00755	<-- Solution Mgmt sheet
Plant process rate (75M gal over 8 mths)	214.16	gpm
Maintenance costs included in the Water Treatment	$ -	$/month

2016 Costs	Mine Water Treatment Plant	RTP & RTP Pump Back	Storm Water	ORTW
Operating Costs:	$ 1,428,411.00	$ 10,004.00	$ 39,591.00	$ 699.00
Maintenance Costs:	$ 300,952.00	$ 20,913.00	$ 572.00	$ 119,089.00
Totals:	**$ 1,729,363.00**	**$ 30,917.00**	**$ 40,163.00**	**$ 119,788.00**

2016 Treatment	WTP to ORTW (gallons)
January	23,285,888
February	17,537,760
March	16,890,496
April	17,202,624
May	15,384,768
June	19,424,960
July	21,530,688
August	24,510,720
September	23,622,016
October	25,583,424
November	25,116,160
December	24,345,920
Total	**254,435,424**

2016 Cost Per Gallon:

Mine Water Treatment Plant
$ 0.00680 per gallon

+ RTP & RTP Pump Back
$ 0.00692 per gallon

+ Storm Water
$ 0.00708 per gallon

+ ORTW
$ 0.00755 per gallon

Source: Reclamation Water Treatment Plant Costs.xlsx; Joe Filla e-mail February 9, 2017

Closure Cost Estimate
User 6

Water Quality Monitoring

Phase II - Active Mining - Monitoring continues during 2-year holding period

General Description: Current sampling will be continued.

Current sampling program — Duration: 2 years

Item	Description	Analytical Profile	Cost (per sample)	# of monitoring locations	# samples per location per year	# samples per year	Total # of samples	# of hours per sample	Total hours	Sampling Cost
PWTP2	Potable water monthly	Profile 12c		1	12	12	24	2	48	
	Potable water bi-annual	Profile 12d		1	2	2	4	1	4	
	Potable water annual	Profile 12e		1	1	1	2	1	2	
PWTP3	Potable water monthly	Profile 12c		1	12	12	24	2	48	
	Potable water bi-annual	Profile 12d		1	2	2	4	1	4	
	Potable water annual	Profile 12e		1	1	1	2	1	2	
Effluent	Outfall 001 - weekly	Profile 10a		1	52	52	104	1	104	
	Outfall 001 - monthly	Profile 10b		1	12	12	24	1	24	
	Outfall 001 - annual	WET		1	1	1	2	1	2	
	NPDES 001b - monthly	Profile 10b		1	12	12	24	1	24	
	Outfall 011 - weekly	Profile 11a		1	52	52	104	1	104	
	Outfall 011 - quarterly	Profile 11b		1	4	4	8	1	8	
	Outfall 002 - weekly	Profile 12a		1	52	52	104	1	104	
	STP 002 - quarterly	Profile 12b		1	4	4	8	1	8	
Surface	SW01, SW41, SW42, SW15 (6/year)	Profile 13s		4	6	24	48	1	48	
	SW12 - annual	Profile 13s		1	1	1	2	1	2	
	Dry stack toe - 12/year	Profile 13s		1	12	12	24	1	24	
Wells	MW12-500, MW12-501, MW12-502 - quarterly	Profile 13g		3	4	12	24	3	72	
	MW04-213, MW11-216 - semi-annual	Profile 13g		2	2	4	8	3	24	
	MW11-001A, MW11-001B - quarterly	Profile 13g		2	4	8	16	3	48	
Biological	Fish tissue, SW01 , SW02 - annual	Profile 8		2	1	2	4	10	40	
TOTAL							**564**		**744**	

Phase III & IV - Closure & Water Treatment

General Description: WTP is operated for 10 years. Samples will be corrected by WTP operators.

Sampling Program — Duration: 10 years

Item	Description	Analytical Profile	Cost (per sample)	# of monitoring locations	# samples per location per year	# samples per year	Total # of samples	# of hours per sample	Total hours	Sampling Cost
PWTP2	Potable water monthly	Profile 12c		1	12	12	120	2	240	
	Potable water bi-annual	Profile 12d		1	2	2	20	1	20	
	Potable water annual	Profile 12e		1	1	1	10	1	10	
Effluent	Outfall 001 - weekly	Profile 10a		1	52	52	520	1	520	
	Outfall 001 - monthly	Profile 10b		1	12	12	120	1	120	
	Outfall 001 - annual	WET		1	1	1	10	1	10	
	NPDES 001b - monthly	Profile 10b		1	12	12	120	1	120	
	Outfall 011 - weekly	Profile 11a		1	52	52	520	1	520	
	Outfall 011 - quarterly	Profile 11b		1	4	4	40	1	40	
	Outfall 002 - weekly	Profile 12a		1	52	52	520	1	520	
	STP 002 - quarterly	Profile 12b		1	4	4	40	1	40	
Surface	Below dry stack, SW01, SW15 - monthly	Profile 13s		3	12	36	360	1	360	
Wells	MW12-500, MW12-501, MW12-502 - quarterly	Profile 13g		3	4	12	120	3	360	
	MW04-213, MW11-216 - semi-annual	Profile 13g		2	2	4	40	3	120	
	MW11-001A, MW11-001B - quarterly	Profile 13g		2	4	8	80	3	240	
Biological	Fish tissue, SW02 - annual	Profile 8		1	1	1	10	10	100	
TOTAL							**2650**		**3340**	

Closure Cost Estimate
User 6

Phase V - Post-Closure Monitoring

General Description: 7 annual monitoring events over a 30 year period after the end of water treatment activities

Sampling program — Duration: **30** years — **Sampling in Years 1, 2, 5, 10, 15, 20 and 30**

Item	Description	Analytical Profile	Cost (per sample)	# of monitoring locations	# samples per location per 30 years	Total # of samples	# of hours per sample	Total hours	Sampling Cost
Surface	Below dry stack, SW01, SW15 - 7 annual samples	Profile 13s		3	7	21	1	21	
Wells	MW12-500, MW12-501, MW12-502 - 7 annual	Profile 13g		3	7	21	3	63	
	MW04-213, MW11-216 - 7 annual samples	Profile 13g		2	7	14	3	42	
	MW11-001A, MW11-001B - 7 annual samples	Profile 13g		2	7	14	3	42	
TOTAL						**70**		**168**	

Total laboratory costs

	Number of Samples			
Analytical Suite	**2-yr holding**	**Phase III & IV**	**Phase V**	**Total # of samples**
Profile 8	4	10	0	14
Profile 10a	104	520	0	624
Profile 10b	48	240	0	288
Profile 11a	104	520	0	624
Profile 11b	8	40	0	48
Profile 12a	104	520	0	624
Profile 12b	8	40	0	48
Profile 12c	48	120	0	168
Profile 12d	8	20	0	28
Profile 12e	4	10	0	14
Profile 13s	74	360	21	455
Profile 13g	48	240	49	337
WET	2	10	0	12

Period	# years
HY	2
Phase III & IV	10
Phase V	7

Analytical Suite	$/sample
Profile 8	$ 5,828
Profile 10a	$ 78
Profile 10b	$ 164
Profile 11a	$ 75
Profile 11b	$ 198
Profile 12a	$ 123
Profile 12b	$ 63
Profile 12c	$ 105
Profile 12d	$ 35
Profile 12e	$ 1,075
Profile 13s	$ 475
Profile 13g	$ 405
WET	$ 1,500

Supplies ($/sample)	$	7.00	<-- Supplies in "Material Costs"
Courier ($/)	$	630.30	<--In "Reclamation Materials"
Sampler hourly rate ($/hr):	$	77.73	<--Field Tech in "Labor Rates"
Equipment hourly rate ($/hr):	$	7.77	<--Light Truck in "Equipment Costs"
Reporting ($/hr)	$	95.33	<-- Field Geo hourly rate from "Labor Rates"
Helicopter rate ($/trip):	$	3,276	<--Helicopter in "Reclamation Materials"
Pump cost ($/each)	$	2,827	<--In "Reclamation Materials"

Closure Cost Estimate
User 6

Period	Sampling Costs and Cost Schedule Suite	#years	# samples	# samplers	hours/ sample	Analysis Unit Cost	Lab Cost	Supply cost	Material Cost	Labor cost	Equipment cost	Subtotal
						$/sample	$	$	$	$	$	$
HY	Profile 8	2	4	1	10	$ 5,828	$ 23,312	$ 28	$ 23,340	$ 3,109	$ 311	$ 26,760
HY	Profile 10a	2	104	1	2	$ 78	$ 8,112	$ 728	$ 8,840	$ 16,168	$ 1,616	$ 26,624
HY	Profile 10b	2	48	1	2	$ 164	$ 7,872	$ 336	$ 8,208	$ 7,462	$ 746	$ 16,416
HY	Profile 11a	2	104	1	2	$ 75	$ 7,800	$ 728	$ 8,528	$ 16,168	$ 1,616	$ 26,312
HY	Profile 11b	2	8	1	2	$ 198	$ 1,584	$ 56	$ 1,640	$ 1,244	$ 124	$ 3,008
HY	Profile 12a	2	104	1	2	$ 123	$ 12,792	$ 728	$ 13,520	$ 16,168	$ 1,616	$ 31,304
HY	Profile 12b	2	8	1	1	$ 63	$ 504	$ 56	$ 560	$ 622	$ 62	$ 1,244
HY	Profile 12c	2	48	1	2	$ 105	$ 5,040	$ 336	$ 5,376	$ 7,462	$ 746	$ 13,584
HY	Profile 12d	2	8	1	2	$ 35	$ 280	$ 56	$ 336	$ 1,244	$ 124	$ 1,704
HY	Profile 12e	2	4	1	1	$ 1,075	$ 4,300	$ 28	$ 4,328	$ 311	$ 31	$ 4,670
HY	Profile 13s	2	74	1	1	$ 475	$ 35,150	$ 518	$ 35,668	$ 5,752	$ 575	$ 41,995
HY	Profile 13g	2	48	1	10	$ 405	$ 19,440	$ 336	$ 19,776	$ 37,310	$ 3,730	$ 60,816
HY	WET	2	2	1	10	$ 1,500	$ 3,000	$ 14	$ 3,014	$ 1,555	$ 155	$ 4,724
Phase III & IV	Profile 8	10	10	1	10	$ 5,828	$ 58,280	$ 70	$ 58,350	$ 7,773	$ 777	$ 66,900
Phase III & IV	Profile 10a	10	520	1	2	$ 78	$ 40,560	$ 3,640	$ 44,200	$ 80,839	$ 8,081	$ 133,120
Phase III & IV	Profile 10b	10	240	1	2	$ 164	$ 39,360	$ 1,680	$ 41,040	$ 37,310	$ 3,730	$ 82,080
Phase III & IV	Profile 11a	10	520	1	2	$ 75	$ 39,000	$ 3,640	$ 42,640	$ 80,839	$ 8,081	$ 131,560
Phase III & IV	Profile 11b	10	40	1	2	$ 198	$ 7,920	$ 280	$ 8,200	$ 6,218	$ 622	$ 15,040
Phase III & IV	Profile 12a	10	520	1	2	$ 123	$ 63,960	$ 3,640	$ 67,600	$ 80,839	$ 8,081	$ 156,520
Phase III & IV	Profile 12b	10	40	1	1	$ 63	$ 2,520	$ 280	$ 2,800	$ 3,109	$ 311	$ 6,220
Phase III & IV	Profile 12c	10	120	1	2	$ 105	$ 12,600	$ 840	$ 13,440	$ 18,655	$ 1,865	$ 33,960
Phase III & IV	Profile 12d	10	20	1	2	$ 35	$ 700	$ 140	$ 840	$ 3,109	$ 311	$ 4,260
Phase III & IV	Profile 12e	10	10	1	1	$ 1,075	$ 10,750	$ 70	$ 10,820	$ 777	$ 78	$ 11,675
Phase III & IV	Profile 13s	10	360	1	1	$ 475	$ 171,000	$ 2,520	$ 173,520	$ 27,983	$ 2,797	$ 204,300
Phase III & IV	Profile 13g	10	240	1	10	$ 405	$ 97,200	$ 1,680	$ 98,880	$ 186,552	$ 18,648	$ 304,080
Phase V	Profile 13s	7	21	2	1	$ 475	$ 9,975	$ 147	$ 10,122	$ 3,265	$ 163	$ 13,550
Phase V	Profile 13g	7	49	2	10	$ 405	$ 19,845	$ 343	$ 20,188	$ 76,175	$ 3,807	$ 100,171
		#years	# /year									
HY	Reporting	2	1	1	24					$ 4,576		$ 4,576
Phase III & IV	Reporting	10	1	1	24					$ 22,879		$ 22,879
Phase V	Reporting	7	1	1	24					$ 16,015		$ 16,015
HY	Courier - Holding	2	52						$ 65,551			$ 65,551
Phase III & IV	Courier - Phase III & IV	10	6.2						$ 39,079			$ 39,079
Phase V	Courier - Phase V	7	1						$ 4,412			$ 4,412
HY	Helicopter - Holding	2	6								$ 39,312	$ 39,312
Phase III & IV	Helicopter - Phase III & IV	10	6								$ 196,560	$ 196,560
Phase V	Helicopter - Phase V	7	1								$ 22,932	$ 22,932
HY	Pump replacement costs	2	1								$ 5,654	$ 5,654
Phase III & IV	Pump replacement costs	10	1								$ 28,270	$ 28,270
Phase V	Pump replacement costs	7	1								$ 19,789.00	$ 19,789
									$ 834,816	$ 771,490	$ 381,320	$ 1,987,626

Closure Cost Estimate
User 6

Period	Sampling Costs and Cost Schedule Suite	$/year	HY-1	HY-2	P4W-1	P4W-2	P4W-3	P4W-4	P4W-5	P4W-6	P4W-7	P4W-8	P4W-9	P4W-10
HY	Profile 8	$ 13,380.00	$ 13,380	$ 13,380										
HY	Profile 10a	$ 13,312.00	$ 13,312	$ 13,312										
HY	Profile 10b	$ 8,208.00	$ 8,208	$ 8,208										
HY	Profile 11a	$ 13,156.00	$ 13,156	$ 13,156										
HY	Profile 11b	$ 1,504.00	$ 1,504	$ 1,504										
HY	Profile 12a	$ 15,652.00	$ 15,652	$ 15,652										
HY	Profile 12b	$ 622.00	$ 622	$ 622										
HY	Profile 12c	$ 6,792.00	$ 6,792	$ 6,792										
HY	Profile 12d	$ 852.00	$ 852	$ 852										
HY	Profile 12e	$ 2,335.00	$ 2,335	$ 2,335										
HY	Profile 13s	$ 20,997.50	$ 20,998	$ 20,998										
HY	Profile 13g	$ 30,408.00	$ 30,408	$ 30,408										
HY	WET	$ 2,362.00	$ 2,362	$ 2,362										
Phase III & IV	Profile 8	$ 6,690.00			$ 6,690	$ 6,690	$ 6,690	$ 6,690	$ 6,690	$ 6,690	$ 6,690	$ 6,690	$ 6,690	$ 6,690
Phase III & IV	Profile 10a	$ 13,312.00			$ 13,312	$ 13,312	$ 13,312	$ 13,312	$ 13,312	$ 13,312	$ 13,312	$ 13,312	$ 13,312	$ 13,312
Phase III & IV	Profile 10b	$ 8,208.00			$ 8,208	$ 8,208	$ 8,208	$ 8,208	$ 8,208	$ 8,208	$ 8,208	$ 8,208	$ 8,208	$ 8,208
Phase III & IV	Profile 11a	$ 13,156.00			$ 13,156	$ 13,156	$ 13,156	$ 13,156	$ 13,156	$ 13,156	$ 13,156	$ 13,156	$ 13,156	$ 13,156
Phase III & IV	Profile 11b	$ 1,504.00			$ 1,504	$ 1,504	$ 1,504	$ 1,504	$ 1,504	$ 1,504	$ 1,504	$ 1,504	$ 1,504	$ 1,504
Phase III & IV	Profile 12a	$ 15,652.00			$ 15,652	$ 15,652	$ 15,652	$ 15,652	$ 15,652	$ 15,652	$ 15,652	$ 15,652	$ 15,652	$ 15,652
Phase III & IV	Profile 12b	$ 622.00			$ 622	$ 622	$ 622	$ 622	$ 622	$ 622	$ 622	$ 622	$ 622	$ 622
Phase III & IV	Profile 12c	$ 3,396.00			$ 3,396	$ 3,396	$ 3,396	$ 3,396	$ 3,396	$ 3,396	$ 3,396	$ 3,396	$ 3,396	$ 3,396
Phase III & IV	Profile 12d	$ 426.00			$ 426	$ 426	$ 426	$ 426	$ 426	$ 426	$ 426	$ 426	$ 426	$ 426
Phase III & IV	Profile 12e	$ 1,167.50			$ 1,168	$ 1,168	$ 1,168	$ 1,168	$ 1,168	$ 1,168	$ 1,168	$ 1,168	$ 1,168	$ 1,168
Phase III & IV	Profile 13s	$ 20,430.00			$ 20,430	$ 20,430	$ 20,430	$ 20,430	$ 20,430	$ 20,430	$ 20,430	$ 20,430	$ 20,430	$ 20,430
Phase III & IV	Profile 13g	$ 30,408.00			$ 30,408	$ 30,408	$ 30,408	$ 30,408	$ 30,408	$ 30,408	$ 30,408	$ 30,408	$ 30,408	$ 30,408
Phase V	Profile 13s	$ 1,935.69												
Phase V	Profile 13g	$ 14,310.10												
HY	Reporting	$ 2,287.92	$ 2,288	$ 2,288										
Phase III & IV	Reporting	$ 2,287.92			$ 2,288	$ 2,288	$ 2,288	$ 2,288	$ 2,288	$ 2,288	$ 2,288	$ 2,288	$ 2,288	$ 2,288
Phase V	Reporting	$ 2,287.92												
HY	Courier - Holding	$ 32,775.60	$ 32,776	$ 32,776										
Phase III & IV	Courier - Phase III & IV	$ 3,907.86			$ 3,908	$ 3,908	$ 3,908	$ 3,908	$ 3,908	$ 3,908	$ 3,908	$ 3,908	$ 3,908	$ 3,908
Phase V	Courier - Phase V	$ 630.30												
HY	Helicopter - Holding	$ 19,656.00	$ 19,656	$ 19,656										
Phase III & IV	Helicopter - Phase III & IV	$ 19,656.00			$ 19,656	$ 19,656	$ 19,656	$ 19,656	$ 19,656	$ 19,656	$ 19,656	$ 19,656	$ 19,656	$ 19,656
Phase V	Helicopter - Phase V	$ 3,276.00												
HY	Pump replacement costs	$ 2,827.00	$ 2,827	$ 2,827										
Phase III & IV	Pump replacement costs	$ 2,827.00			$ 2,827	$ 2,827	$ 2,827	$ 2,827	$ 2,827	$ 2,827	$ 2,827	$ 2,827	$ 2,827	$ 2,827
Phase V	Pump replacement costs	$ 2,827.00												
			$ 187,127	$ 187,127	$ 143,650	$ 143,650	$ 143,650	$ 143,650	$ 143,650	$ 143,650	$ 143,650	$ 143,650	$ 143,650	$ 143,650

Closure Cost Estimate
User 6

Period	Sampling Costs and Cost Schedule Suite	P5-1	P5-2	P5-3	P5-4	P5-5	P5-6	P5-7	P5-8	P5-9	P5-10	P5-11	P5-12	P5-13	P5-14	P5-15
HY	Profile 8															
HY	Profile 10a															
HY	Profile 10b															
HY	Profile 11a															
HY	Profile 11b															
HY	Profile 12a															
HY	Profile 12b															
HY	Profile 12c															
HY	Profile 12d															
HY	Profile 12e															
HY	Profile 13s															
HY	Profile 13g															
HY	WET															
Phase III & IV	Profile 8															
Phase III & IV	Profile 10a															
Phase III & IV	Profile 10b															
Phase III & IV	Profile 11a															
Phase III & IV	Profile 11b															
Phase III & IV	Profile 12a															
Phase III & IV	Profile 12b															
Phase III & IV	Profile 12c															
Phase III & IV	Profile 12d															
Phase III & IV	Profile 12e															
Phase III & IV	Profile 13s															
Phase III & IV	Profile 13g															
Phase V	Profile 13s	$ 1,936	$ 1,936			$ 1,936					$ 1,936					$ 1,936
Phase V	Profile 13g	$ 14,310	$ 14,310			$ 14,310					$ 14,310					$ 14,310
HY	Reporting															
Phase III & IV	Reporting															
Phase V	Reporting	$ 2,288	$ 2,288			$ 2,288					$ 2,288					$ 2,288
HY	Courier - Holding															
Phase III & IV	Courier - Phase III & IV															
Phase V	Courier - Phase V	$ 630	$ 630			$ 630					$ 630					$ 630
HY	Helicopter - Holding															
Phase III & IV	Helicopter - Phase III & IV															
Phase V	Helicopter - Phase V	$ 3,276	$ 3,276			$ 3,276					$ 3,276					$ 3,276
HY	Pump replacement costs															
Phase III & IV	Pump replacement costs															
Phase V	Pump replacement costs	$ 2,827	$ 2,827			$ 2,827					$ 2,827					$ 2,827
		$ 25,267	$ 25,267	$ -	$ -	$ 25,267	$ -	$ -	$ -	$ -	$ 25,267	$ -	$ -	$ -	$ -	$ 25,267

Closure Cost Estimate
User 6

Period	Sampling Costs and Cost Schedule Suite	P5-16	P5-17	P5-18	P5-19	P5-20	P5-21	P5-22	P5-23	P5-24	P5-25	P5-26	P5-27	P5-28	P5-29	P5-30
HY	Profile 8															
HY	Profile 10a															
HY	Profile 10b															
HY	Profile 11a															
HY	Profile 11b															
HY	Profile 12a															
HY	Profile 12b															
HY	Profile 12c															
HY	Profile 12d															
HY	Profile 12e															
HY	Profile 13s															
HY	Profile 13g															
HY	WET															
Phase III & IV	Profile 8															
Phase III & IV	Profile 10a															
Phase III & IV	Profile 10b															
Phase III & IV	Profile 11a															
Phase III & IV	Profile 11b															
Phase III & IV	Profile 12a															
Phase III & IV	Profile 12b															
Phase III & IV	Profile 12c															
Phase III & IV	Profile 12d															
Phase III & IV	Profile 12e															
Phase III & IV	Profile 13s															
Phase III & IV	Profile 13g															
Phase V	Profile 13s					$ 1,936										$ 1,936
Phase V	Profile 13g					$ 14,310										$ 14,310
HY	Reporting															
Phase III & IV	Reporting															
Phase V	Reporting					$ 2,288										$ 2,288
HY	Courier - Holding															
Phase III & IV	Courier - Phase III & IV															
Phase V	Courier - Phase V					$ 630										$ 630
HY	Helicopter - Holding															
Phase III & IV	Helicopter - Phase III & IV															
Phase V	Helicopter - Phase V					$ 3,276										$ 3,276
HY	Pump replacement costs															
Phase III & IV	Pump replacement costs															
Phase V	Pump replacement costs					$ 2,827										$ 2,827
		$ -	$ -	$ -	$ -	$ 25,267	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,267

Closure Cost Estimate
User 7

Portals Plug Construction Costs Calculations

From "Appendix H Cost Estimate for Plug Construction.pdf"
Historic cost indices from "https://www.rsmeansonline.com/references/unit/refpdf/hci.pdf"

Summary	Materials	Labor	Equipment	subtotal
1525 Portal	$ 61,902	$ 20,371	$ 42,739	$ 125,012
1690 Portal	$ 67,841	$ 7,173	$ 18,610	$ 93,624
1875 Portal	$ 62,232	$ 20,371	$ 11,085	$ 93,688
2150 Portal - see "Underground Openings"	$ -	$ -	$ -	$ -
Total for 2013	$ 191,975	$ 47,915	$ 72,434	$ 312,324
Total adjusted for current year from 2013 (100/96.5):	**$ 198,938**	**$ 49,653**	**$ 75,061**	**$ 323,652**

<--Other User

1525 Portal	Materials	Labor	Equipment	subtotal
Bulkhead	$ 11,015	$ 15,267	$ 34,397	$ 60,679
Concrete Pour	$ 50,006	$ 1,304	$ 894	$ 52,204
Grouting	$ 881	$ 3,800	$ 7,448	$ 12,129
	$ 61,902	$ 20,371	$ 42,739	$ 125,012

1690 Portal	Materials	Labor	Equipment	subtotal
Bulkhead	$ 11,912	$ 1,609	$ 9,415	$ 22,936
Concrete Pour	$ 54,993	$ 1,304	$ 980	$ 57,277
Grouting	$ 936	$ 4,260	$ 8,215	$ 13,411
	$ 67,841	$ 7,173	$ 18,610	$ 93,624

1875 Portal	Materials	Labor	Equipment	subtotal
Bulkhead	$ 11,015	$ 15,267	$ 7,515	$ 33,797
Concrete Pour	$ 50,006	$ 1,304	$ 894	$ 52,204
Grouting	$ 1,211	$ 3,800	$ 2,676	$ 7,687
	$ 62,232	$ 20,371	$ 11,085	$ 93,688

Closure Cost Estimate
User 9

Sludge Disposal Quantity

	Unit		Comment
Sludge Generation Rate	ft3/1000 gallon	0.2	WTP#2 generated 1200 ft3 of sludge within 30 days by treating 142 gpm water.
	cy/1000 gallon	0.01	
Water Treatment Rate at Phase IV	gpm	214.16	
Sludge Generation Rate	cy/month	93	
Total sludge generated	cy	9486	<-- Waste Disposal

Approximate dimensions of landfill:
(from Process Ponds sheet)

Length (ft):	200	from "Process Ponds"
Width (ft):	140	from "Process Ponds"
Depth (ft):	15	from "Process Ponds"
Sideslope (__H:1V):	3	from "Process Ponds"

Internal area (sf)

Bottom length (ft):	110
Bottom width (ft):	50
Bottom area (sf):	5500

Long sides (sf)

Average length (ft):	155
Slope height of long side (ft):	47
Long side area (sf):	7285

Short sides (sf)

Average width (ft):	95
Slope height of short side (ft):	47
Short side area (sf):	4465

Total liner area (sf):	**17250**	<-- Other User

Estimate of Earthworks Equipment to be Mobilized

*****Print version - for details of calculations, please refer to electronic version of file.*****

In the below tables, Part A reflects the items of major earthworks sheets in the spreadsheet.
Part B summarizes duration estimated through the number of fleets assigned in Table 1.
Part C calculates how many of each piece of equipment is required. For every SRCE tab, a max number of each type of equipment is summarized.
This estimate in Part C also feeds back into Table 1, where duration is estimated.
Part D takes the maximum of each type of equipment in Part C.
Part E handles building demolition equipment with approach separate from Parts A-D.
Table 2 sums up the numbers of pieces of equipment per fleet type in Part D and Part E.
Table 2 also lists mob/demob cost per unit equipment (with sources). This then links to Other User.

Table 1 - Summary of # of Fleets

Activity	Fleet/Crew Name	Fleet Designation	Default # fleets	Duration (mo.)	Fleet elements	Part Estimated In
Grading	Small Dozer Fleet	D7R	8	6	D7R	D
Grading	Medium Dozer Fleet	D8R	1	0	D8R	D
Grading	Large Dozer Fleet	D10R	1	-	D10R	D
Hauling	Small Truck/Loader Fleet	725/966G	1	-	725/966G/D6R	D
Hauling	Medium Truck/Loader Fleet	740/988G	1	3	740/988G/D7R	D
Hauling	Large Truck/Loader Fleet	740/988G	1	3	740/988G/D8R	D
Hauling	Extra Large Truck/Loader Fleet	785C/992G	1	-	785C/992G/D11R	D
Hauling	Scraper/Dozer Fleet	Scraper Dozer	1	-	631G/D10R/D7R	D
Hauling	Tandem Scraper Fleet	Tandem Scraper	1	-	637G/D7R	D
Building Demolition	B-8 - Large Building Demolition	B-8	3	6	28G/20 Ton Crane/Dump Truc	E
Slab demolition	Large - Cat 385B Excavator w/ H180D s	385BL	1	1	385BL/H-180/D9R	E
Excavation	Small Excavator	325C	1	-	325C	D
Excavation	Medium Excavator	345B	1	4	345B	D
Excavation	Large Excavator	385BL	1	-	385BL	D

Table 2 - Summary of # of Equipment

Equipment	#	Source of #	From Part E	Subtotal	Unit Mob-demob cost	Source of mob-demob cost	Subtotal mob-demob cost
D6R		Part D		0	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	
D7R	9	Part D		9	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	$ 21,600
D8R	2	Part D		2	$ 6,000	equipmentrates_20161025.xlsx from NC machinery	$ 12,000
D9R		Part D	1	1	$ 7,500	equipmentrates_20161025.xlsx from NC machinery	$ 7,500
D10R		Part D		0	$ 8,500	equipmentrates_20161025.xlsx from NC machinery	
D11R		Part D		0	$ 10,000	equipmentrates_20161025.xlsx from NC machinery	
120H				0	$ 3,250	assume same as 14G/H	
14G/H	1	based on Constr. Mgmt		1	$ 3,250	equipmentrates_20161025.xlsx from NC machinery	$ 3,250
16G/H				0	$ 4,400	equipmentrates_20161025.xlsx from NC machinery	
24M				0			
312C		Part D		0	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	
320C		Part D		0	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	
325C		Part D		0	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	
330C		Part D		0	$ 3,500	equipmentrates_20161025.xlsx from NC machinery	
345B	1	Part D		1	$ 5,000	equipmentrates_20161025.xlsx from NC machinery	$ 5,000
365BL		Part D		0	$ 7,000	equipmentrates_20161025.xlsx from NC machinery	
385BL		Part D	1	1	$ 10,500	equipmentrates_20161025.xlsx from NC machinery	$ 10,500
631G		Part D		0			
637G		Part D		0			
924G		Part D		0	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	
928G		Part D	1	1	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	$ 2,400
950G		Part D		0	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	
966G		Part D		0	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	
972G		Part D		0	$ 3,750	equipmentrates_20161025.xlsx from NC machinery	
980G		Part D		0	$ 4,600	equipmentrates_20161025.xlsx from NC machinery	
988G	2	Part D		2	$ 8,000	equipmentrates_20161025.xlsx from NC machinery	$ 16,000
990		Part D		0			
992G		Part D		0			
994D		Part D		0			
L2350		Part D		0			
PC2000		Part D		0			
PC3000		Part D		0			
PC4000		Part D		0			
PC5500		Part D		0			
PC8000		Part D		0			
H-120 (fits 325)				0	$ 1,800	equipmentrates_20161025.xlsx from NC machinery	
H-160 (fits 345)	1	per excavator above		1	$ 1,800	equipmentrates_20161025.xlsx from NC machinery	$ 1,800
H-180 (fits 365/385)			1	1	$ 1,800	equipmentrates_20161025.xlsx from NC machinery	$ 1,800
420D 4WD Backhoe	1	Assume for miscellaneous work.		1	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	$ 2,400
428D 4WD Backhoe				0			
CS533E Vibratory Roller	1	Assume for miscellaneous work.		1	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	$ 2,400
CS633E Vibratory Roller				0			
CP533E Sheepsfoot Compactor				0	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	
CP633E Sheepsfoot Compactor				0	$ 2,400	equipmentrates_20161025.xlsx from NC machinery	
Light Truck - 1.5 Ton	2	Assume for closure management.		2	$ 2,400	Assume as small dozers, excavators, trucks, etc.	$ 4,800
Supervisor's Truck	2	Assume for closure management.		2	$ 2,400	Assume as small dozers, excavators, trucks, etc.	$ 4,800
Flatbed Truck				0	$ 2,400	Assume as small dozers, excavators, trucks, etc.	
Air Compressor + tools	1			1	$ 2,400	Assume as small dozers, excavators, trucks, etc.	$ 2,400
Welding Equipment	1			1	$ 2,400	Assume as small dozers, excavators, trucks, etc.	$ 2,400
Heavy Duty Drill Rig				0	$ 2,400	Assume as small dozers, excavators, trucks, etc.	
Pump (plugging) Drill Rig	1	Assume for wells.		1	$ 2,400	Assume as small dozers, excavators, trucks, etc.	$ 2,400
Concrete Pump	1	Assume for wells.		1	$ 2,400	Assume as small dozers, excavators, trucks, etc.	$ 2,400
Gas Engine Vibrator				0	$ 2,400	Assume as small dozers, excavators, trucks, etc.	
Generator 5KW	1	Assume for closure management.		1	$ 2,400	Assume as small dozers, excavators, trucks, etc.	$ 2,400
HDEP Welder (pipe or line	1	Assume for closure management.		1	$ 2,400	Assume as small dozers, excavators, trucks, etc.	$ 2,400
5 Ton Crane	1	Assume for closure management.		1	$ 2,400	Assume as small dozers, excavators, trucks, etc.	$ 2,400
20 Ton Crane			3	3	$ 2,400	Assume as small dozers, excavators, trucks, etc.	$ 7,200
50 Ton Crane				0	$ 2,400	Assume as small dozers, excavators, trucks, etc.	
120 Ton Crane				0	$ 2,400	Assume as small dozers, excavators, trucks, etc.	
725		Part D		0			
730		Part D		0	$ 3,500	equipmentrates_20161025.xlsx from NC machinery	
735		Part D		0	$ 3,800	equipmentrates_20161025.xlsx from NC machinery	
740	10	Part D		10	$ 5,000	equipmentrates_20161025.xlsx from NC machinery	$ 50,000
769D		Part D		0			
773E		Part D		0			
777D		Part D		0			
785C		Part D		0			
793C		Part D		0			
797B		Part D		0			
613E (5,000 gal) Water Wa	1			1	$ 5,000	assume as trucks	$ 5,000
621E (8,000 gal) Water Wagon				0			
777D Water Truck				0			
785C Water Truck				0			
Dump Truck (10-12 yd3)			6	6	$ 2,400	Assume as small dozers, excavators, trucks, etc.	$ 14,400
						Other User equipment mob/demob cost. --->	**$ 189,650**

Closure Cost Estimate
User 14

ROW Project Haul Distances and Slopes

			Segment							
			1		2		3		4	
			Distance	Slope	Distance	Slope	Distance	Slope	Distance	Slope
			2640	0	3000	1	2500	-7	1000	0
R.001	Remove fill from wetlands from section 1	Load, haul, dump, place	x							
R.002	Remove fill from wetlands from section 2	Load, haul, dump, place			x					
R.003	general	Ripping/scarifying								
R.004	Remove fill from wetlands from section 3	Load, haul, dump, place					x			
R.005	general	Ripping/scarifying								
R.006	general excavator reshaping/culvert removal	Reshaping (cut/fill)								
R.007	Reshape repeater road	Load, haul, dump, place							x	
R.008	Remove fill from wetlands from Transmission line area	Load, haul, dump, place							x	
R.009	Remove culvert and restore drainage	Load, haul, dump, place							x	
R.010	reshape embankment cut/fill for 3:1 cross slope	General cut/fill								

Closure Cost Estimate
User 16

Labor Rates and Camp Costs (refer to CDF)

Overtime Percentage
0.2516

Labor Rates

Group	Description	BHR	H&W	PEN	TRN	L&M	LEG	OT	Total	Formula
A0301	Carpenter (journeyman)	38.34	9.78	14.56	0.7	0.1	0.15	9.65	73.28	=38.34+(9.78+14.56+0.7+0.1+0.15)+38.34x0.2516
A0702	Electrical technician	39.49	12.9	13.25	0.95	0.2	0.15	9.94	76.88	=39.49+(12.9+13.25+0.95+0.2+0.15)+39.49x0.2516
A0705	Power journeyman lineman	50.52	12.19	18.71	0.95	0.2	0.15	12.71	95.43	=50.52+(12.19+18.71+0.95+0.2+0.15)+50.52x0.2516
A1601	Power Equipment Operators, Group I	40.03	9.95	11.05	1	0.1	0	10.07	72.2	=40.03+(9.95+11.05+1+0.1+0)+40.03x0.2516
A1602	Power Equipment Operators, Group IA	41.79	9.95	11.05	1	0.1	0	10.51	74.4	=41.79+(9.95+11.05+1+0.1+0)+41.79x0.2516
A1604	Power Equipment Operators, Group III	38.54	9.95	11.05	1	0.1	0	9.7	70.34	=38.54+(9.95+11.05+1+0.1+0)+38.54x0.2516
A2005	Stake hop/grademan	35.57	10.58	10.39	1.35	0.1	0	8.95	66.94	=35.57+(10.58+10.39+1.35+0.1+0)+35.57x0.2516
A2101	Truck Drivers, Group I	39.59	10.58	10.39	1.35	0.1	0	9.96	71.97	=39.59+(10.58+10.39+1.35+0.1+0)+39.59x0.2516
A2102	Truck Drivers, Group IA	40.86	10.58	10.39	1.35	0.1	0	10.28	73.56	=40.86+(10.58+10.39+1.35+0.1+0)+40.86x0.2516
A2105	Truck Drivers, Group IV	36.93	10.58	10.39	1.35	0.1	0	9.29	68.64	=36.93+(10.58+10.39+1.35+0.1+0)+36.93x0.2516
N0401	Cement Mason, Group I	37.5	7.43	11.8	1.18	0.1	0	9.44	67.45	=37.5+(7.43+11.8+1.18+0.1+0)+37.5x0.2516
N1201	Laborers, Group I	30	7.71	17.06	1.2	0.2	0.2	7.55	63.92	=30+(7.71+17.06+1.2+0.2+0.2)+30x0.2516
N1203	Laborers, Group III	31.9	7.71	17.06	1.2	0.2	0.2	8.03	66.3	=31.9+(7.71+17.06+1.2+0.2+0.2)+31.9x0.2516
N1501	Journeyman pipefitter	40.81	8.25	14.6	1.25	1.1		10.27	76.28	=40.81+(8.25+14.6+1.25+1.1+)+40.81x0.2516
N2204	Tunnel Workers, Group IIIA	38.7	7.71	17.06	1.2	0.2	0.2	9.74	74.81	=38.7+(7.71+17.06+1.2+0.2+0.2)+38.7x0.2516

BHR	Basic Hourly Rate
H&W	Health and Welfare
PEN	Pension
TRN	Training
L&M	Labor/Management Fund
LEG	Legal Fund
OT	Overtime (OT) (OT = BHR x 25.16%)

	Page in Pamphlet 600 (Sep 1, 2016)
Carpenter (journeyman)	14
Group I	28
Group IA	30
Group III	30
Truck Drivers, Group I	33
Truck Drivers, Group IA	34
Truck Drivers, Group IV	35
Cement Mason, Group I	14
Laborers, Group I	20
Laborers, Group III	21
Tunnel Workers, Group IIIA	37

Closure Cost Estimate
User 16

Camp Costs

Date: January 23, 2017
To: Karena Carpenter, SRK Consulting
From: Ron Norman, Taiga Ventures
RE: Camp Proposal

Camp Equipment Rental Rate for 30 Day Minimum: $62,274.00	-->	$	62,274	<-- roll up into per-person camp costs
Camp equipment rental after 30 day minimum $1,900.00/day				
One-Time Charges: $134,338.00	-->	$	134,338	<-- Other User
Field Labor: $147,020.00	-->	$	147,020	<-- roll up into per-person camp costs
Total: $343,632.00				

Per-person camp costs:

Per month:		
Equipment	$	62,274
Field labor	$	147,020
subtotal	$	209,294
Per day:		
camp cost per day:	$	6,881
average # laborers:		44
camp cost per day per pers	$	156.39
Per hour:		
Hours per day:		11.5
camp cost per hour:	$	13.60

Meals (per pamphlet 600)

Per day:		
Meal cost per person per da	$	36
Hours per day:		11.5
meal cost per hour:	$	3.13
Sum of camp costs and mea	$	16.73 <-- CDF zone adjustment

Appendix B: Pogo Cost Data File & Rates Information

Format Version:	***SRCE Data File v1.12***
File Name:	***Pogo_CDF_147900_150_FNL_20170214.xlsm***
Date:	***February 8, 2017***
Cost Type:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

Units of Measure:	**Imperial**

No. of Bases/Regions:	3

Basis/Region	Basis/Region Name	Basis/Region Description
Basis 1	***do not use (2012)***	2012 equipment rental and operation rates adjusted for Central AK region, http://www.equipmentwatch.com
Basis 2	***do not use***	
Basis 3	***Pogo Bond 2017***	Equipment rental; Alaska Pamphlet 600 labor.
Basis 4		
Basis 5		
Basis 6		
Basis 7		
Basis 8		
Basis 9		
Basis 10		
Basis 11		
Basis 12		
Basis 13		
Basis 14		
Basis 15		

Equipment Costs

File Name:	***Pogo_CDF_147900_150_FNL_20170214.x***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

Monthly Rental Basis (operating hrs/ period)	***200***		***200***	

MONTHLY EQUIPMENT RATE TABLE [Cost Per Month] (1)

EQUIPMENT TYPE (2)	Basis 1	Basis 2	Basis 3	Basis 4
	do not use (2012)	***do not use***	***Pogo Bond 2017***	
Bulldozers				
D6R	$11,211		$14,000	NC
D6R w/ Winch	$11,211		$15,000	NC
D7R	$15,999		$16,500	NC
D8R	$22,914		$21,000	NC
D9R	$29,953		$31,000	NC
D10R	$38,944		$36,000	NC
D11R	$53,509		$39,500	NC
Wheeled Dozers				
824G	-		do not use	
834G	-		do not use	
844	-		do not use	
854G	$39,162		do not use	
Motor Graders				
120H	$5,481		$11,475	0.9 of neighbour
14G/H	$11,000		$12,750	NC
16G/H	$17,202		$34,000	NC
24M	$24,000		$37,400	1.1 of neighbour
Track Excavators				
312C	$5,943		$6,500	NC
320C	$8,159		$8,500	NC
325C	$11,000		$11,000	NC
330C	$13,154		$13,500	NC
345B	$21,063		$17,500	NC
365BL	$25,969		$24,000	NC
385BL	$36,012		$31,000	NC
Scrapers				
631G	$29,429		do not use	
637G PP	$39,804		do not use	
Wheeled Loaders				
924G	$4,982		$4,620	NC
928G	$4,502		$6,050	NC
950G	$7,519		$8,250	NC
966G	$11,086		$12,000	NC
972G	$11,510		$14,900	NC
980G	$13,636		$18,250	NC
988G	$24,105		$29,500	NC
990	$33,257		do not use	
992G	$42,024		do not use	
994D	-		do not use	
L-2350	$103,782		do not use	
Shovels				
KOM PC2000	$45,285		do not use	
KOM PC3000	$37,642		do not use	
KOM PC4000	-		do not use	
KOM PC5500	-		do not use	
KOM PC8000	-		do not use	
Hydraulic Hammers				
H-120 (fits 325)	$6,900		$8,550	NC
H-160 (fits 345)	$9,500		$9,800	NC
H-180 (fits 365/385)	$10,450		$11,200	NC prorated
Demolition Shears				
S340 (fits 322/325/330)	$3,537		do not use	
S365 (fits 330/345)	-		do not use	
S390 (fits 365/385)	$5,712		do not use	
Demolition Grapples				
G315 (fits 322/325)	$3,537		do not use	
G320 (fits 325/330)	-		do not use	
G330 (fits 345/365)	$5,712		do not use	

Equipment Costs

File Name:	***Pogo_CDF_147900_150_FNL_20170214.x***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

Monthly Rental Basis (operating hrs/ period)	***200***		***200***	
Other Equipment				
420D 4WD Backhoe	$4,177		$3,750	NC
428D 4WD Backhoe	$8,355		$4,922	proportion with NV
CS533E Vibratory Roller	$4,880			01 54 3320 3350
CS663E Vibratory Roller	$5,836			1.1 of neighbour
CP533E Sheepsfoot Compactor	$6,000		$7,500	NC
CP663E Sheepsfoot Compactor	$6,057		$8,450	NC
Light Truck - 1.5 Ton	$1,395		$720	01 54 3320 5450
Supervisor's Truck	$998		$772	01 54 3340 7200
Flatbed Truck	$1,865		$720	01 54 3320 5450
Air Compressor + tools	$5,505		$1,337	01 54 3340 0400 + 09
Welding Equipment	$625		$260	01 54 3340 8000
Heavy Duty Drill Rig	$54,490		$7,336	02 41 1376 1000
Pump (plugging) Drill Rig	$54,490		$7,336	02 41 1376 1000
Concrete Pump	$19,689		$7,800	01 54 3310 2120
Gas Engine Vibrator	$225		$168	01 54 3310 3000
Generator 5KW	$263		$161	01 54 3340 2200
HDEP Welder (pipe or liner)	$8,765		$5,148	01 54 3340 1690
5 Ton Crane	$1,458		$2,369	01 54 3360 2800
20 Ton Crane	$6,369		$6,611	01 54 3360 2500
50 Ton Crane	$17,118		$6,611	01 54 3360 2500
120 Ton Crane	$25,926		$7,272	1.1 of neighbour
Trucks				
725 (articulated)	$12,138		$16,200	.9 of neighbour
730 (articulated)	$12,740		$18,000	NC
735 (articulated)	$14,586		$19,000	NC
740 (articulated)	$16,277		$22,000	NC
769D	$15,645		do not use	
773E	$18,989		do not use	
777D	$25,341		do not use	
785C	$19,314		do not use	
793C	$47,190		do not use	
797B	$51,909		do not use	
613E (5,000 gal) Water Wagon	$6,436		$7,020	NV*1.17
621E (8,000 gal) Water Wagon	$16,108		$12,870	NV*1.17
777D Water Truck	$25,341		do not use	
785C Water Truck	$19,314		do not use	
Dump Truck (10-12 yd^3) (5)	$11,786		$17,220	NV*1.17

NOTES:

(1) Power Equipment Source:				
(2) Power Equipment Type:	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels
(3) Drilliing Equipment Source:				
(4) Other Equipment Source:				

PREVENTATIVE MAINTENANCE COST [Cost Per Hour] (1)

EQUIPMENT TYPE	Basis 1	Basis 2	Basis 3	Basis 4
	do not use (2012)	***do not use***	***Pogo Bond 2017***	
Bulldozers				
D6R	$28.96		$5.92	NV 2016 adjusted Rer
D6R w/ Winch	$28.96		$5.92	NV 2016 adjusted Rer
D7R	$38.43		$5.92	NV 2016 adjusted Rer
D8R	$52.81		$6.51	NV 2016 adjusted Rer
D9R	$76.69		$7.65	NV 2016 adjusted Rer
D10R	$90.93		$11.03	NV 2016 adjusted Rer
D11R	$134.68		$13.89	NV 2016 adjusted Rer
Wheeled Dozers				
824G	$0.00			
834G	$0.00			
844	$0.00			
854G	$81.96			

Equipment Costs

File Name:	***Pogo_CDF_147900_150_FNL_20170214.x***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

Monthly Rental Basis (operating hrs/ period)	***200***		***200***	
Motor Graders				
120H	$13.78		$6.98	NV 2016 adjusted Rer
14G/H	$0.00		$7.59	NV 2016 adjusted Rer
16G/H	$38.57		$6.13	NV 2016 adjusted Rer
24M	$0.00			
Track Excavators				
312C	$18.03		$4.48	NV 2016 adjusted Rer
320C	$24.13		$4.79	NV 2016 adjusted Rer
325C	$0.00		$4.61	NV 2016 adjusted Rer
330C	$37.63		$5.96	NV 2016 adjusted Rer
345B	$53.65		$6.01	NV 2016 adjusted Rer
365BL	$73.19		$6.34	average
385BL	$92.83		$6.67	NV 2016 adjusted Rer
Scrapers				
631G	$81.31		$7.96	NV 2016 adjusted Rer
637G PP	$110.96		$13.12	NV 2016 adjusted Rer
Wheeled Loaders				
924G	$12.31		$3.64	NV 2016 adjusted Rer
928G	$12.33		$4.61	NV 2016 adjusted Rer
950G	$16.53		$5.49	NV 2016 adjusted Rer
966G	$28.49		$7.36	NV 2016 adjusted Rer
972G	$29.60		$6.01	NV 2016 adjusted Rer
980G	$33.27		$6.01	NV 2016 adjusted Rer
988G	$53.23		$10.93	NV 2016 adjusted Rer
990	$73.38		$11.93	average
992G	$95.27		$12.94	NV 2016 adjusted Rer
994D	$0.00			
L-2350	$212.85			
Shovels				
KOM PC2000	$130.08			
KOM PC3000	$126.40			
KOM PC4000	$0.00			
KOM PC5500	$0.00			
KOM PC8000	$0.00			
Hydraulic Hammers				
H-120 (fits 325)	N/A	N/A	N/A	N/A
H-160 (fits 345)	N/A	N/A	N/A	N/A
H-180 (fits 365/385)	N/A	N/A	N/A	N/A
Demolition Shears				
S340 (fits 322/325/330)	N/A	N/A	N/A	N/A
S365 (fits 330/345)	N/A	N/A	N/A	N/A
S390 (fits 365/385)	N/A	N/A	N/A	N/A
Demolition Grapples				
G315 (fits 322/325)	N/A	N/A	N/A	N/A
G320 (fits 325/330)	N/A	N/A	N/A	N/A
G330 (fits 345/365)	N/A	N/A	N/A	N/A
Other Equipment				
420D 4WD Backhoe	$10.93		$3.85	NV 2016 adjusted Rer
428D 4WD Backhoe	$21.86		$3.94	NV 2016 adjusted Rer
CS533E Vibratory Roller	$20.30			
CS663E Vibratory Roller	$24.34			
CP533E Sheepsfoot Compactor	$20.30			
CP663E Sheepsfoot Compactor	$24.34			
Light Truck - 1.5 Ton	$4.37			
Supervisor's Truck	$2.86			
Flatbed Truck	$6.49			
Air Compressor + tools	$21.18			
Welding Equipment	$0.00			
Heavy Duty Drill Rig	$144.44			
Pump (plugging) Drill Rig	$144.44			
Concrete Pump	$40.85			
Gas Engine Vibrator	$0.55			
Generator 5KW	$1.40			
HDEP Welder (pipe or liner)	$0.00			
5 Ton Crane	$3.50			
20 Ton Crane	$18.72			
50 Ton Crane	$44.35			
120 Ton Crane	$77.63			

Equipment Costs

File Name:	***Pogo_CDF_147900_150_FNL_20170214.x***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

Monthly Rental Basis (operating hrs/ period)	***200***		***200***	
Trucks				
725 (articulated)	$25.86		$8.30	NV 2016 adjusted Rer
730 (articulated)	$29.59		$8.30	NV 2016 adjusted Rer
735 (articulated)	$33.46		$8.30	NV 2016 adjusted Rer
740 (articulated)	$36.06		$8.30	NV 2016 adjusted Rer
769D	$39.47		$9.41	NV 2016 adjusted Rer
773E	$46.29		$8.23	NV 2016 adjusted Rer
777D	$58.75		$10.87	NV 2016 adjusted Rer
785C	$51.15			
793C	$102.30			
797B	$102.30			
613E (5,000 gal) Water Wagon	$24.90		$6.73	NV 2016 adjusted Rer
621E (8,000 gal) Water Wagon	$64.48		$7.63	NV 2016 adjusted Rer
777D Water Truck	$58.75			
785C Water Truck	$51.15			
Dump Truck (10-12 yd3) (5)	$41.10		$8.30	NV 2016 adjusted Rer
(1) PM Source:				

G.E.T CONSUMPTION [Cost Per Hour] (1) (Wear Items)

EQUIPMENT TYPE	Basis 1 ***do not use (2012)***	Basis 2 ***do not use***	Basis 3 ***Pogo Bond 2017***	Basis 4
Bulldozers				
D6R	$0.00		$5.58	NV 2016 adjusted Rer
D6R w/ Winch	$0.00		$5.58	
D7R	$0.00		$5.58	NV 2016 adjusted Rer
D8R	$0.00		$10.81	NV 2016 adjusted Rer
D9R	$0.00		$16.81	NV 2016 adjusted Rer
D10R	$0.00		$23.53	NV 2016 adjusted Rer
D11R	$0.00		$34.96	NV 2016 adjusted Rer
Wheeled Dozers				
824G	$0.00			
834G	$0.00			
844	$0.00			
854G	$0.00			
Motor Graders				
120H	$0.00		$11.58	NV 2016 adjusted Rer
14G/H	$0.00		$16.75	NV 2016 adjusted Rer
16G/H	$0.00		$22.89	NV 2016 adjusted Rer
24M	$0.00			
Track Excavators				
312C	$0.00		$4.35	NV 2016 adjusted Rer
320C	$0.00		$5.02	NV 2016 adjusted Rer
325C	$0.00		$6.34	NV 2016 adjusted Rer
330C	$0.00		$6.98	NV 2016 adjusted Rer
345B	$0.00		$7.14	NV 2016 adjusted Rer
365BL	$0.00		$10.88	average
385BL	$0.00		$14.61	NV 2016 adjusted Rer
Scrapers				
631G	$0.00			
637G PP	$0.00			
Wheeled Loaders				
924G	$0.00		$4.81	NV 2016 adjusted Rer
928G	$0.00		$4.98	NV 2016 adjusted Rer
950G	$0.00		$9.25	NV 2016 adjusted Rer
966G	$0.00		$11.63	NV 2016 adjusted Rer
972G	$0.00		$14.72	NV 2016 adjusted Rer
980G	$0.00		$14.72	NV 2016 adjusted Rer
988G	$0.00		$15.76	NV 2016 adjusted Rer
990	$0.00		$25.99	average
992G	$0.00		$36.21	NV 2016 adjusted Rer
994D	$0.00			
L-2350	$0.00			

Equipment Costs

File Name:	***Pogo_CDF_147900_150_FNL_20170214.x***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

Monthly Rental Basis (operating hrs/ period)	***200***		***200***	
Shovels				
KOM PC2000	$0.00			
KOM PC3000	$0.00			
KOM PC4000	$0.00			
KOM PC5500	$0.00			
KOM PC8000	$0.00			
Hydraulic Hammers				
H-120 (fits 325)	$0.00		$6.17	NV 2016 adjusted Rer
H-160 (fits 345)	$0.00		$11.98	NV 2016 adjusted Rer
H-180 (fits 365/385)	$0.00		$14.48	NV 2016 adjusted Rer
Demolition Shears				
S340 (fits 322/325/330)	$0.00			
S365 (fits 330/345)	$0.00			
S390 (fits 365/385)	$0.00			
Demolition Grapples				
G315 (fits 322/325)	$0.00			
G320 (fits 325/330)	$0.00			
G330 (fits 345/365)	$0.00			
Other Equipment				
420D 4WD Backhoe	$0.00		$3.87	NV 2016 adjusted Rer
428D 4WD Backhoe	$0.00		$3.99	NV 2016 adjusted Rer
CS533E Vibratory Roller	$0.00			
CS663E Vibratory Roller	$0.00			
CP533E Sheepsfoot Compactor	$0.00			
CP663E Sheepsfoot Compactor	$0.00			
Light Truck - 1.5 Ton	$0.00			
Supervisor's Truck	$0.00			
Flatbed Truck	$0.00			
Air Compressor + tools	N/A	N/A	N/A	N/A
Welding Equipment	N/A	N/A	N/A	N/A
Heavy Duty Drill Rig	$0.00			
Pump (plugging) Drill Rig	$0.00			
Concrete Pump	N/A	N/A	N/A	N/A
Gas Engine Vibrator	N/A	N/A	N/A	N/A
Generator 5KW	N/A	N/A	N/A	N/A
HDEP Welder (pipe or liner)	N/A	N/A	N/A	N/A
5 Ton Crane	$0.00			
20 Ton Crane	$0.00			
50 Ton Crane	$0.00			
120 Ton Crane	$0.00			
Trucks				
725 (articulated)	$0.00		$3.46	NV 2016 adjusted Rer
730 (articulated)	$0.00		$3.46	NV 2016 adjusted Rer
735 (articulated)	$0.00		$3.46	NV 2016 adjusted Rer
740 (articulated)	$0.00		$3.46	NV 2016 adjusted Rer
769D	$0.00		$3.87	NV 2016 adjusted Rer
773E	$0.00		$4.35	NV 2016 adjusted Rer
777D	$0.00		$4.87	NV 2016 adjusted Rer
785C	$0.00			
793C	$0.00			
797B	$0.00			
613E (5,000 gal) Water Wagon	$0.00			
621E (8,000 gal) Water Wagon	$0.00			
777D Water Truck	$0.00			
785C Water Truck	$0.00			
Dump Truck (10-12 yd3) (5)	$0.00		$3.46	NV 2016 adjusted Rer
Notes:				
(1) G.E.T. Source:	CAT Historical Data	CAT Historical Data	CAT Historical Data	CAT Historical Data

Equipment Costs

File Name:	***Pogo_CDF_147900_150_FNL_20170214.x***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

Monthly Rental Basis (operating hrs/ period)	***200***		***200***	

TIRE COST TABLE [Cost Per Tire[1,2,3]]

EQUIPMENT TYPE	Basis 1 *do not use (2012)*	Basis 2 *do not use*	Basis 3 *Pogo Bond 2017*	Basis 4
Bulldozers				
D6R	N/A	N/A	N/A	N/A
D6R w/ Winch	N/A	N/A	N/A	N/A
D7R	N/A	N/A	N/A	N/A
D8R	N/A	N/A	N/A	N/A
D9R	N/A	N/A	N/A	N/A
D10R	N/A	N/A	N/A	N/A
D11R	N/A	N/A	N/A	N/A
Wheeled Dozers				
824G	$0.00			
834G	$0.00			
844	$0.00			
854G	$0.00			
Motor Graders				
120H	$0.00		$2,165.31	usted Reno-Fairbanks
14G/H	$0.00		$2,964.27	usted Reno-Fairbanks
16G/H	$0.00		$4,009.82	usted Reno-Fairbanks
24M	$0.00			
Track Excavators				
312C	N/A	N/A	N/A	N/A
320C	N/A	N/A	N/A	N/A
325C	N/A	N/A	N/A	N/A
330C	N/A	N/A	N/A	N/A
345B	N/A	N/A	N/A	N/A
365BL	N/A	N/A	N/A	N/A
385BL	N/A	N/A	N/A	N/A
Scrapers				
631G	$0.00			
637G PP	$0.00			
Wheeled Loaders				
924G	$0.00		$2,987.31	usted Reno-Fairbanks
928G	$0.00		$2,987.31	usted Reno-Fairbanks
950G	$0.00		$4,500.52	usted Reno-Fairbanks
966G	$0.00		$7,165.56	usted Reno-Fairbanks
972G	$0.00		$7,165.56	usted Reno-Fairbanks
980G	$0.00		$7,543.48	usted Reno-Fairbanks
988G	$0.00		$11,846.52	usted Reno-Fairbanks
990	$0.00		$19,131.12	average
992G	$0.00		$26,415.72	usted Reno-Fairbanks
994D	$0.00			
L-2350	$0.00			
Shovels				
KOM PC2000	N/A	N/A	N/A	N/A
KOM PC3000	N/A	N/A	N/A	N/A
KOM PC4000	N/A	N/A	N/A	N/A
KOM PC5500	N/A	N/A	N/A	N/A
KOM PC8000	N/A	N/A	N/A	N/A
Hydraulic Hammers				
H-120 (fits 325)	N/A	N/A	N/A	N/A
H-160 (fits 345)	N/A	N/A	N/A	N/A
H-180 (fits 365/385)	N/A	N/A	N/A	N/A
Demolition Shears				
S340 (fits 322/325/330)	N/A	N/A	N/A	N/A
S365 (fits 330/345)	N/A	N/A	N/A	N/A
S390 (fits 365/385)	N/A	N/A	N/A	N/A
Demolition Grapples				
G315 (fits 322/325)	N/A	N/A	N/A	N/A
G320 (fits 325/330)	N/A	N/A	N/A	N/A
G330 (fits 345/365)	N/A	N/A	N/A	N/A

Equipment Costs

File Name:	***Pogo_CDF_147900_150_FNL_20170214.x***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

Monthly Rental Basis (operating hrs/ period)	***200***		***200***	

Other Equipment				
420D 4WD Backhoe	$0.00		$1,024.86	usted Reno-Fairbanks
428D 4WD Backhoe	$0.00		$1,024.86	usted Reno-Fairbanks
CS533E Vibratory Roller	N/A	N/A	N/A	N/A
CS663E Vibratory Roller	N/A	N/A	N/A	N/A
CP533E Sheepsfoot Compactor	N/A	N/A	N/A	N/A
CP663E Sheepsfoot Compactor	N/A	N/A	N/A	N/A
Light Truck - 1.5 Ton	$0.00		$137.84	NV 2016 adjusted Rer
Supervisor's Truck	$0.00		$137.84	NV 2016 adjusted Rer
Flatbed Truck	$0.00		$137.84	NV 2016 adjusted Rer
Air Compressor + tools	N/A	N/A	N/A	N/A
Welding Equipment	N/A	N/A	N/A	N/A
Heavy Duty Drill Rig	$0.00			
Pump (plugging) Drill Rig	$0.00			
Concrete Pump	N/A	N/A	N/A	N/A
Gas Engine Vibrator	N/A	N/A	N/A	N/A
Generator 5KW	N/A	N/A	N/A	N/A
HDEP Welder (pipe or liner)	N/A	N/A	N/A	N/A
5 Ton Crane	$0.00			
20 Ton Crane	$0.00			
50 Ton Crane	$0.00			
120 Ton Crane	$0.00			
Trucks				
725 (articulated)	$0.00		$4,500.52	usted Reno-Fairbanks
730 (articulated)	$0.00		$4,500.52	usted Reno-Fairbanks
735 (articulated)	$0.00		$7,165.56	usted Reno-Fairbanks
740 (articulated)	$0.00		$7,543.48	usted Reno-Fairbanks
769D	$0.00		$4,123.91	usted Reno-Fairbanks
773E	$0.00		$7,232.72	usted Reno-Fairbanks
777D	$0.00		$12,843.03	usted Reno-Fairbanks
785C	$0.00			
793C	$0.00			
797B	$0.00			
613E (5,000 gal) Water Wagon	$0.00		$3,561.85	usted Reno-Fairbanks
621E (8,000 gal) Water Wagon	$0.00		$9,172.32	usted Reno-Fairbanks
777D Water Truck	$0.00			
785C Water Truck	$0.00			
Dump Truck (10-12 yd3) (5)	$0.00		$487.69	usted Reno-Fairbanks

Notes:

(1) Unit Cost Basis:	Cost per tyre each			
(2) Cost Basis:				
(3) Tire Cost Source:				
(4) Tire Wear Source (defined in model):	Caterpillar Handbook, Edition 37			

Labor Rates

File Name:	***Pogo_CDF_147900_150_FNL_20170214.x***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Basis 1		Basis 2		Basis 3	
	do not use (2012)		*do not use*		*Pogo Bond 2017*	
EQUIPMENT OPERATORS - Labor Groups and Base Pay Rate ($/hr) (2)						
Bulldozers						
D6R		$75.57			A1602	$74.40
D6R w/ Winch		$75.57			A1602	$74.40
D7R		$75.57			A1602	$74.40
D8R		$75.57			A1602	$74.40
D9R		$75.57			A1602	$74.40
D10R		$75.57			A1602	$74.40
D11R		$75.57			A1602	$74.40
Wheeled Dozers						
824G		$75.57			A1602	$74.40
834G		$75.57			A1602	$74.40
844		$75.57			A1602	$74.40
854G		$75.57			A1602	$74.40
Motor Graders						
120H		$75.57			A1602	$74.40
14G/H		$75.57			A1602	$74.40
16G/H		$75.57			A1602	$74.40
24M		$75.57			A1602	$74.40
Track Excavators						
312C		$72.95			A1601	$72.20
320C		$72.95			A1601	$72.20
325C		$72.95			A1601	$72.20
330C		$72.95			A1601	$72.20
345B		$72.95			A1601	$72.20
365BL		$72.95			A1601	$72.20
385BL		$72.95			A1601	$72.20
Scrapers						
631G		$75.57			A1601	$72.20
637G PP		$75.57			A1601	$72.20
Wheeled Loaders						
924G		$75.57			A1602	$74.40
928G		$75.57			A1602	$74.40
950G		$75.57			A1602	$74.40
966G		$75.57			A1602	$74.40
972G		$75.57			A1602	$74.40
980G		$75.57			A1602	$74.40
988G		$75.57			A1602	$74.40
990		$75.57			A1602	$74.40
992G		$75.57			A1602	$74.40
994D		$75.57			A1602	$74.40
L-2350		$75.57			A1602	$74.40
Shovels						
KOM PC2000		$75.57			A1602	$74.40
KOM PC3000		$75.57			A1602	$74.40
KOM PC4000		$75.57			A1602	$74.40
KOM PC5500		$75.57			A1602	$74.40
KOM PC8000		$75.57			A1602	$74.40
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)						
Other Equipment						
420D 4WD Backhoe		$72.95			A1601	$72.20
428D 4WD Backhoe		$72.95			A1601	$72.20
CS533E Vibratory Roller		$72.95			A1601	$72.20
CS663E Vibratory Roller		$72.95			A1601	$72.20
CP533E Sheepsfoot Compactor		$68.86			A2105	$68.64
CP663E Sheepsfoot Compactor		$68.86			A2105	$68.64
Light Truck - 1.5 Ton		$72.95			A1601	$72.20
Supervisor's Truck		$72.95			A1601	$72.20

Labor Rates

File Name:	***Pogo_CDF_147900_150_FNL_20170214.x***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Basis 1		Basis 2		Basis 3	
	do not use (2012)		*do not use*		*Pogo Bond 2017*	
Flatbed Truck		$72.95			A1601	$72.20
Air Compressor + tools		$72.95			A1601	$72.20
Welding Equipment		$72.95			A1601	$72.20
Heavy Duty Drill Rig		$76.27			N2204	$74.81
Pump (plugging) Drill Rig		$72.95			A1601	$72.20
Concrete Pump						
Gas Engine Vibrator		$72.95			A1601	$72.20
Generator 5KW						
HDEP Welder (pipe or liner)						
5 Ton Crane		$72.95			A1601	$72.20
20 Ton Crane		$72.95			A1601	$72.20
50 Ton Crane		$75.57			A1602	$74.40
120 Ton Crane		$75.57			A1602	$74.40
Fringe Benefits						
Equip Op Fringe Benefits ($/hr)		$0.00		$0.00		$0.00
Zone and Area Adjustments - Miles and Rates ($hr) (3)						
Equipment Zone 1	Pogo Camp	$6.07	none	$0.00	Pogo Camp	$16.73
Equipment Zone 2	Pogo Camp	$6.07			Pogo Camp	$16.73
Equipment Zone 3	Pogo Camp	$6.07			Pogo Camp	$16.73
Equipment Zone 4	Pogo Camp	$6.07			Pogo Camp	$16.73
Equipment Zone 5	Pogo Camp	$6.07			Pogo Camp	$16.73
Equipment Zone 6	Pogo Camp	$6.07			Pogo Camp	$16.73
Equipment Zone 7	Pogo Camp	$6.07			Pogo Camp	$16.73
NOTES:						
(1) Equipment Type:	Catepillar model or equivalent		Catepillar model or equivalent		Catepillar model or equivalent	
(2) Equipment Operator Source:					SRCE User 16	
(3) Zone Basis:					SRCE User 16	
TRUCK DRIVERS - Labor Groups and Base Pay Rate ($/hr) (4)						
725 (articulated)		$72.83			A2101	$71.97
730 (articulated)		$72.83			A2101	$71.97
735 (articulated)		$72.83			A2101	$71.97
740 (articulated)		$74.72			A2102	$73.56
769D		$74.72			A2102	$73.56
773E		$74.72			A2102	$73.56
777D		$74.72			A2102	$73.56
785C		$74.72			A2102	$73.56
793C		$74.72			A2102	$73.56
797B		$74.72			A2102	$73.56
613E (5,000 gal) Water Wagon		$68.86			A2105	$68.64
621E (8,000 gal) Water Wagon		$68.86			A2105	$68.64
777D Water Truck		$68.86			A2105	$68.64
785C Water Truck		$68.86			A2105	$68.64
Dump Truck (10-12 yd3)		$68.86			A2105	$68.64
Fringe Benefits						
Truck Driver Fringe Benefits ($/hr)		$0.00		$0.00		$0.00
Zone and Area Adjustments (5)						
Truck Zone 1	Pogo Camp	$6.07	none	$0.00	Pogo Camp	$16.73
Truck Zone 2	Pogo Camp	$6.07			Pogo Camp	$16.73
Truck Zone 3	Pogo Camp	$6.07			Pogo Camp	$16.73
Truck Zone 4	Pogo Camp	$6.07			Pogo Camp	$16.73
Truck Zone 5	Pogo Camp	$6.07			Pogo Camp	$16.73
Truck Zone 6	Pogo Camp	$6.07			Pogo Camp	$16.73
Truck Zone 7	Pogo Camp	$6.07			Pogo Camp	$16.73
NOTES:						
(4) Truck Driver Source:					SRCE User 16	
(5) Zone Basis:					SRCE User 16	
LABORERS - Labor Groups and Base Pay Rate ($/hr) (6,7)						
General Laborer		$63.45			N1201	$63.92
Skilled Laborer		$66.28			N1203	$66.30
Driller's Helper		$70.73			A1604	$70.34
Rodmen (reinforcing concrete)		$68.82			N0401	$67.45
Cement finisher		$68.82			N0401	$67.45
Carpenter		$73.53			A0301	$73.28
Fringe Benefits						
Laborer Fringe Benefits ($/hr)						
Carpenter Fringe Benefits ($/hr)						

Labor Rates

File Name:	***Pogo_CDF_147900_150_FNL_20170214.x***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Basis 1		Basis 2		Basis 3	
	do not use (2012)		*do not use*		*Pogo Bond 2017*	
Zone and Area Adjustments (8)						
Laborer Zone 1	Pogo Camp	$6.07	none	$0.00	Pogo Camp	$16.73
Laborer Zone 2	Pogo Camp	$6.07			Pogo Camp	$16.73
Laborer Zone 3	Pogo Camp	$6.07			Pogo Camp	$16.73
Laborer Zone 4	Pogo Camp	$6.07			Pogo Camp	$16.73
Laborer Zone 5	Pogo Camp	$6.07			Pogo Camp	$16.73
Laborer Zone 6	Pogo Camp	$6.07			Pogo Camp	$16.73
Laborer Zone 7	Pogo Camp	$6.07			Pogo Camp	$16.73
NOTES:						
(6) Laborer Source:					SRCE User 16	
(7) Carpenter Source:					SRCE User 16	
(8) Zone Basis:					SRCE User 16	
PROJECT MANAGEMENT AND TECHNICAL LABOR - Base Pay Rate ($/hr) (9)						
Project Manager		$125.00				$143.41
Foreman		$79.79				$78.50
Field Geologist/Engineer		$78.61				$95.33
Field Tech/Sampler		$64.14				$61.00
Range Scientist		$115.87				$95.33
Senior Planning Engineer		$115.87				$95.33
Project Engineer		$80.35				$55.91
Mechanic/Fitter		$71.82				$76.28
		$78.61				
Surveyor (stake hop/grademan)		$139.72				$66.94
NOTES:						
(9) Project Manager:					Infomine 2016; Higher end of	
(9) Foreman Source:					Infominne 2016; Higher end	
(9) Techical Labor Source:					Infomine 2016; higher end	
INDIRECT COSTS						
SOCIAL SECURITY, WORKMAN'S COMP, INSURANCE, ETC.						
Unemployment (%)						
Retirement/SS/Medicare (%)						
Workman's Compensation (%)						
State Payroll Tax (13),(15),(17),(18)						
NOTES:						
(10) Workman's Comp Source:	Industry Average %		Industry Average %		Industry Average %	
(11) Social Security/Medicare	N/A		N/A		N/A	
(12) Workmans Compensation	Industry Average %		Industry Average %		Industry Average %	
(13), (14) & (15) State Payol taxes	(14) payroll threshold		Threshold > $623,000 pa until		$1,000,000 pa	

File Name:	***Pogo_CDF_147900_150_FNL_20***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

RECLAMATION MATERIAL COST TABLE

MATERIAL TYPE		Basis 1	Basis 2	Basis 3	Basis 4	Basis 5	Basis 6
		do not use (2012)	*do not use*	*Pogo Bond 2017*			
Revegetation Materials							
Seed Mixes							
Seed Mix	Units						
None							
Mix 1	Cost/Acre	$169.88	2012 seed rate from	$4,000.00	Fred Scott Enterprises		
Mix 2	Cost/Acre						
Mix 3	Cost/Acre						
Mix 4	Cost/Acre						
User Mix 1	Cost/Acre						
User Mix 2	Cost/Acre						
User Mix 3	Cost/Acre						
User Mix 4	Cost/Acre						
User Mix 5 (see Seed Mix sheet)	Cost/Acre						
	Notes:						
Mulch							
Item	Units						
None							
Straw Mulch	Cost/lb	$0.17	NV rates increased by 20%				
Hydro Mulch	Cost/lb	$0.31	NV rates increased by 20%				
Timber Mulch	Cost/lb						
	Cost/lb						
	Cost/lb						
	Notes:						
Amendments							
Item	Units						
None		$0.00					
Organic Matter	Cost/lb						
Treated Sludge	Cost/lb						
Chemical	Cost/lb	$0.54	2012 quote from Groundhogs Landscaping, Fairbanks				
	Cost/lb						
	Cost/lb						
	Cost/lb						
	Notes:						
Well Abandonment Materials							
Description	Units						
Cement	50lb bag	$4.03	2012 quote from Ala	$4.75	Cement_2016 Fairbanks Type I Price 216F.pdf		
Grout (Low Grade Bentonite)	50lb bag	$7.51	2006 quote from De	$10.12	NV 2016 rate adjusted Reno-Fairbanks		
Inert Material/Cuttings	cy	$0.00					
	Notes:						
Monitoring Costs							
Description	Units	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit
Monitor Well Pump	ea.	$2,580.00	NV rate increased 2	$2,827.00	ted Reno-Fairbanks	$2,416.00	
Sampling Supplies	ea.	$6.00	NV rate increased 2	$7.00	ted Reno-Fairbanks	$5.65	
Helicopter (per episode - 3 hrs+$15	ea.	$3,180.00	legacy 2012	$3,276.00	/2 per diem for pilot		
Courier cost	ea.	$630.30	legacy 2012	$630.30			
Profile 10a - ORTW 001&011 week	ea.	$239.40	legacy 2012	$78.00			
Profile 10b - ORTW 001 monthly	ea.	$232.40	legacy 2012	$164.00			
Profile 11b - ORTW 011 quarterly	ea.	$280.00	legacy 2012	$198.00			
Profile 12a - STP 002 weekly	ea.	$196.00	legacy 2012	$123.00			
Profile 12b - STP 002 monthly	ea.	$95.20	legacy 2012	$63.00			
Profile 13s - RTP surface water	ea.	$551.60	legacy 2012	$105.00			
Profile 12c - PWTP1 monthly	ea.	$196.00	legacy 2012	$35.00			
Profile 12d - PWTP1 bi-annual	ea.	$56.00	legacy 2012	$1,075.00			
Profile 12e - PWT1 annual	ea.	$2,020.20	legacy 2012	$475.00			
Profile 13g - RTP wells	ea.	$537.60	legacy 2012	$405.00			
Profile 8 - fish tissue	ea.	$7,238.00	legacy 2012	$5,828.00			
WET 001 Annually	ea.	$3,800.00	legacy 2012	$1,500.00			
Profile 11a	ea.			75			
	Notes:			SRK. Profiles for Reclamation.2017.rev (003).pdf			
Fuel, Etc.							
Description	Units	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit
Off-road Diesel - delivered [1]	$/gal	$4.46	2012 quote from Ala	$2.66	0.08+0.0095+0.001		
Pickup Truck Travel	$/mi	$0.51		$0.54	moving-announced		
Electical Power	$/kWh	$0.1560	2012 GVEA Rate	$0.1235	GVEA 2017; $133,381.6/1,080,000kWh		
	Notes:						

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	***Pogo_CDF_147900_150_FNL_20170214.xlsm***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

MISCELLANEOUS COST TABLE

JOB DESCRIPTION		Basis 1		Basis 2		Basis 3		Basis 4	
		do not use (2012)		*do not use*		*Pogo Bond 2017*			
REVEGETATION									
Item	**Units**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**
Seeding - Broadcast Manual [1]	$/acres	$212.13	$0.00						
Seeding - Broadcast Mechanical [1]	$/acres	$17.75	$201.38			$5.17	$220.76		
Seeding - Drill [1]	$/acres	$61.71	$524.53						
Seeding - Hydroseeding [1]	$/acres	$2,395.80	$2,395.80			$1,000.00	$1,000.00		
Item	**Units**	**Materials**		**Materials**		**Materials**		**Materials**	
Shrub Planting - bare root 6-10 in (150- 250mm) [2]	ea.								
Tree Planting - bare root 11-16 in (270- 400mm) [3]	ea.								
Cactus Planting [4]	ea.								
NOTES:									
(1) Seeding Source:		Seeding rates adjusted Reno-Fairbanks; hydroseed Pogo Model $0.11 per sf =				Hydroseeding from Fred Scott Enterprises; mechanical broadcast is helicopter provided by Aurora Aviation Services			
(2) Shrub Source:									
(3) Tree Source:									
(4) Cactus Source:									
BUILDING and WALL DEMOLITION									
Item	**Units**		**Premium**		**Premium**		**Premium**		**Premium**
Building Demolition									
Lg. steel	C.F.								
Lg. concrete	C.F.								
Lg. masonry	C.F.								
Lg. mixed	C.F.								
Sm. steel	C.F.								
Sm. concrete	C.F.								
Sm. masonry	C.F.								
Sm. wood	C.F.								
Wall Demolition									
Block 4 in thick	S.F.		20%		20%		20%		20%
Block 6 in thick	S.F.		20%		20%		20%		20%
Block 8 in thick	S.F.		20%		20%		20%		20%
Block 12 in thick	S.F.		20%		20%		20%		20%
Conc 6 in thick	S.F.		10%		10%		10%		10%
Conc 8 in thick	S.F.		10%		10%		10%		10%
Conc 10 in thick	S.F.		10%		10%		10%		10%
Conc 12 in thick	S.F.		10%		10%		10%		10%
WASTE DISPOSAL									
Item	**Units**	**Materials**		**Materials**		**Materials**		**Materials**	
Rubbish and Waste Handling									
Dumpster delivery (average for all sizes)	ea.	$100.88				$101.00		$53.00	
Haul (average for all sizes)	ea.	$61.00				$194.22		$166.00	
Rent per month (average for all sizes)	ea.	$100.88				$101.00		$56.50	
Disposal fee per ton (tonne) (average for all sizes)	ton	$0.84				$72.54		$62.00	
NOTES:									
Dumpster Cost Source		average for all sizes) adjusted for Fairbanks				Solid Waste Fees 2016-2017.pdf			
Disposal Fee Source:		Borough - 2012 Solids Waste Fees				NV*1.17			
Hazardous Material Handling - Solids									
Pickup fees 55 gal. drums	ea.	$283.73				$287.82		$246.00	
Bulk material (average)	ton	$3.36				$470.93		$402.50	
Transport - truck load (80 drums, 25 cy (m3), 18 tons)	mile	$6.00				$6.44		$5.50	
Dump site disposal fee	ton	$118.00				$152.00		$284.50	
NOTES:									
Solid Handling Cost Source		Means, average, adjusted for Fairbanks				NV*1.17			
Solid Disposal Fee Source:		Borough - 2012 Solids Waste Fees - AVERAGE							
Hazardous Material Handling - Liquids									
Vacuum Truck Pickup (2200 gal or 9,700 litres)	hr.	$157.63				$168.48		$144.00	
Vacuum Truck Pickup (5000 gal or 19,000 litres)	hr.	$226.98				$244.53		$209.00	
Dump site disposal fee	ton	$118.00				$332.87		$284.50	
NOTES:									
Liquid Handling Cost Source		Means, average, adjusted for Fairbanks				NV*1.17			
Liquid Disposal Fee Source:		Borough - 2012 Solids Waste Fees - AVERAGE				Borough FY17 Solid Waste user Fee Schedule			
Hydrocarbon Contaminated Soils (HCS)									
Insitu Biotreatment	C.Y	$79.17				$79.17			
HCS disposal fee	C.Y	$331.01				$331.01			
NOTES:									
Insitu Treatement Cost Source		Incineration on site, assumed 110 lb/cf							
HCS Disposal Fee Source:		Means, average, adjusted for Fairbanks							
UNDERGROUND OPENING CLOSURE									
Item	**Units**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**
Reinforced Concrete Bulkheads and Shaft Covers									
Grade walls - 15 in thick, 8 ft high	C.Y	$156.63				$160.29		$137.00	
Grade walls - 15 in thick, 12 ft high	C.Y	$156.63				$160.29		$137.00	
Elevated conc, 1-way beam & slab - 15ft span	C.Y	$258.38				$291.33		$249.00	
Elevated conc, 1-way beam & slab - 25ft span	C.Y	$249.23				$274.95		$235.00	
Item	**Units**	**Materials**		**Materials**		**Materials**		**Materials**	
Small Adit Plugging									
Bat Gate [5]	ea.								
Culvert Gate [5]	C.Y								
Adit Foam Plug [6]	C.Y								
Production Opening Foam Plug [6]	C.Y								
NOTES:									

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	***Pogo_CDF_147900_150_FNL_20170214.xlsm***
Date:	***February 8, 2017***
Cost Basis:	***User Data***
Author/Source:	***SMM Pogo/SRK Consulting***

MISCELLANEOUS COST TABLE

JOB DESCRIPTION	Basis 1	Basis 2	Basis 3	Basis 4
	do not use (2012)	*do not use*	*Pogo Bond 2017*	
(5) Bat Gate Source:	NV 2012 reinforced concrete costs adjusted between Fairbanks and Reno		NV 2016 reinforced concrete costs adjusted between Fairbanks and Reno	NV 2016 for reference
(6) Foam Plug Source:				

MISC. LINEAR PROJECTS

Item	Units	Basis 1 Materials	Basis 1 Premium	Basis 2 Materials	Basis 2 Premium	Basis 3 Materials	Basis 3 Premium	Basis 4 Materials	Basis 4 Premium
Fencing Installation									
Barbed 3-strand	ft	$0.64				$0.56		$0.48	
Barbed 4-strand	ft	$0.85				$0.75		$0.64	
Barbed 5-strand	ft	$1.07				$0.94		$0.80	
Chain link 8 ft -10 ft Install	ft	$46.20				$45.05		$38.50	
Wood stockade fence 6 ft high - Install	ft	$19.55				$18.72		$16.00	
	ft								
	ft								
Fencing Removal									
Barbed 3-strand Removal	ft								
Barbed 4-strand Removal	ft								
Barbed 5-strand Removal	ft								
Chain link 8 ft -10 ft Removal	ft								
Wood, all types 4 ft -6 ft high Removal	ft								
	ft								
	ft								
Culvert Removal									
12 in (300 mm) Diameter	ft								
18 in (450 mm) Diameter	ft								
24 in (600 mm) Diameter	ft								
36 in (1m) Diameter	ft								
Pipeline Removal									
Plastic Pipe 3/4 in (mm) - 4 in (100 mm) diameter	ft								
6 in (150 mm) - 8 in (200 mm)	ft								
10 in (250 mm) - 18 in (450 mm)	ft								
20 in (500 mm) - 36 in (1 m)	ft								
Pipe and Drainpipe Installation									
Water 4in (100mm) 40ft (12m) length, welded HDPE	ft	$27.34	adjusted			$26.36		Prorated 6 inch with NV	
Water 6in (150mm) 40ft (12m) length, welded HDPE	ft	$62.00	HDPE pipe: 6X50 DR11 W/3" INS &			$73.17		Ferguson insulated pipe	
Water 12in (300mm) 40ft (12m) length, welded HDPE	ft					$203.11		extrapolate 4 inch and 6	
Drain 4in (100mm) perforated PVC	ft	$11.13	adjusted			$14.98		Prorated 6 inch with NV	
Drain 6in (150mm) perforated PVC	ft	$23.45	adjusted			$32.98		Prorated 6 inch with NV	
Drain 4in (100mm) corrugated, perf or plain	ft	$4.29	adjusted			$6.85		Prorated 6 inch with NV	
Drain 6in (150mm) corrugated., perf or plain	ft	$13.59	adjusted			$15.91		Prorated 6 inch with NV	
Drain Rock Preparation									
Item	**Units**		**Total**		**Total**		**Total**		**Total**
Crushing	C.Y								
Screening	C.Y		$1.09		See SRCE User 4 for C2		$1.09		
Misc.									
Item	**Units**		**Premium**		**Premium**		**Premium**		**Premium**
Backhoe work	C.Y								
Powerline and Transformer Removal			**Total**		**Total**		**Total**		**Total**
Single Pole Powerlines (7)	mile		$20,388				$26,506		
Double Pole Powerlines (8)	mile		$44,295				$30,292		
Substation (9)	unit		$3,544				$34,010		

NOTES:			
(7) Single Pole Source:	Pogo Model rate (11 single poles + 3787 ft power line) RSMeans 2005 (18 04 0108)		User 4
(8) Double Pole Source:	Pogo Model rate (800 double poles + 227,600 ft transmission line)		User 4
(9) Transformer Source:	Pogo Model rates ($512.50 fuel+$1200.46 equip+$1839.71 labor)		NV*1.17

EROSION, EVAPORATION and SEDIMENTATION CONTROL

Item	Units	Basis 1 Materials	Basis 1 Premium	Basis 2 Materials	Basis 2 Premium	Basis 3 Materials	Basis 3 Premium	Basis 4 Materials	Basis 4 Premium
Rip-Rap & Rock Lining									
Rip-Rap 3/8 to 1/4 C.Y. pieces, grouted	S.Y.	$85.12		$85.12		do not use		Riprap material locally av	
Rip-Rap 18 in min thick, no grout	S.Y.	$39.72		$39.72		$0.00		Riprap material locally av	
Gabions, 6 in deep	S.Y.	$37.20		$37.20		$37.20			
Gabions, 9 in deep	S.Y.	$46.66		$46.66		$46.66			
Gabions, 12 in deep	S.Y.	$68.09		$68.09		$68.09			
Gabions, 18 in deep	S.Y.	$90.16		$90.16		$90.16			
Gabions, 36 in deep	S.Y.	$146.28		$146.28		$146.28			
Liner Installation									
Item	**Units**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**
Site grading	S.F.								
Compaction	S.F.								
Item	**Units**		**Materials**		**Materials**		**Materials**		**Materials**
60 mil HDPE Liner	S.F.		$0.32				$0.32		
Construction Management Support									
Item	**Units**		**Materials**		**Materials**		**Materials**		**Materials**
Office Trailer, Furnished, no hook-ups	month		$4,097.10				$4,097.10		
Toilet Portable, chemical	month		$207.80				$207.80		

PRODUCTION OR DEWATERING WELL PUMP REMOVAL

Item	Units	Basis 1 Labor	Basis 1 Equip	Basis 2 Labor	Basis 2 Equip	Basis 3 Labor	Basis 3 Equip	Basis 4 Labor	Basis 4 Equip
Pump Type									
Submersible (10)	ft to pump	$3.39	$7.38	$3.39	$7.38	$3.39	$7.38	$2.55	$5.54
Line Shaft (10)	ft to pump	$7.92	$17.22	$7.92	$17.22	$7.92	$17.22	$5.95	$12.94

NOTES:			
(10) Pump Removal Source:	NV 2012 reinforced concrete costs adjusted between Fairbanks and Reno		Liner from Agru "Budget Estimate 02012017.pdf" including delivery

Appendix B-1.

Labor rates: “Pamphlet 600 - Laborers’ & Mechanics’ Minimum Rates of Pay”

Laborers' & Mechanics' Minimum Rates of Pay

Effective September 1, 2016
Issue 33

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

ALASKA DEPARTMENT OF LABOR
& WORKFORCE DEVELOPMENT

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THE STATE of ALASKA
GOVERNOR BILL WALKER

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, 2016

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, 2016.

All projects with a final bid date of September 11, 2016, 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 24-month period begins on the date the prime contract is awarded.** 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" 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 the Web address 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,

Heidi Drygas
Commissioner

Table of Contents

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.

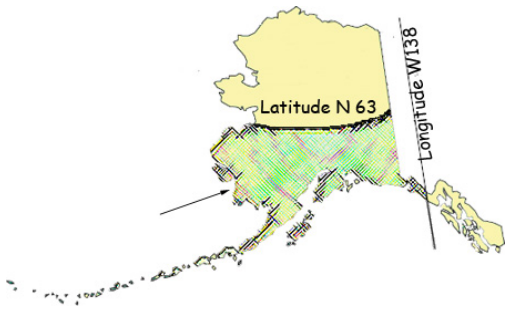
Sec. 36.05.900. Definition.
In this chapter, "contracting agency" means the state or a political subdivision of the state that has entered into a public construction contract with a contractor.

ADDITIONAL INFORMATION

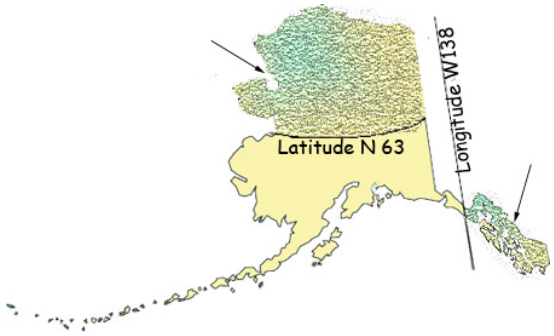
LABORER CLASSIFICATION CLARIFICATION

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.

** NEW ** APPRENTICE HIRING REQUIREMENTS

On November 5, 2015, Governor Walker signed Administrative Order No. 278 to help ensure that there is an adequate pool of well-trained Alaskan construction workers to satisfy the industry needs. AO 278 replaced AO 226 and established a 15 percent goal for hiring federally registered apprentices in certain job categories on all public construction projects awarded by the Alaska Department of Transportation and Public Facilities and the Alaska Department of Administration that exceed $2.5 million. The Order requires the commissioners of DOTPF and DOA to strive to require not less than 15 percent labor hours on a qualified project are performed by federally registered apprentices in the following classifications:

Boilermakers	Elevator Constructors & Mechanics	Plumbers and Pipefitters
Bricklayers	Insulation Workers	Roofers
Carpenters	Ironworkers	Sheetmetal Workers
Cement Masons	Laborers	Surveyors

Culinary Workers	Mechanics	Sprinkler Fitters
Electricians	Millwrights	Truck Drivers
Equipment Operators	Painters	Tug Boat Workers
	Piledriving Occupations	Welders

A federally registered apprentice is enrolled in an apprentice training program under 29 U.S.C. 50 and 29 C.F.R. 29.1 – 29.13. Contractors will be expected to file apprentice utilization forms throughout the project or utilize the online certified payroll filing system available on the My Alaska website. A copy of AO 278 may be viewed in its entirety at http://gov.state.ak.us/admin-orders/278.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 Training. **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: _____

DEPARTMENT OF LABOR & WORKFORCE DEVELOPMENT
ALASKA EMPLOYMENT PREFERENCE INFORMATION

By authority of AS 36.10.150 and 8 AAC 30.064, the Commissioner of Labor and Workforce Development has determined the State of Alaska to be a Zone 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 90 percent Alaska resident hiring preference applies on a project-by-project, craft-by-craft or occupational basis and must be met each workweek by each contractor/subcontractor in each of the following classifications:**

Boilermakers	Electricians	Laborers	Roofers
Bricklayers	Engineers & Architects	Mechanics	Sheet Metal Workers
Carpenters	Equipment Operators	Millwrights	Surveyors
Cement Masons	Foremen & Supervisors	Painters	Truck Drivers
Culinary Workers	Insulation Workers	Piledriving Occupations	Tug Boat Workers
	Ironworkers	Plumbers & Pipefitters	Welders

This determination became effective July 1, 2015, and remains in effect through June 30, 2017. This determination will be applied to projects with a bid submission deadline on or after July 1, 2015 and to projects previously covered by the 2013 Alaska employment preference determination. This will afford contractors an opportunity to consider the impacts of Alaska resident hire in their bids.

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 calculation 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 total 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 in that classification.

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-Alaska 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 adequate search for qualified Alaskan workers. Qualified Alaska residents identified through the search must be hired before waivers for non-resident workers may be granted. 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 boilermaker 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 boilermakers 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.

Contractors are responsible for determining residency status. 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	Debarment Expires
Bengal Groups, LLC	November 3, 2017
Mohammed Ali, Individual	November 3, 2017
Fry's Services, LLC	November 16, 2017
John Paul Freie, Individual	November 16, 2017
Pyramid Audio & Video, Ltd.	June 19, 2018
Jeffrey P. Schneider, Individual	June 19, 2018

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)	44.26	8.57	15.34	1.60	3.00	0.34	73.11
Bricklayers & Blocklayers	**See note on last page if remote site							
						L&M		
A0201	Blocklayer	40.81	9.53	8.50	0.55	0.15	0.49	60.03
	Bricklayer Marble or Stone Mason Refractory Worker (Firebrick, Plastic, Castable, and Gunite Refractory Applications) Terrazzo Worker Tile Setter							
						L&M		
A0202	Tuck Pointer Caulker	40.81	9.53	8.50	0.55	0.15	0.49	60.03
	Cleaner (PCC)							
						L&M		
A0203	Marble & Tile Finisher	34.79	9.53	8.50	0.55	0.15	0.49	54.01
	Terrazzo Finisher							
						L&M		
A0204	Torginal Applicator	38.83	9.53	8.50	0.55	0.15	0.49	58.05
Carpenters, Statewide	**See note on last page if remote site							
						L&M	**SAF**	
A0301	Carpenter (journeyman)	38.34	9.78	14.56	0.70	0.10	0.15	63.63
	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:	37.50	7.43	11.80	1.18	0.10		58.01
	Application of Sealing Compound Application of Underlayment Building, General Cement Mason (journeyman) Concrete							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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:	37.50	7.43	11.80	1.18	0.10	58.01
	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:	37.50	7.43	11.80	1.18	0.10	58.01
	Form Setter						
						L&M	
N0403	Group III, including:	37.50	7.43	11.80	1.18	0.10	58.01
	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:	37.50	7.43	11.80	1.18	0.10	58.01
	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:	37.75	7.43	11.80	1.18	0.10	58.26
	Plasterer						
Cement Masons, Region II (South of N63 latitude)							
	**See note on last page if remote site						
						L&M	
S0401	Group I, including:	37.25	7.43	11.80	1.18	0.10	57.76

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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:	37.25	7.43	11.80	1.18	0.10	57.76
	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:	37.25	7.43	11.80	1.18	0.10	57.76
	Form Setter						
						L&M	
S0403	Group III, including:	37.25	7.43	11.80	1.18	0.10	57.76
	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:	37.25	7.43	11.80	1.18	0.10	57.76
	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:	37.50	7.43	11.80	1.18	0.10	58.01
	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	25.67	7.25	6.37		LEG 0.07	39.36
A0503	General Helper	22.62	7.25	6.37		LEG 0.07	36.31
	Housekeeper Janitor Kitchen Helper						
A0504	Head Cook	26.22	7.25	6.37		LEG 0.07	39.91
A0505	Head Housekeeper	23.04	7.25	6.37		LEG 0.07	36.73
	Head Kitchen Help						
Dredgemen **See note on last page if remote site							
A0601	Assistant Engineer	39.26	9.95	11.05	1.00	L&M 0.10	61.36
	Craneman Electrical Generator Operator (primary pump/power barge/dredge) Engineer Welder						
A0602	Assistant Mate (deckhand)	38.10	9.95	11.05	1.00	L&M 0.10	60.20
A0603	Fireman	38.54	9.95	11.05	1.00	L&M 0.10	60.64
A0605	Leverman Clamshell	41.79	9.95	11.05	1.00	L&M 0.10	63.89
A0606	Leverman Hydraulic	40.03	9.95	11.05	1.00	L&M 0.10	62.13
A0607	Mate & Boatman	39.26	9.95	11.05	1.00	L&M 0.10	61.36
A0608	Oiler (dredge)	38.54	9.95	11.05	1.00	L&M 0.10	60.64
Electricians							
A0701	Inside Cable Splicer	39.82	12.19	13.01	0.95	L&M 0.20	LEG 0.15 66.32

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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:	39.49	12.19	13.25	0.95	0.20	0.15	66.23
	Technicians							
						L&M	**LEG**	
A0703	Power Cable Splicer	52.27	12.19	18.76	0.95	0.20	0.15	84.52
						L&M	**LEG**	
A0704	Tele Com Cable Splicer	47.45	12.19	15.44	0.95	0.20	0.15	76.38
						L&M	**LEG**	
A0705	Power Journeyman Lineman, including:	50.52	12.19	18.71	0.95	0.20	0.15	82.72
	Power Equipment Operator Technician							
						L&M	**LEG**	
A0706	Tele Com Journeyman Lineman, including:	45.70	12.19	18.56	0.95	0.20	0.15	77.75
	Technician Tele Com Equipment Operator							
						L&M	**LEG**	
A0707	Straight Line Installer - Repairman	45.70	12.19	15.39	0.95	0.20	0.15	74.58
						L&M	**LEG**	
A0708	Powderman	48.52	12.19	18.65	0.95	0.20	0.15	80.66
						L&M	**LEG**	
A0710	Material Handler	26.15	11.64	4.78	0.15	0.15	0.15	43.02
						L&M	**LEG**	
A0712	Tree Trimmer Groundman	27.17	12.19	11.04	0.15	0.15	0.15	50.85
						L&M	**LEG**	
A0713	Journeyman Tree Trimmer	35.84	12.19	11.30	0.15	0.15	0.15	59.78
						L&M	**LEG**	
A0714	Vegetation Control Sprayer	39.29	12.19	11.40	0.15	0.15	0.15	63.33
						L&M	**LEG**	
A0715	Inside Journeyman Communications CO/PBX	38.07	12.19	12.96	0.95	0.20	0.15	64.52
Elevator Workers								
						L&M	**VAC**	
A0802	Elevator Constructor	36.75	14.43	14.96	0.60	0.30	3.35	70.39
						L&M	**VAC**	
A0803	Elevator Constructor Mechanic	52.50	14.43	14.96	0.60	0.30	5.83	88.62

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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	37.38	8.84	9.51	1.20	0.12		57.05
						SAF		
A0903	Asbestos Abatement/General Demolition All Systems	37.38	8.84	9.51	1.20	0.12		57.05
						SAF		
A0904	Insulator, Group II	37.38	8.84	9.51	1.20	0.12		57.05
						SAF		
A0905	Fire Stop	37.38	8.84	9.51	1.20	0.12		57.05
IronWorkers								
	**See note on last page if remote site							
						L&M	**IAF**	
A1101	Ironworkers, including:	36.25	8.33	19.87	1.57	0.20	0.36	66.58
	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	8.33	19.87	1.57	0.20	0.36	67.58
	Tower (energy producing windmill type towers to include nacelle and blades)							
						L&M	**IAF**	
A1103	Fence/Barrier Installer	32.75	8.33	19.62	1.47	0.20	0.36	62.73
	Guard Rail Installer							
						L&M	**IAF**	
A1104	Guard Rail Layout Man	33.49	8.33	19.62	1.47	0.20	0.36	63.47
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:	30.00	7.71	17.06	1.20	0.20	0.20	56.37
	Asphalt Worker (shovelman, plant crew)							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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							
N1201	Group I, including:	30.00	7.71	17.06	1.20	0.20	0.20	56.37
	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							
	Steam Cleaner Operator							
	Steam Point or Water Jet Operator							
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)							
	Tank Cleaning							
	Utiliwalk & Utilidor Laborer							
	Watchman (construction projects)							
	Window Cleaner							
						L&M	LEG	
N1202	Group II, including:	31.00	7.71	17.06	1.20	0.20	0.20	57.37
	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:	31.00	7.71	17.06	1.20	0.20	0.20	57.37

Certified Erosion Sediment Control Lead (CESCL Laborer)
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:	31.90	7.71	17.06	1.20	0.20	0.20	58.27

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

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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	
N1203	Group III, including:	31.90	7.71	17.06	1.20	0.20	0.20	58.27
	Welding Certified (in connection with laborer's work)							
						L&M	LEG	
N1204	Group IIIA	35.18	7.71	17.06	1.20	0.20	0.20	61.55
	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							
	Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)							
						L&M	LEG	
N1205	Group IV	19.57	7.71	17.06	1.20	0.20	0.20	45.94
	Final Building Cleanup							
	Permanent Yard Worker							
						L&M	LEG	
N1206	Group IIIB	38.72	5.00	17.06	1.20	0.20	0.20	62.38
	Federally Licensed Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade, Stake Hopper)							
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:	30.00	7.71	17.06	1.20	0.20	0.20	56.37
	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							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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 area that is south of N63 latitude and west of W138 longitude)

**See note on last page if remote site

S1201	Group I, including:	30.00	7.71	17.06	1.20	0.20	0.20	56.37

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
Steam Cleaner Operator
Steam Point or Water Jet Operator
Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)
Tank Cleaning
Utiliwalk & Utilidor Laborer
Watchman (construction projects)
Window Cleaner

						L&M	LEG	
S1202	Group II, including:	31.00	7.71	17.06	1.20	0.20	0.20	57.37

Burning & Cutting Torch
Cement or Lime Dumper or Handler (sack or bulk)
Certified Erosion Sediment Control Lead (CESCL Laborer)
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)

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

						L&M	LEG	
S1202	Group II, including:	31.00	7.71	17.06	1.20	0.20	0.20	57.37

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	
S1203	Group III, including:	31.90	7.71	17.06	1.20	0.20	0.20	58.27

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	35.18	7.71	17.06	1.20	0.20	0.20	61.55

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
Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)

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**	
S1205	Group IV	19.57	7.71	17.06	1.20	0.20	0.20	45.94
	Final Building Cleanup Permanent Yard Worker							
						L&M	**LEG**	
S1206	Group IIIB	38.72	5.00	17.06	1.20	0.20	0.20	62.38
	Federally Licensed Powderman (Responsible Person in Charge) Grade Checking (setting or transferring of grade marks, line and grade, Stake Hopper)							
Millwrights								
						L&M		
A1251	Millwright (journeyman)	36.74	9.78	12.21	1.00	0.40	0.05	60.18
						L&M		
A1252	Millwright Welder	37.74	9.78	12.21	1.00	0.40	0.05	61.18
Painters, Region I (North of N63 latitude)								
	**See note on last page if remote site							
						L&M		
N1301	Group I, including:	32.07	8.03	11.10	1.08	0.07		52.35
	Brush General Painter Hand Taping Hazardous Material Handler Lead-Based Paint Abatement Roll							
						L&M		
N1302	Group II, including:	32.59	8.03	11.10	1.08	0.07		52.87
	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							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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						
						L&M	
N1302	Group II, including:	32.59	8.03	11.10	1.08	0.07	52.87
	Wallpaper/Vinyl Hanger						
N1304	Group IV, including:	38.13	8.03	12.11	1.05	0.05	59.37
	Glazier						
	Storefront/Automatic Door Mechanic						
N1305	Group V, including:	29.31	8.03	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 :	30.31	8.03	10.85	1.08	0.07	50.34
	Brush						
	General Painter						
	Hand Taping						
	Hazardous Material Handler						
	Lead-Based Paint Abatement						
	Roll						
	Spray						
						L&M	
S1302	Group II, including :	31.56	8.03	10.85	1.08	0.07	51.59
	General Drywall Finisher						
	Hand/Spray Texturing						
	Machine/Automatic Taping						
	Wallpaper/Vinyl Hanger						
						L&M	
S1303	Group III, including :	31.66	8.03	10.85	1.08	0.07	51.69
	Bridge Painter						
	Epoxy Applicator						
	Industrial Coatings Specialist						
	Pot Tender						
	Sandblasting						
	Specialty Painter						
	Structural Steel Painter						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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							
S1304	Group IV, including:	38.13	8.03	11.36	1.08	L&M 0.07		58.67
	Glazier Storefront/Automatic Door Mechanic							
S1305	Group V, including:	29.31	8.03	5.02	0.83	L&M 0.07		43.26
	Carpet Installer Floor Coverer Heat Weld/Cove Base Linoleum/Soft Tile Installer							
Piledrivers								
	**See note on last page if remote site							
A1401	Piledriver	38.34	9.78	14.56	0.70	L&M 0.10	IAF 0.15	63.63
	Assistant Dive Tender Carpenter/Piledriver Rigger Sheet Stabber Skiff Operator							
A1402	Piledriver-Welder/Toxic Worker	39.34	9.78	14.56	0.70	L&M 0.10	IAF 0.15	64.63
A1403	Remotely Operated Vehicle Pilot/Technician	42.65	9.78	14.56	0.70	L&M 0.10	IAF 0.15	67.94
	Single Atmosphere Suit, Bell or Submersible Pilot							
A1404	Diver (working) ***See note on last page	82.45	9.78	14.56	0.70	L&M 0.10	IAF 0.15	107.74
A1405	Diver (standby) ***See note on last page	42.65	9.78	14.56	0.70	L&M 0.10	IAF 0.15	67.94
A1406	Dive Tender ***See note on last page	41.65	9.78	14.56	0.70	L&M 0.10	IAF 0.15	66.94
A1407	Welder (American Welding Society, Certified Welding Inspector)	43.90	9.78	14.56	0.70	L&M 0.10	IAF 0.15	69.19
Plumbers, Region I (North of N63 latitude)								
N1501	Journeyman Pipefitter	40.81	8.25	14.60	1.25	L&M 1.10	S&L	66.01
	Plumber							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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
Plumbers, Region I (North of N63 latitude)							
						L&M **S&L**	
N1501	Journeyman Pipefitter	40.81	8.25	14.60	1.25	1.10	66.01
	Welder						
Plumbers, Region II (South of N63 latitude)							
						L&M	
S1501	Journeyman Pipefitter	39.85	8.88	12.72	1.25	0.20	62.90
	Plumber						
	Welder						
Plumbers, Region IIA (1st Judicial District)							
						L&M	
X1501	Journeyman Pipefitter	37.52	12.72	11.25	2.50	0.24	64.23
	Plumber						
	Welder						
Power Equipment Operators							
	**See note on last page if remote site						
						L&M	
A1601	Group I, including:	40.03	9.95	11.05	1.00	0.10	62.13
	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						
	(c) Overhead						
	Crushers						
	Deck Winches, Double Drum						
	Ditching or Trenching Machine (16 inch or over)						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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
	Power Equipment Operators						
	**See note on last page if remote site						
						L&M	
A1601	Group I, including:	40.03	9.95	11.05	1.00	0.10	62.13

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

Hydro Excavation (Vac-Truck and Similar)

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)

Material Transfer Vehicle (Elevating Grader, Pickup Machine, and 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 Topside (Asphalt Paver, Slurry machine, and similar types)

Sub Grader (Gurries, Reclaimer & similar types)

Tack Tractor

Truck Mounted Concrete Pump, Conveyor/Tele-belt, & Creter

Unlicensed Off-Road Hauler

Wate Kote Machine

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:	41.79	9.95	11.05	1.00	0.10	63.89
	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)						
	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:	39.26	9.95	11.05	1.00	0.10	61.36
	Boiler - Fireman						
	Cement Hogs & Concrete Pump Operator						
	Conveyors (except those listed in Group I)						
	Grade Checker						
	Hoists on Steel Erection, Towermobiles & Air Tuggers						
	Horizontal/Directional Drill Locator						
	Licensed Grade Technician						
	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:	38.54	9.95	11.05	1.00	0.10	60.64
	"A" Frame Trucks, Deck Winches						
	Bombardier (tack or tow rig)						
	Boring Machine						
	Brooms, Power						
	Bump Cutter						

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:	38.54	9.95	11.05	1.00	0.10	60.64
	Compressor						
	Farm Tractor						
	Forklift, Industrial Type						
	Gin Truck or Winch Truck (with poles when used for hoisting)						
	Hoists, Air Tuggers, Elevators						
	Loaders:						
	(a) Elevating-Athey, Barber Greene & similar types						
	(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)						
	Stake Hopper						
	Straightening Machine						
	Tow Tractor						
						L&M	
A1605	Group IV, including:	32.33	9.95	11.05	1.00	0.10	54.43
	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	42.62	11.75	2.91	0.81	0.10	0.03 58.22
						L&M	
A1702	Roofer Material Handler	29.83	11.75	2.91	0.81	0.10	0.03 45.43

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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
Sheet Metal Workers, Region I (North of N63 latitude)							
						L&M	
N1801	Sheet Metal Journeyman	47.13	10.16	10.64	1.45	0.12	69.50

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

Sheet Metal Workers, Region II (South of N63 latitude)							
						L&M	
S1801	Sheet Metal Journeyman	41.38	10.16	12.25	1.22	0.37	65.38

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

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Sheet Metal Workers, Region II (South of N63 latitude)							
S1801	Sheet Metal Journeyman	41.38	10.16	12.25	1.22	L&M 0.37	65.38
	Skylight installation						
Sprinkler Fitters							
A1901	Sprinkler Fitter	44.75	8.77	13.35	0.45	L&M 0.25	67.57
Surveyors							
	**See note on last page if remote site						
A2001	Chief of Parties	42.81	10.58	10.39	1.35	L&M 0.10	65.23
A2002	Party Chief	41.22	10.58	10.39	1.35	L&M 0.10	63.64
A2003	Line & Grade Technician/Office Technician	40.62	10.58	10.39	1.35	L&M 0.10	63.04
A2004	Associate Party Chief (including Instrument Person & Head Chain Person)	38.50	10.58	10.39	1.35	L&M 0.10	60.92
A2005	Stake Hop/Grademan	35.57	10.58	10.39	1.35	L&M 0.10	57.99
A2006	Chain Person (for crews with more than 2 people)	34.16	10.58	10.39	1.35	L&M 0.10	56.58
Truck Drivers							
	**See note on last page if remote site						
A2101	Group I, including:	39.59	10.58	10.39	1.35	L&M 0.10	62.01
	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)						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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						
A2101	Group I, including:	39.59	10.58	10.39	1.35	L&M 0.10	62.01
	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)						
A2102	Group 1A including:	40.86	10.58	10.39	1.35	L&M 0.10	63.28
	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)						
A2103	Group II, including:	38.33	10.58	10.39	1.35	L&M 0.10	60.75
	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)						
A2104	Group III, including:	37.51	10.58	10.39	1.35	L&M 0.10	59.93
	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						

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR
Truck Drivers							
	**See note on last page if remote site						
A2104	Group III, including:	37.51	10.58	10.39	1.35	L&M 0.10	59.93
	Trucks/Jeeps (push or pull)						
A2105	Group IV, including:	36.93	10.58	10.39	1.35	L&M 0.10	59.35
	Air Cushion or similar type vehicle						
	All Terrain Vehicle						
	Buggymobile						
	Bull Lift & Fork Lift, Fork Lift with Power Boom & Swing Attachment (over 5 tons)						
	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						
A2106	Group V, including:	36.17	10.58	10.39	1.35	L&M 0.10	58.59
	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)						

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:	36.17	10.58	10.39	1.35	0.10	58.59
	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						
	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:	33.00	7.71	17.06	1.20	0.20	0.20	59.37
	Brakeman						
	Mucker						
	Nipper						
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)						
	Topman & Bull Gang						
	Tunnel Track Laborer						
						L&M	**LEG**
N2202	Group II, including:	34.10	7.71	17.06	1.20	0.20	0.20	60.47
	Burning & Cutting Torch						
	Certified Erosion Sediment Control Lead (CESCL Laborer)						
	Concrete Laborer						
	Jackhammer						
	Laser Instrument Operator						
	Nozzlemen, Pumpcrete or Shotcrete						
	Pipelayer Helper						
						L&M	**LEG**
N2203	Group III, including:	35.09	7.71	17.06	1.20	0.20	0.20	61.46
	Miner						
	Retimberman						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; 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	
Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)								
	**See note on last page if remote site							
N2204	Group IIIA, including:	38.70	7.71	17.06	1.20	0.20	0.20	65.07
	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							
	Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)							
						L&M	LEG	
N2206	Group IIIB, including:	42.59	5.00	17.06	1.20	0.20	0.20	66.25
	Federally Licensed Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade, Stake Hopper)							
Tunnel Workers, 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	
S2201	Group I, including:	33.00	7.71	17.06	1.20	0.20	0.20	59.37
	Brakeman							
	Mucker							
	Nipper							
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)							
	Topman & Bull Gang							
	Tunnel Track Laborer							
						L&M	LEG	
S2202	Group II, including:	34.10	7.71	17.06	1.20	0.20	0.20	60.47
	Burning & Cutting Torch							
	Certified Erosion Sediment Control Lead (CESCL Laborer)							
	Concrete Laborer							
	Jackhammer							
	Laser Instrument Operator							
	Nozzlemen, Pumpcrete or Shotcrete							
	Pipelayer Helper							
						L&M	LEG	
S2203	Group III, including:	35.09	7.71	17.06	1.20	0.20	0.20	61.46
	Miner							
	Retimberman							

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits		THR
Tunnel Workers, 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	
S2204	Group IIIA, including:	38.70	7.71	17.06	1.20	0.20	0.20	65.07
	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							
	Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)							
						L&M	LEG	
S2206	Group IIIB, including:	42.59	5.00	17.06	1.20	0.20	0.20	66.25
	Federally Licensed Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade, Stake Hopper)							
Tunnel Workers, Power Equipment Operators								
	**See note on last page if remote site							
						L&M		
A2207	Group I	44.03	9.95	11.05	1.00	0.10		66.13
						L&M		
A2208	Group IA	45.97	9.95	11.05	1.00	0.10		68.07
						L&M		
A2209	Group II	43.19	9.95	11.05	1.00	0.10		65.29
						L&M		
A2210	Group III	42.39	9.95	11.05	1.00	0.10		64.49
						L&M		
A2211	Group IV	35.56	9.95	11.05	1.00	0.10		57.66

*** 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.**

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Appendix B-2.

Camp rates: Taiga Ventures

2700 S. Cushman Street
Fairbanks, AK 99701
Phone: (907) 452-6631
Fax: (907) 451-8632

taiga@taigaventures.com
www.taigaventures.com

Date: January 23, 2017

To: Karena Carpenter, SRK Consulting

From: Ron Norman, Taiga Ventures

RE: Camp Proposal

Taiga Ventures is pleased to present SRK Consulting the following proposal for camp installation and rental of camp shelters in the vicinity of Pogo Mine, Alaska. Taiga Ventures has the equipment, staff, and 37 years of Alaska experience building and operating remote camps specific to your needs and expectations.

Camp Equipment Rental Rate for 30 Day Minimum: $62,274.00

- Camp equipment rental after 30 day minimum $1,900.00/day

One-Time Charges: $134,338.00

Field Labor: $147,020.00

Total: $343,632.00

Assumptions:

A. Minimum 60 days' notice prior to operational date required to mobilize and transport equipment and acquire permits. Cost estimates reflect pricing as of January 13, 2017 and may be subject to change based on availability and actual cost during proposed season.
B. Setup, teardown, and travel times are estimated & dependent on weather, equipment and site preparation, and will be billed at actual hours.
C. SRK Consulting is responsible for ensuring a prepared level site, land use permits, camp fuels, heavy equipment, and a potable water source within one mile.
D. This proposal is based off of occupancy of 44 people.
E. Meals for setup and teardown crew responsibility of SRK Consulting.
F. Rental period begins when camp setup is completed by Taiga Ventures and ends when teardown is begun by Taiga Ventures.
G. SRK Consulting will be held liable for any lost, stolen or damaged equipment under any circumstances including natural disasters and will be charged at cost of repair or replacement plus 15%, plus expediting time at $70/hour. Client has the option of repairing or replacing with identical equipment at their cost, subject to Taiga Ventures management approval.
H. Taiga Ventures will require a final contract be signed to signify the agreement to the terms and constituting a contract.

Camp Inclusions:

- 12- 12'x20' Sleepers Divided (4-person)
- 1- 24'x50' Shower/Laundry/Rec
- 1- 24'x50' Kitchen/Diner
- 1- 20'x26' Water Shelter
- 7- Porta Potty Toilets
- 7- Showers
- 7- Washers/Dryers
- Internet/TV Satellite System
- 1- Freshwater System
- 1- Graywater System
- 1- Electric Fence
- Lighting, diesel drip heaters, tables, chairs, beds, etc included

One-Time Charges:

This cost estimate includes one time charges for equipment preparation, inspection, clean and restock, freight, consumables, subsistence, resupplies, permits, and crew transportation.

Shop & Warehouse:

- Equipment prep and loading for transport estimates five crew members, five days.
- Equipment off-load, clean and restock estimates six crew members, six days.

Taiga Crew Transportation:

- Crew transportation between Fairbanks and Pogo Mine via Taiga Ventures rental vehicle.
- Any hotels, meals and associated travel expenses due to unforeseen delays i.e. weather or equipment delays will be billed at cost plus ten percent.
- Wages for unforeseen delays will be billed at actual hours.

Freight:

- Transport between Fairbanks and Pogo Mine and return via Lynden Transport.

Subsistence:

- High quality menu provided for up to 46 people (including support staff).
- Resupply will occur via Taiga Ventures on a weekly basis.

Field Labor Rate:

Travel, Setup, and teardown are estimated & dependent on the weather, equipment and site preparation. Labor will be billed at actual hours.

A. **Field Travel Wages:** Wages are based on a 12 hr days at a rate of $1,065/person/day.
- Travel wages for six set-up crew.
- Travel wages for six tear-down crew.

B. **Set up & Teardown Labor:** Wages are based on a 12 hr day at a rate of $1,065/person/day.
- **Set-up**: On-site estimate six crew members, five days.
- **Teardown:** On-site estimate six crew members, five days.

C. **Camp Support Labor:**
- Head Cook wages at $550/day based on a 12hr day.
- Prep Cook wages at $450/day based on a 12hr day.

Optional (not included in proposal):

- Camp manager wages at $770/day based on a 10 hour day.
- Camp Housekeeper wages at $450/day based on a 12hr day.
- Switch outs will occur once every 30 days, travel wages will be prorated at actual hours and pay rates.
- Camp manager and housekeeper will require on site meals to be provided.
- Camp Manager daily duties include freshwater and graywater operations, maintenance of equipment, waste removal to on site incinerator, refueling camp with provided fuels, and other duties as needed.
- Housekeeper daily duties include cleaning all facilities, sweeping and mopping floors, linen service and weekly linen changeouts, and other duties as needed.

Ron Norman

Taiga Ventures, Operations Manager
907-452-6631 office
907-378-9794 cell
contracting@taigaventures.com

Agreed to on behalf of SRK Consulting.

Signature	Date
Print Name	Title

2700 S. Cushman Street
Fairbanks, AK 99701
Phone: (907) 452-6631
Fax: (907) 451-8632

taiga@taigaventures.com
www.taigaventures.com

Date: February 8, 2017

To: Filiz Toprak, SRK Consulting

From: Ron Norman, Taiga Ventures

RE: Camp Proposal

Taiga Ventures is pleased to present SRK Consulting the following proposal for camp installation and rental of camp shelters in the vicinity of Pogo Mine, Alaska. Taiga Ventures has the equipment, staff, and 37 years of Alaska experience building and operating remote camps specific to your needs and expectations.

Camp Equipment Rental Rate for 240 Day Minimum: $59,138.00

One-Time Charges: $122,339.00

Field Labor: $174,880.00

Total: $356,357.00

Assumptions:

A. Minimum 60 days' notice prior to operational date required to mobilize and transport equipment and acquire permits. Cost estimates reflect pricing as of January 13, 2017 and may be subject to change based on availability and actual cost during proposed season.
B. Setup, teardown, and travel times are estimated & dependent on weather, equipment and site preparation, and will be billed at actual hours.
C. SRK Consulting is responsible for ensuring a prepared level site, land use permits, camp fuels, heavy equipment, and a potable water source within one mile.
D. This proposal is based off of occupancy of 6 people.
E. Rental period begins when camp setup is completed by Taiga Ventures and ends when teardown is begun by Taiga Ventures.
F. SRK Consulting will be held liable for any lost, stolen or damaged equipment under any circumstances including natural disasters and will be charged at cost of repair or replacement plus 15%, plus expediting time at $70/hour. Client has the option of repairing or replacing with identical equipment at their cost, subject to Taiga Ventures management approval.
G. Taiga Ventures will require a final contract be signed to signify the agreement to the terms and constituting a contract.

Camp Inclusions:

- 2- 12'x20' Sleepers Divided (4-person)
- 1- 16'x30' Shower/Laundry/Rec
- 1- 16'x30' Kitchen/Diner
- 2- Pacto Toilets
- 2- Showers
- 2- Washers/Dryers
- Internet/TV Satellite System
- 1- Freshwater System
- 1- Graywater System
- 1- Electric Fence
- Lighting, diesel drip heaters, tables, chairs, beds, etc included

One-Time Charges:

This cost estimate includes one time charges for equipment preparation, inspection, clean and restock, freight, consumables, subsistence, resupplies, permits, and crew transportation.

Shop & Warehouse:

- Equipment prep and loading for transport estimates four crew members, two days.
- Equipment off-load, clean and restock estimates four crew members, two days.

Taiga Crew Transportation:

- Crew transportation between Fairbanks and Pogo Mine via Taiga Ventures rental vehicle.
- Any hotels, meals and associated travel expenses due to unforeseen delays i.e. weather or equipment delays will be billed at cost plus ten percent.
- Wages for unforeseen delays will be billed at actual hours.

Freight:

- Transport between Fairbanks and Pogo Mine and return via Lynden Transport.

Subsistence:

- High quality menu provided for up to 6 people (including support staff).
- Resupply will occur via Taiga Ventures on a weekly basis.

Field Labor Rate:

Travel, Setup, and teardown are estimated & dependent on the weather, equipment and site preparation. Labor will be billed at actual hours.

A. **Field Travel Wages:** Wages are based on a 12 hr days at a rate of $1,065/person/day.
- Travel wages for four set-up crew.
- Travel wages for four tear-down crew.

B. **Set up & Teardown Labor:** Wages are based on a 12 hr day at a rate of $1,065/person/day.
- **Set-up**: On-site estimate four crew members, three days.
- **Teardown:** On-site estimate four crew members, three days.

C. **Camp Support Labor:**
- Head Cook wages at $550/day based on a 12hr day.

Ron Norman

Taiga Ventures, Operations Manager
907-452-6631 office
907-378-9794 cell
contracting@taigaventures.com

Agreed to on behalf of SRK Consulting.

_____
Signature Date

_____
Print Name Title

Appendix B-3.

Equipment rates: NC Machinery Fairbanks, Alaska

Toprak, Filiz

From: Yang, Susan
Sent: Friday, November 11, 2016 7:29 PM
To: Toprak, Filiz
Cc: Jurcevic, Marija; Pogo Closure
Subject: FW: Pogo Equipment Rates
Attachments: Copy of equipmentrates_20161025.xlsx

From: Robinson, Tad [mailto:TRobinson@NCMachinery.com]
Sent: Wednesday, November 09, 2016 5:23 PM
To: Yang, Susan <syang@srk.com>
Subject: RE: Pogo Equipment Rates

Susan ,
Here is what I have so far while we wait for the rest I thought you could plug these numbers in.

Tad Robinson
Mining Sales Rep
Fairbanks Alaska
Office 907-452-7251
Mobile 907-699-9047
Fax 907-456-3973

From: Yang, Susan [mailto:syang@srk.com]
Sent: Wednesday, November 09, 2016 2:13 PM
To: Robinson, Tad <TRobinson@NCMachinery.com>
Cc: Jurcevic, Marija <mjurcevic@srk.com>; Toprak, Filiz <ftoprak@srk.com>; Pogo Closure <pogoclosure@srk.com>
Subject: RE: Pogo Equipment Rates

Tad,

Thank you so much for the update!

Susan

From: Robinson, Tad [mailto:TRobinson@NCMachinery.com]
Sent: Wednesday, November 09, 2016 11:25 AM
To: Yang, Susan <syang@srk.com>
Subject: RE: Pogo Equipment Rates

Operations hours per month: 200

EQUIPMENT RATE TABLE

Item	Monthly Rental Rate w/o Fuel	PREVENTATIVE MAINTENANCE COST [Cost Per Hour]	GROUND ENGAGING TOOLS CONSUMPTION [Cost Per Hour] (Wear Items)	TIRE COST TABLE [Cost Per Tire]	Mob/demob cost per piece of equipment
Bulldozers					
D6T	$14,000			N/A	$2400 rnd trip
D6T w/ Winch	$15,000			N/A	$2400 rnd trp
D7E	$16,500			N/A	$2400 rnd trp
D8T	$21,000			N/A	$6,000 rnd trp
D9T	$31,000.00			N/A	$7,500 rnd trp
D10T	$36,000			N/A	$8500 rnd trp
D11T	$39,500			N/A	$10,000 rnd trp
Wheeled Dozers					
824G					
834G					
844					
854G					
Motor Graders					
120H					
14G/H	$12,750				$3250 rnd trip
16G/H	$34,000				4400 rnd trp
24M					
Track Excavators					
315F	$6,500			N/A	$2400 rnd trp
323F	$8,500			N/A	$2400 rnd trp
329F	$11,000			N/A	$2400 rnd trp
336E/L F	$13,500			N/A	$3500 rnd trp
349EL/F	$17,500			N/A	$5000 rnd trp
374F	$24,000			N/A	$7000 rnd trp
390F	$31,000			N/A	$10,500 rnd trp
Scrapers					
631G					
637G					
Wheeled Loaders					
924K	$4,620				$2400 rnd trip
930K	$6,050				$2400 rnd trip
950K	$8,250				$2400 rnd trip
966K	$12,000				$2400 rnd trip
972K	$14,900				$3750 rnd trp
980K	$18,250				$4600 rnd trp
988K	$29,500				$8000 rnd trp
990					
992G					
994D					
L2350					
Shovels					
PC2000				N/A	
PC3000				N/A	
PC4000				N/A	
PC5500				N/A	
PC8000				N/A	
Hydraulic Hammers					
H-120 (fits 325)	$8,550	N/A		N/A	$1800 rnd trip
H-160 (fits 345)	$9,800	N/A		N/A	$1800 rnd trip
H-180 (fits 365/385)		N/A		N/A	
Demolition Shears					
S340 (fits 322/325/330)		N/A		N/A	
S365 (fits 330/345)		N/A		N/A	
S390 (fits 365/385)		N/A		N/A	
Demolition Grapples					
G315 (fits 322/325)		N/A		N/A	
G320 (fits 325/330)		N/A		N/A	
G330 (fits 345/365)		N/A		N/A	
Other Equipment					
420D 4WD Backhoe	$3,750				$2400 rnd trp
428D 4WD Backhoe					
CS533E Vibratory Roller				N/A	
CS633E Vibratory Roller				N/A	
CP533E Sheepsfoot Compactor	$7,500			N/A	$2400 rnd trp
CP633E Sheepsfoot Compactor	$8,450			N/A	$2400 rnd trp
Light Truck - 1.5 Ton					
Supervisor's Truck					
Flatbed Truck					
Air Compressor + tools			N/A	N/A	
Welding Equipment			N/A	N/A	
Heavy Duty Drill Rig					
Pump (plugging) Drill Rig					
Concrete Pump			N/A	N/A	
Gas Engine Vibrator			N/A	N/A	
Generator 5KW			N/A	N/A	
HDEP Welder (pipe or liner)			N/A	N/A	
5 Ton Crane					
20 Ton Crane					
50 Ton Crane					
120 Ton Crane					
Trucks					
725					
730	$18,000				$3500 rnd trp
735	$19,000				$3800 rnd trp
740	$22,000				$5000 rnd trp
769D					
773E					
777D					
785C					
793C					
797B					
613E (5,000 gal) Water Wagon					
621E (8,000 gal) Water Wagon					
777D Water Truck					
785C Water Truck					
Dump Truck (10-12 yd^3)					

Appendix B-3a.

Tires: 2016 NV

Daniel Atkinson

From: Matt Johnson <Matt.Johnson@purcelltire.com>
Sent: Tuesday, July 12, 2016 11:47 AM
To: Daniel Atkinson
Subject: SRCE 2015 Purcell Tires (SC Edits).xlsx
Attachments: SRCE 2015 Purcell Tires (SC Edits).xlsx; ATT00001.txt

The attached spread sheet has been adjusted

Renamed on P: drive to
" SRCE 2016 Purcell Tires (SC Edits) _ da edits "

Purcell Tire and Rubber Co. 2016 Quote

Equipment	Tire Size	# of Tires Per Piece of Equipment	July 2016 Cost Per Tire	Tire Cost (1)(2)	Life Expectency Hours (Low/Zone A) (3)	Tire Cost per Hour
Motor Graders						
140H	17.5R25	6	$ 1,850.69	$ 11,104.13	3,500	$3.17
14H	20.5R25	6	$ 2,533.56	$ 15,201.35	3,500	$4.34
16H	23.5R25	6	$ 3,427.20	$ 20,563.20	3,500	$5.88
Trucks						
Dump Truck (10-12 yd^3)	11R24.5	10	$ 416.83	$ 4,168.33	1,500	$2.78
725	23.5R25	6	$ 3,846.60	$ 23,079.62	5,500	$4.20
735	26.5R25	6	$ 6,124.41	$ 36,746.44	5,500	$6.68
740	29.5R25	6	$ 6,447.42	$ 38,684.52	5,500	$7.03
769D	18.00R33	6	$ 3,524.71	$ 21,148.24	6,000	$3.52
773E	24.00R35	6	$ 6,181.81	$ 37,090.87	6,000	$6.18
777D	27.00R49	6	$ 10,976.95	$ 65,861.73	5,000	$13.17
Scrapers						
613C	18.00R25	4	$ 2,950.39	$ 11,801.56	4,000	$2.95
615C	26.5R25	4	$ 3,280.69	$ 13,122.75	4,000	$3.28
631G	37.25R35	4	$ 7,527.84	$ 30,111.38	4,000	$7.53
637G PP	37.25R35	4	$ 7,527.84	$ 30,111.38	4,000	$7.53
Wheeled Loaders						
914G	17.5R25	4	$ 2,553.26	$ 10,213.06	4,500	$2.27
924G	17.5R25	4	$ 2,553.26	$ 10,213.06	4,500	$2.27
928G	17.5R25	4	$ 2,553.26	$ 10,213.06	4,500	$2.27
938G	20.5R25	4	$ 2,913.12	$ 11,652.48	4,500	$2.59
950G	23.5R25	4	$ 3,846.60	$ 15,386.41	4,500	$3.42
962G	23.5R25	4	$ 3,846.60	$ 15,386.41	4,500	$3.42
966G	26.5R25	4	$ 6,124.41	$ 24,497.63	4,500	$5.44
972G	26.5R25	4	$ 6,124.41	$ 24,497.63	4,500	$5.44
980G	29.5R25	4	$ 6,447.42	$ 25,789.68	4,500	$5.73
988G	35/65-33	4	$ 10,125.23	$ 40,500.94	4,500	$9.00
992G	45/65R45	4	$ 22,577.54	$ 90,310.15	4,500	$20.07
Backhoes					***FRONT***	
416D 4WD	340/80R18-195LR24	2	$ 388.56	$ 777.12	3,000	$0.26
420D 4WD	340/80R18-195LR24	2	$ 388.56	$ 777.12	3,000	$0.26
430D 4WD	340/80R18-195LR24	2	$ 388.56	$ 777.12	3,000	$0.26
446D 4WD	15R19.5--21LR24	2	$ 329.94	$ 659.89	3,000	$0.22
					REAR	
416D 4WD	GDY IT510	2	$ 1,363.34	$ 2,726.67	3,000	$0.91
420D 4WD	GDY IT510	2	$ 1,363.34	$ 2,726.67	3,000	$0.91
430D 4WD	GDY IT510	2	$ 1,363.34	$ 2,726.67	3,000	$0.91
446D 4WD	Titan ITL	2	$ 644.24	$ 1,288.49	3,000	$0.43
					SET	
416D 4WD	2 of each above	2	$ 2,290.06	$ 4,580.12	3,000	$1.53
420D 4WD	2 of each above	2	$ 2,290.06	$ 4,580.12	3,000	$1.53
430D 4WD	2 of each above	2	$ 2,290.06	$ 4,580.12	3,000	$1.53
446D 4WD	2 of each above	2	$ 1,273.45	$ 2,546.90	3,000	$0.85
Other Equipment						
Supervisor's Truck (Pickup)	265/75R16	4	$ 117.81	$ 471.24	850	$0.55
613E (5,000 gal) Water Wagon	23.5R25	4	$ 3,044.32	$ 12,177.27	6,000	$2.03
621E (8,000 gal) Water Wagon	33.25R29	4	$ 7,839.59	$ 31,358.36	8,000	$3.92

Notes:

1) Total cost for all required tires.

2) Source: Purcell Tire & Rubber Company 07/12/2016

3) Caterpillar Handbook, Edition 34; Estimated Tire Life Curves Ch. 20

Equipment	Tire	Tire Size	# of Tires Per Piece of Equipment	Purcell Cost 2016	Tire Cost (1)(2)	Life Expectency Hours (Low/Zone A) (3)	Tire Cost per Hour
Motor Graders							
140H Use for 120H	Mich XLD D2 A	17.5R25	6	$ 1,850.69	$ 11,104.13	3,500	$3.17
14H	Mich XLD D2 A	20.5R25	6	$ 2,533.56	$ 15,201.35	3,500	$4.34 – PFC
16H	Mich XLD D2 A	23.5R25	6	$ 3,427.20	$ 20,563.20	3,500	$5.88
Trucks							
Dump Truck (10-12 yd^3)		11R24.5	10	$ 416.83	$ 4,168.33	1,500	$2.78
725 / 730		23.5R25	6	$ 3,846.60	$ 23,079.62	5,500	$4.20
735		26.5R25	6	$ 6,124.41	$ 36,746.44	5,500	$6.68
740		29.5R25	6	$ 6,447.42	$ 38,684.52	5,500	$7.03
769D	GDY RT4A	18.00R33	6	$ 3,524.71	$ 21,148.24	6,000	$3.52
773E	Mich	24.00R35	6	$ 6,181.81	$ 37,090.87	6,000	$6.18
777D	GDY RM4A	27.00R49	6	$ 10,976.95	$ 65,861.73	5,000	$13.17
Scrapers							
613C	Mich XKD1 A	18.00R25	4	$ 2,950.39	$ 11,801.56	4,000	$2.95
615C	Mich XHA	26.5R25	4	$ 3,280.69	$ 13,122.75	4,000	$3.28
631G	Mich XTS	37.25R35	4	$ 7,527.84	$ 30,111.38	4,000	$7.53
637G PP	Mich XTS	37.25R35	4	$ 7,527.84	$ 30,111.38	4,000	$7.53
Wheeled Loaders							
914G	Mich XSM D2+	17.5R25	4	$ 2,553.26	$ 10,213.06	4,500	$2.27
924G	Mich XSM D2+	17.5R25	4	$ 2,553.26	$ 10,213.06	4,500	$2.27
928G	Mich XSM D2+	17.5R25	4	$ 2,553.26	$ 10,213.06	4,500	$2.27
938G	Mich XMine D2	20.5R25	4	$ 2,913.12	$ 11,652.48	4,500	$2.59
950G	Mich XMine D2	23.5R25	4	$ 3,846.60	$ 15,386.41	4,500	$3.42
962G	Mich XMine D2	23.5R25	4	$ 3,846.60	$ 15,386.41	4,500	$3.42
966G	Mich XSM D2	26.5R25	4	$ 6,124.41	$ 24,497.63	4,500	$5.44
972G	Mich XSM D2	26.5R25	4	$ 6,124.41	$ 24,497.63	4,500	$5.44
980G	Mich XMine D2	29.5R25	4	$ 6,447.42	$ 25,789.68	4,500	$5.73
988G	Mich XSM D2+	35/65-33	4	$ 10,125.23	$ 40,500.94	4,500	$9.00
992G	Mich XMine D2	45/65R45	4	$ 22,577.54	$ 90,310.15	4,500	$20.07
Backhoes				***Front***			
416D 4WD	Mich XMCL	340/80R18-195LR24	2	$ 388.56	$ 777.12	3,000	$0.26
420D 4WD	Mich XMCL	340/80R18-195LR24	2	$ 388.56	$ 777.12	3,000	$0.26
430D 4WD	Mich XMCL	340/80R18-195LR24	2	$ 388.56	$ 777.12	3,000	$0.26
446D 4WD	GDY IT323	15R19.5–21LR24	2	$ 329.94	$ 659.89	3,000	$0.22
				Rear			
416D 4WD		GDY IT510	2	$ 1,363.34	$ 2,726.67	3,000	$0.91
420D 4WD		GDY IT510	2	$ 1,363.34	$ 2,726.67	3,000	$0.91
430D 4WD		GDY IT510	2	$ 1,363.34	$ 2,726.67	3,000	$0.91
446D 4WD		Titan ITL	2	$ 644.24	$ 1,288.49	3,000	$0.43
				Set			
416D 4WD		2 of each above	2	$ 1,751.90	$ 3,503.79	3,000	$1.17
420D 4WD		2 of each above	2	$ 1,751.90	$ 3,503.79	3,000	$1.17 – PFCE
430D 4WD		2 of each above	2	$ 1,751.90	$ 3,503.79	3,000	$1.17
446D 4WD		2 of each above	2	$ 974.19	$ 1,948.38	3,000	$0.65
Other Equipment							
Supervisor's Truck (Pickup)		265/75R16	4	$ 117.81	$ 471.24	850	$0.55 – PFCE
613E (5,000 gal) Water Wagon	Mich XADN	23.5R25	4	$ 3,044.32	$ 12,177.27	6,000	$2.03
621E (8,000 gal) Water Wagon	GDY RT3A	33.25R29	4	$ 7,839.59	$ 31,358.36	8,000	$3.92

Notes:
1) Total cost for all required tires.
2) Source: Purcell Tire & Rubber Company 07/12/2015
3) Caterpillar Handbook, Edition 34; Estimated Tire Life Curves Ch. 20

Backhoes			
416D 4WD	(2 front + 2 rear)/4 = Per Tire	$	875.95
420D 4WD	(2 front + 2 rear)/4 = Per Tire	$	875.95
430D 4WD	(2 front + 2 rear)/4 = Per Tire	$	875.95
446D 4WD	(2 front + 2 rear)/4 = Per Tire	$	487.09

Did not use

Appendix B-3b.

GET: 2016 NV

Daniel Atkinson

From: Tony Araquistain <TonyAraquistain@cashmanequipment.com>
Sent: Wednesday, July 20, 2016 4:04 PM
To: Daniel Atkinson
Cc: Paul Comba; Philip Migliore
Subject: RE: Equipment Rental Rates and Associated Costs Request for the Nevada Standardized Reclamation Cost Estimator
Attachments: 2016 Std Unit Costs-Equipment.doc

Dan;

Attached, please find the 2016 version of the Equipment Rental Rates and associated costs for NDEQ. As with years past, we have added or subtracted some machines due to model changes and/or different rental demand.

Also, of some possible value to you, the Caterpillar Performance Handbook, Edition 46 can be downloaded to your computer from the Cashman Equipment Web site.

Thanks again for your interest as well as your patience; please let me know if you need any further information!!

Best Regards,
Tony Araquistain
CASHMAN EQUIPMENT
Mine Sales Rep.
Elko, Nevada
O. 775.778.6506
C. 775.778.5158

Our Core Values:
Communicators. **A**ccountable. **S**afe. **H**onest. **M**entors. **A**daptable. **N**ow - **Right Now**!

From: Daniel Atkinson [mailto:d.atkinson@ndep.nv.gov]
Sent: Friday, June 03, 2016 11:08 AM
To: Tony Araquistain <TonyAraquistain@cashmanequipment.com>
Cc: Paul Comba <pcomba@ndep.nv.gov>; Philip Migliore <pmigliore@ndep.nv.gov>
Subject: Equipment Rental Rates and Associated Costs Request for the Nevada Stanadardized Reclamation Cost Estimator

Mr. Araquistain,

Thank you for providing updated equipment rental rates and associated cost information in years past. I am writing to, once again, request updated cost data for inclusion into the Standardized Reclamation Cost Estimator (SRCE). As you may recall, the SRCE Policies and Procedures require us to have the cost data made available by August 1 of each year. From previous correspondence I understand that Caterpillar price adjustments occur on July 1 of each year. Therefore we would appreciate your updated equipment rental rates and associated costs before the end of July. The same equipment types and reporting format would be greatly appreciated.

As you have in the past, please provide assembly and disassembly costs for the large equipment (D10, D9, 998, 992, 777, and 385).

Thank you again for your help in the past and please let me know if you are able to assist us once again in updating the SRCE cost.

Best wishes,

Daniel Atkinson
Bonding Liaison

NDEP – BMRR (M, W, F)
(775) 687 – 9566 or d.atkinson@ndep.nv.gov

BLM – Nevada State Office (Tu, Th)
(775) 861 – 6538 (o) or datkinson@blm.gov
(775) 384 – 4036 (c)

CASHMAN CAT
5010 E. Idaho Street, Elko, NV 89801 | Phone: (775) 738-9871 | Fax: (775) 738-7865

July 08, 2016

Mr. Daniel Atkinson
NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING REGULATION
901 So. Stewart Street
Suite 4001
Carson City, Nevada 89701-5249

Dear Dan;

THANK YOU for your request for current rental rates and associated costs for 2016. Listed below are the machines you requested information for:

MACHINE	DAILY RATE	WEEKLY RATE	MONTHLY RATE 176 SMU HRS	PM COST PER HOUR	G.E.T. COST PER HOUR	FUEL USE PER HOUR
TRACTORS						
D4K XL	$440.00	$1,760.00	$5,200.00	$5.06	$1.71	2.5
D5K XL	$495.00	$1,980.00	$5,940.00	$5.06	$3.19	2.6
D6K XL	$600.00	$2,200.00	$6,500.00	$5.34	$3.85	3.0
D6N XL	$600.00	$2,700.00	$8,000.00	$5.34	$3.85	4.0
D6N LGP	$700.00	$2,900.00	$8,500.00	$5.34	$3.85	4.0
D6T XL D6R	$1,000.00	$3,300.00	$9,900.00	$5.06	$4.77	6.55
D6T LGP D7R	$1,000.00	$3,600.00	$10,800.00	$5.06	$4.77	6.55
D8T D8R	$1,500.00	$6,400.00	$19,000.00	$5.56	$9.24	10.4
D9T D9R	NA	$7,700.00	$23,100.00	$6.54	$14.37	13.5
D10T D10R	NA	$10,700.00	$32,000.00	$9.43	$20.11	18.7
D11R/T D11R	NA	NA	$62,000.00	$11.87	$29.88	26.2
EXCAVATORS						
301.7	$180.00	$720.00	$1,940.00	$2.41	$2.54	.41
302.7	$220.00	$880.00	$2,350.00	$2.29	$2.80	.55
303.5	$240.00	$960.00	$2,880.00	$2.17	$2.91	.75
305.5	$310.00	$1,245.00	$3,730.00	$2.25	$3.07	1.25
308	$365.00	$1,460.00	$4,380.00	$2.75	$3.22	1.75
314 312C	$475.00	$1,900.00	$5,700.00	$3.83	$3.72	2.5
320	$620.00	$2,480.00	$7,440.00	$4.09	$4.29	4.2
328	$620.00	$2,480.00	$7,440.00	$3.94	$5.42	5.7
328 CRT 325C	$700.00	$2,800.00	$8,200.00	$3.94	$5.42	5.7
329	$700.00	$2,700.00	$8,000.00	$3.94	$5.88	5.3

EXCAVATORS (con't)						
336 330C	$900.00	$3,600.00	$10,800.00	$5.09	$5.97	6.70
349 345B	$1,200.00	$4,600.00	$13,600.00	$5.14	$6.10	10.10
374 385BL	$1,900.00	$7,500.00	$22,500.00	$5.70	$12.49	13.4
390	$5,000.00	$9,700.00	$28,900.00	$7.76	$22.90	11.8
SCRAPERS						
631	$2,000.00	$5,333.00	$16,000.00	$6.80	$7.82	14.7
637	NA	NA	$33,000.00	$11.21	$9.82	22.2
WATER WAGON						
621 (8,000GAL)	$1,300.00	$3,667.00	$11,000.00	$6.52	NA	11.9
631 (10,000GAL)	$1,900.00	$4,667.00	$14,000.00	$6.80	NA	14.7
WATER TOWER						
MPT-12 (12k GAL)	N/A	$500.00	$1,500.00	NA	NA	NA
MPT-12 (12k GAL) (side dump)	N/A	$600.00	$1,800.00	NA	NA	NA
LDR/BACKHOE						
420	$285.00	$1,140.00	$3,200.00	$3.29	$3.31	4.3
430 428	$350.00	$1,400.00	$4,200.00	$3.37	$3.41	4.7
450	$445.00	$1,780.00	$4,800.00	$3.32	$3.49	5.2
COMPACTORS						
825H	$2,000.00	$5,500.00	$16,500.00	$6.42	$9.42	16
825K	$2,000.00	$5,833.00	$17,500.00	$5.18	$9.42	16
HAMMERS						
H-75 (fits 420 & 308)	$295.00	$1,180.00	$3,350.00	NA	$2.40	NA
H-95 (fits 420-446/308)	$300.00	$1,200.00	$3,600.00	NA	$2.88	NA
H-115 (fits 311-325)	$300.00	$1,200.00	$3,600.00	NA	$4.68	NA
H-120 (fits 316-325)	$350.00	$1,400.00	$4,200.00	NA	$5.27	NA
H-140 (fits 328-336)	$900.00	$2,800.00	$8,200.00	NA	$7.40	NA
H-160DS (fits 336-349)	$1,200.00	$4,000.00	$12,000.00	NA	$10.24	NA
H-180		$4,133	$12,400	N/A	$12.02	N/A
		$4,256	$12,770	N/A	$12.38	N/A

5,000 gal? Used cost from 2015

(2013 costs

(adjusted to 2

July 2013 HCI = 201.2
Jan 2016 HCI = 207.2

MOTORGRADERS						
140M 120H	$800.00	$3,200.00	$9,600.00	$5.97	$9.90	4.0
14M 14G	$1,300.00	$4,833.00	$14,500.00	$6.49	$14.32	4.65
16M 16G/H	$1,800.00	$7,000.00	$21,000.00	$5.24	$19.56	5.85
WHEEL LOADERS						
924	$450.00	$1,800.00	$5,400.00	$3.11	$4.11	1.90
926	$450.00	$1,800.00	$5,400.00	$3.90	$4.26	1.80
930 928G	$500.00	$2,000.00	$6,000.00	$3.94	$4.26	1.90
938	$550.00	$2,200.00	$6,600.00	$3.24	$5.23	2.0
950	$650.00	$2,600.00	$7,600.00	$4.69	$7.91	3.0
966	$950.00	$3,700.00	$10,900.00	$6.29	$9.94	3.7
980 & 972G	$1,100.00	$4,400.00	$13,000.00	$5.14	$12.58	5.4
988	$2,000.00	$7,000.00	$21,000.00	$9.34	$13.47	10.4
992	NA	NA	$60,000.00	$11.06	$30.95	23.0
OFF HIGHWAY TRUCKS						
770G 769	NA	NA	$21,000.00	$8.04	$3.31	9.00
773G	NA	NA	$33,000.00	$7.03	$3.72	13.45
777G	NA	NA	$54,000.00	$9.29	$4.16	17.85
ARTICULATED TRUCK and Dumptruck 10-12yd³ PM & GET						
740 use for all	$1,500.00	$5,000.00	$15,000.00	$7.09	$2.96	7.75
745	$1,700.00	$5,667.00	$17,000.00	$6.40	$3.06	7.80

The 'NA' listed indicate these machines are not typically rented for these periods of time by **CASHMAN EQUIPMENT**.

The rental costs shown were obtained from **CASHMAN EQUIPMENT'S** current rental rate schedule; the PM costs were obtained from **CASHMAN EQUIPMENT** historical data; the G.E.T. consumption was obtained from **CATERPILLAR** historical data and the Fuel Consumption was obtained from the current **CATERPILLAR PERFORMANCE HANDBOOK (Edition 46)** and the previous editions 42, 43, 44 & 45, Owning & Operating Costs, using the 'average' or 'medium' consumption levels for the most current models. Fuel burn rates are expressed in gallons per hour.

Additionally, the following should be noted: 1) All machines are subject to availability and F.O.B. **CASHMAN EQUIPMENT** yard(s); 2) Any necessary assembly and disassembly costs are not included (specifically, the D11/R/T, D10R/T, D9R/T, 988G/H, 992K, 777F, 374 and 390); 3) Major repairs to engines, transmissions, torque converters, wheel groups and differentials is included in rental cost (unless caused by abuse, negligence, etc.); 4) Expenses incurred in the day to day operations of the machine (fuel, operator, insurance, etc.) are not included in the rental rates.

Approximate assembly and disassembly costs for the machine will vary due to the Minesite location and the availability of cranes and/or lifting equipment; however, reasonable estimates for the D11R/T would be $43,850.00, D10R/T-$12,250.00, 992G-$23,350.00; 777F-$24,150.00 and the 374/390-$13,400.00 ***each*** *the assembly and disassembly*. Specific assembly/disassembly costs also may be more or less if the machines do not have to have significant assembly/disassembly to transport. The transport costs can vary due to the time of year (frost limitations) and the specific roadway (width, height, length and weight restrictions). That in mind, the rates shown should cover the maximum amounts needed for each machine, ***each*** *procedure*, less crane and lifting equipment.

Some machines have been removed from the rental schedule due to a low utilization and/or it is a discontinued model. Where practical, a replacement model has been included.

Last, **CASHMAN EQUIPMENT** can offer these rental rates to any Federal, State or Local governmental agency, as well as to any credit-worthy customer within **CASHMAN EQUIPMENT'S** franchised territory in Nevada.

Thank you, again, Dan, for your request. Should you need any additional information, please feel free to give me a call!

With Best Regard
CASHMAN EQUIPMENT,

Tony Araquistain
Mine Sales Rep

Appendix B-3c.

RS Means city cost indexes NV & AK

City Cost Indexes

	DIVISION	MONTANA																	
		HAVRE			HELENA			KALISPELL			MILES CITY			MISSOULA			WOLF POINT		
		595			596			599			593			598			592		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		98.2	98.2		98.2	98.2		98.2	98.2		98.2	98.2		98.2	98.2		98.2	98.2
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	109.2	95.8	99.7	98.5	95.8	96.6	92.2	96.0	94.9	98.5	95.4	96.3	85.1	95.8	92.7	115.5	95.6	101.3
0310	Concrete Forming & Accessories	78.4	69.0	70.3	101.5	65.2	70.2	88.7	71.4	73.8	96.8	67.6	71.6	88.7	71.4	73.8	89.2	67.9	70.8
0320	Concrete Reinforcing	98.6	81.7	90.0	102.5	81.7	91.9	100.4	83.4	91.8	98.2	81.8	89.8	99.5	83.4	91.3	99.6	81.8	90.5
0330	Cast-in-Place Concrete	153.3	60.4	115.1	115.0	62.9	93.6	123.6	62.7	98.6	135.3	60.3	104.5	104.9	64.9	88.4	151.5	60.6	114.2
03	CONCRETE	122.7	69.3	96.5	106.7	68.4	87.9	102.6	71.5	87.3	110.4	68.6	89.9	90.0	72.2	81.3	126.5	68.9	98.2
04	MASONRY	124.5	69.8	90.4	120.1	75.7	92.4	122.2	77.0	94.0	129.7	65.3	89.6	147.9	76.6	103.4	131.0	66.0	90.5
05	METALS	96.3	89.6	94.2	102.1	88.8	98.0	96.1	90.6	94.4	95.4	89.9	93.7	96.6	90.7	94.8	95.5	89.2	93.6
06	WOOD, PLASTICS & COMPOSITES	77.4	70.5	73.5	102.9	62.3	80.2	89.1	70.5	78.7	96.9	70.5	82.1	89.1	70.5	78.7	88.5	70.5	78.4
07	THERMAL & MOISTURE PROTECTION	106.6	68.0	90.8	103.9	70.7	90.3	105.9	72.8	92.3	106.2	65.7	89.6	105.5	79.1	94.7	107.1	66.0	90.3
08	OPENINGS	95.6	68.0	89.2	99.8	65.2	91.7	95.6	68.5	89.3	95.1	68.0	88.8	95.6	68.3	89.2	95.1	67.4	88.7
0920	Plaster & Gypsum Board	94.8	69.8	77.9	96.0	61.4	72.6	98.7	69.8	79.2	106.7	69.8	81.8	98.7	69.8	79.2	102.1	69.8	80.3
0950, 0980	Ceilings & Acoustic Treatment	88.3	69.8	76.2	90.8	61.4	71.5	88.3	69.8	76.2	87.5	69.8	75.9	88.3	69.8	76.2	87.5	69.8	75.9
0960	Flooring	101.8	74.2	93.9	106.7	59.1	93.1	106.2	74.2	97.1	111.3	70.2	99.5	106.2	74.2	97.1	107.6	70.2	96.9
0970, 0990	Wall Finishes & Painting/Coating	103.4	48.6	70.4	99.7	47.2	68.0	103.4	47.2	69.5	103.4	47.2	69.5	103.4	62.0	78.4	103.4	48.6	70.4
09	FINISHES	96.5	67.7	80.6	98.6	61.6	78.2	97.2	69.1	81.7	100.0	65.7	81.1	96.7	70.7	82.3	99.6	66.0	81.1
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	70.8	94.1	100.0	94.0	98.8	100.0	93.9	98.8	100.0	90.4	98.1	100.0	93.7	98.7	100.0	90.6	98.1
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	95.4	67.8	84.3	100.1	70.1	88.0	95.4	69.2	84.8	95.4	69.6	85.0	100.2	69.2	87.7	95.4	70.0	85.1
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	97.7	71.2	83.7	104.6	71.3	87.0	102.2	69.3	84.8	97.7	76.9	86.7	103.2	67.7	84.5	97.7	76.9	86.7
MF2014	WEIGHTED AVERAGE	101.2	73.1	89.0	102.4	73.8	89.9	99.0	75.3	88.7	100.1	74.0	88.7	99.9	75.5	89.3	102.3	74.2	90.0

	DIVISION	NEBRASKA																	
		ALLIANCE			COLUMBUS			GRAND ISLAND			HASTINGS			LINCOLN			MCCOOK		
		693			686			688			689			683 - 685			690		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		97.8	97.8		101.6	101.6		101.6	101.6		101.6	101.6		101.6	101.6		101.6	101.6
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	100.5	98.8	99.3	100.2	92.3	94.6	105.0	93.1	96.5	103.7	92.3	95.6	92.7	93.0	92.9	103.8	92.2	95.6
0310	Concrete Forming & Accessories	87.3	56.4	60.7	95.5	67.4	71.2	95.1	72.4	75.5	98.2	71.9	75.5	95.7	68.2	71.9	93.0	56.1	61.2
0320	Concrete Reinforcing	108.8	85.1	96.7	98.3	76.5	87.2	97.7	76.4	86.9	97.7	77.1	87.2	96.7	76.0	86.1	101.8	76.2	88.8
0330	Cast-in-Place Concrete	113.7	60.0	91.6	115.7	60.0	92.8	122.5	67.2	99.8	122.5	63.2	98.2	92.4	69.6	83.1	122.6	59.3	96.6
03	CONCRETE	123.9	63.5	94.2	108.8	67.3	88.4	113.7	72.1	93.3	113.9	70.6	92.6	95.6	71.0	83.5	112.9	62.0	87.9
04	MASONRY	115.6	74.1	89.7	122.7	77.8	94.7	115.4	76.1	90.9	124.9	88.0	101.9	104.8	67.2	81.4	110.7	73.9	87.8
05	METALS	101.5	78.7	94.5	96.1	84.6	92.6	97.8	86.3	94.3	98.7	85.8	94.7	99.9	85.5	95.5	96.3	83.6	92.4
06	WOOD, PLASTICS & COMPOSITES	87.0	52.2	67.5	101.2	66.7	81.9	100.4	72.2	84.6	104.1	72.2	86.3	98.4	66.7	80.7	95.7	52.2	71.4
07	THERMAL & MOISTURE PROTECTION	104.3	67.8	89.4	100.8	69.8	88.1	100.9	72.8	89.4	100.9	83.4	93.8	98.1	69.9	86.5	98.9	66.6	85.6
08	OPENINGS	94.5	58.6	86.1	95.4	66.1	88.6	95.5	69.7	89.5	95.5	69.1	89.3	107.8	63.0	97.4	95.0	56.6	86.1
0920	Plaster & Gypsum Board	82.7	50.7	61.1	90.9	65.6	73.8	90.1	71.3	77.4	91.9	71.3	78.0	96.2	65.6	75.5	93.7	50.7	64.7
0950, 0980	Ceilings & Acoustic Treatment	91.9	50.7	64.8	80.2	65.6	70.6	80.2	71.3	74.3	80.2	71.3	74.3	90.4	65.6	74.1	88.0	50.7	63.5
0960	Flooring	99.9	82.1	94.8	92.9	100.4	95.0	92.7	107.2	96.8	93.9	100.4	95.7	101.0	83.6	96.0	97.6	82.1	93.1
0970, 0990	Wall Finishes & Painting/Coating	168.5	54.8	99.9	85.5	63.7	72.4	85.5	67.6	74.7	85.5	63.7	72.4	103.8	77.9	88.1	93.8	47.7	66.0
09	FINISHES	98.4	59.5	77.0	89.9	71.9	80.0	90.0	77.1	82.9	90.6	75.2	82.1	96.9	71.7	83.0	95.6	58.6	75.2
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	65.3	93.0	100.0	86.1	97.2	100.0	88.7	97.7	100.0	86.7	97.3	100.0	88.1	97.6	100.0	64.5	92.8
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	95.3	70.5	85.3	95.2	76.0	87.4	100.0	78.0	91.1	95.2	76.0	87.5	99.9	78.0	91.0	95.1	75.9	87.4
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	92.3	69.4	80.2	93.6	82.3	87.6	92.2	67.0	78.9	91.6	83.6	87.4	105.4	67.0	85.1	94.4	69.4	81.2
MF2014	WEIGHTED AVERAGE	101.0	70.5	87.7	98.4	77.1	89.1	100.0	77.1	90.0	99.4	79.8	90.9	100.5	74.9	89.4	98.7	71.1	86.7

	DIVISION	NEBRASKA												NEVADA					
		NORFOLK			NORTH PLATTE			OMAHA			VALENTINE			CARSON CITY			ELKO		
		687			691			680 - 681			692			897			898		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		92.8	92.8		101.6	101.6		92.8	92.8		95.9	95.9		98.2	98.2		98.2	98.2
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	83.6	91.5	89.2	105.2	92.3	96.0	90.0	92.1	91.5	88.6	96.5	94.2	84.5	99.0	94.8	66.9	97.6	88.8
0310	Concrete Forming & Accessories	81.7	71.1	72.5	95.4	71.5	74.8	94.3	72.4	75.4	83.7	55.8	59.6	103.3	92.8	94.2	109.2	81.3	85.2
0320	Concrete Reinforcing	98.4	66.5	82.2	101.2	77.1	88.9	99.7	76.6	87.9	101.8	66.1	83.7	103.2	118.4	111.0	102.7	113.2	108.1
0330	Cast-in-Place Concrete	116.7	62.4	94.4	122.6	64.5	98.7	101.1	75.5	90.6	108.4	57.2	87.4	100.4	85.7	94.4	95.1	80.2	89.0
03	CONCRETE	107.3	67.5	87.8	113.0	70.8	92.3	100.1	74.5	87.5	110.2	58.9	85.0	100.9	95.2	98.1	95.4	87.2	91.4
04	MASONRY	129.4	79.1	98.0	98.6	87.9	92.0	106.8	79.0	89.4	110.9	73.9	87.8	117.3	94.6	103.2	115.0	71.9	88.1
05	METALS	99.6	73.5	91.6	95.5	85.4	92.4	99.9	78.9	93.4	107.6	73.4	97.1	94.0	104.7	97.3	96.9	99.4	97.7
06	WOOD, PLASTICS & COMPOSITES	84.0	71.7	77.1	97.8	72.2	83.5	94.1	72.0	81.7	81.7	51.7	64.9	92.1	94.4	93.4	100.6	81.8	90.1
07	THERMAL & MOISTURE PROTECTION	100.8	73.6	89.6	98.9	82.8	92.3	95.5	78.7	88.6	99.6	67.6	86.5	103.5	92.3	99.0	99.9	76.1	90.1
08	OPENINGS	97.2	66.5	90.0	94.3	69.1	88.4	100.0	71.5	93.3	96.9	55.6	87.3	99.5	107.9	101.4	100.9	85.9	97.4
0920	Plaster & Gypsum Board	90.8	71.3	77.6	93.7	71.3	78.6	100.5	71.6	81.0	95.6	50.7	65.3	100.9	94.1	96.3	105.3	81.2	89.0
0950, 0980	Ceilings & Acoustic Treatment	92.0	71.3	78.4	88.0	71.3	77.0	93.0	71.6	78.9	104.9	50.7	69.3	94.0	94.1	94.1	94.4	81.2	85.7
0960	Flooring	117.4	100.4	112.5	98.5	100.4	99.1	113.4	81.9	104.4	127.4	79.8	113.8	101.9	107.9	103.6	105.4	51.1	89.9
0970, 0990	Wall Finishes & Painting/Coating	151.7	63.7	98.6	93.8	63.7	75.6	126.2	67.2	90.6	167.2	66.1	106.1	101.2	80.8	88.9	102.6	95.9	98.5
09	FINISHES	108.8	75.2	90.3	95.9	75.2	84.5	106.0	73.3	88.0	118.2	59.7	86.0	97.9	94.3	95.9	97.6	77.2	86.3
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	85.5	97.1	100.0	66.8	93.3	100.0	87.6	97.5	100.0	62.5	92.4	100.0	89.8	97.9	100.0	62.8	92.5
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	95.0	75.8	87.2	99.9	76.0	90.2	99.9	76.8	90.6	94.8	75.7	87.1	100.0	80.1	92.0	97.7	79.6	90.4
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	92.4	82.3	87.1	92.6	77.1	84.4	99.1	82.3	90.2	89.7	86.6	88.0	103.2	96.7	99.7	100.7	96.6	98.6
MF2014	WEIGHTED AVERAGE	100.0	76.7	89.8	99.0	78.3	90.0	100.2	78.6	90.8	101.2	72.5	88.7	99.7	93.5	97.0	98.3	84.9	92.4

City Cost Indexes

	DIVISION	NEVADA									NEW HAMPSHIRE								
		ELY			LAS VEGAS			RENO			CHARLESTON			CLAREMONT			CONCORD		
		893			889 - 891			894 - 895			036			037			032 - 033		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		98.2	98.2		98.2	98.2		98.2	98.2		100.9	100.9		100.9	100.9		100.9	100.9
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	72.2	99.1	91.3	75.4	101.0	93.6	72.2	99.0	91.3	86.9	99.6	96.0	80.9	99.6	94.2	93.7	103.9	100.9
0310	Concrete Forming & Accessories	102.3	105.7	105.2	103.5	109.6	108.8	98.7	92.7	93.5	86.8	81.1	81.9	92.6	81.1	82.7	95.5	93.6	93.8
0320	Concrete Reinforcing	101.5	111.6	106.7	93.7	119.9	107.1	96.0	119.9	108.1	84.1	93.5	88.9	84.1	93.5	88.9	95.3	94.1	94.7
0330	Cast-in-Place Concrete	102.1	105.4	103.4	98.9	107.8	102.5	108.0	85.7	98.8	97.1	70.5	86.2	89.2	70.5	81.6	112.2	90.5	103.3
03	CONCRETE	103.4	106.4	104.9	98.7	110.6	104.6	103.1	95.4	99.3	99.1	80.0	89.7	91.1	80.0	85.6	106.6	92.5	99.6
04	MASONRY	119.7	102.5	109.0	108.3	104.0	105.6	114.3	94.6	102.0	97.5	84.7	89.5	96.9	84.7	89.3	110.9	104.2	106.7
05	METALS	96.9	103.3	98.9	104.5	108.6	105.8	98.4	105.1	100.5	92.8	90.1	92.0	92.8	90.1	92.0	98.8	93.8	97.3
06	WOOD, PLASTICS & COMPOSITES	91.3	106.8	100.0	89.8	107.9	99.9	85.9	94.4	90.6	87.4	90.2	89.0	93.6	90.2	91.7	95.4	92.4	93.7
07	THERMAL & MOISTURE PROTECTION	100.3	95.7	98.4	113.8	102.6	109.2	99.9	92.3	96.8	98.8	72.3	88.0	98.7	72.3	87.9	101.9	91.5	97.6
08	OPENINGS	100.8	98.8	100.3	99.9	115.6	103.5	98.7	102.3	99.6	102.0	76.4	96.0	103.3	76.4	97.0	104.9	87.2	100.8
0920	Plaster & Gypsum Board	101.0	107.0	105.1	97.5	108.1	104.7	92.0	94.1	93.4	100.0	89.3	92.8	101.0	89.3	93.1	103.9	91.6	95.6
0950, 0980	Ceilings & Acoustic Treatment	94.4	107.0	102.7	102.7	108.1	106.3	99.4	94.1	95.9	94.2	89.3	91.0	94.2	89.3	91.0	99.9	91.6	94.4
0960	Flooring	103.0	57.2	89.9	94.6	107.9	98.4	99.9	107.9	102.2	98.4	32.1	79.4	100.6	32.1	81.0	102.7	116.9	106.8
0970, 0990	Wall Finishes & Painting/Coating	102.6	121.0	113.7	105.4	121.0	114.8	102.6	80.8	89.4	96.4	45.7	65.8	96.4	46.0	65.9	95.8	95.4	95.6
09	FINISHES	96.8	98.9	98.0	95.8	110.4	103.9	95.6	94.3	94.9	95.3	69.7	81.2	95.6	69.8	81.4	97.4	97.9	97.7
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	63.6	92.6	100.0	104.4	100.9	100.0	89.8	97.9	100.0	92.2	98.4	100.0	92.2	98.4	100.0	104.3	100.9
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	97.7	104.5	100.5	100.1	104.4	101.8	100.0	80.1	92.0	95.3	39.6	72.8	95.3	39.7	72.9	99.9	84.4	93.7
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	101.0	109.1	105.3	105.4	119.9	113.1	101.4	96.7	98.9	98.5	52.9	74.4	98.5	52.9	74.4	99.5	83.6	91.1
MF2014	WEIGHTED AVERAGE	99.4	102.2	100.6	100.9	108.7	104.3	99.6	93.3	96.8	96.7	69.5	84.8	95.9	69.5	84.4	101.1	92.5	97.4

	DIVISION	NEW HAMPSHIRE															NEW JERSEY		
		KEENE			LITTLETON			MANCHESTER			NASHUA			PORTSMOUTH			ATLANTIC CITY		
		034			035			031			030			038			082,084		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		100.9	100.9		100.9	100.9		100.9	100.9		100.9	100.9		100.9	100.9		99.1	99.1
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	94.0	99.9	98.2	81.0	99.9	94.4	93.6	103.9	100.9	95.7	103.9	101.5	89.2	104.0	99.7	96.4	105.2	102.7
0310	Concrete Forming & Accessories	91.3	83.0	84.2	102.9	83.0	85.8	96.9	94.0	94.4	99.3	94.0	94.8	88.2	94.3	93.4	109.0	127.5	125.0
0320	Concrete Reinforcing	84.1	93.6	88.9	84.8	93.6	89.3	103.7	94.1	98.8	105.1	94.1	99.5	84.1	94.2	89.2	76.3	118.1	97.6
0330	Cast-in-Place Concrete	97.6	72.8	87.4	87.6	72.7	81.5	110.6	113.1	111.7	92.4	113.1	100.9	87.6	113.2	98.1	86.1	133.0	105.3
03	CONCRETE	98.7	81.6	90.3	90.5	81.6	86.1	107.2	100.4	103.9	98.9	100.4	99.7	90.6	100.6	95.5	93.1	126.5	109.5
04	MASONRY	101.3	88.3	93.2	107.9	88.3	95.7	102.9	104.2	103.7	101.4	104.2	103.1	97.2	104.2	101.5	111.8	132.0	124.4
05	METALS	93.5	90.7	92.6	93.5	90.7	92.6	101.3	94.3	99.2	98.8	94.3	97.5	95.0	94.9	94.9	95.6	106.1	98.8
06	WOOD, PLASTICS & COMPOSITES	92.0	90.2	91.0	103.5	90.2	96.0	95.3	92.4	93.7	101.9	92.4	96.6	88.7	92.4	90.8	109.6	127.2	119.4
07	THERMAL & MOISTURE PROTECTION	99.2	75.3	89.4	98.8	73.8	88.5	101.5	95.0	98.8	99.6	95.0	97.7	99.3	115.0	105.7	105.9	124.2	113.4
08	OPENINGS	100.4	81.2	96.0	104.4	77.1	98.0	105.2	87.2	101.0	105.4	87.2	101.2	106.2	84.0	101.0	101.7	124.4	107.0
0920	Plaster & Gypsum Board	100.3	89.3	92.9	114.6	89.3	97.5	104.7	91.6	95.8	110.0	91.6	97.5	100.0	91.6	94.3	105.4	127.5	120.3
0950, 0980	Ceilings & Acoustic Treatment	94.2	89.3	91.0	94.2	89.3	91.0	101.7	91.6	95.0	105.1	91.6	96.2	95.1	91.6	92.8	81.3	127.5	111.6
0960	Flooring	100.2	52.6	86.6	109.9	32.1	87.6	98.6	116.9	103.8	103.7	116.9	107.4	98.5	116.9	103.8	105.4	159.9	121.0
0970, 0990	Wall Finishes & Painting/Coating	96.4	45.7	65.8	96.4	59.9	74.4	100.7	95.4	97.5	96.4	95.4	95.8	96.4	95.4	95.8	93.9	130.2	115.8
09	FINISHES	97.0	74.5	84.6	100.2	72.2	84.8	98.6	97.9	98.2	101.7	97.9	99.6	96.2	97.9	97.1	96.0	134.5	117.2
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	93.4	98.7	100.0	98.6	99.7	100.0	104.3	100.9	100.0	104.3	100.9	100.0	104.3	100.9	100.0	111.5	102.3
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	95.3	43.3	74.3	95.3	63.8	82.6	99.9	84.4	93.7	100.1	84.4	93.8	100.1	84.4	93.8	99.7	123.6	109.3
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	98.5	63.2	79.9	99.8	55.9	76.6	99.8	83.6	91.2	101.2	83.6	91.9	99.1	83.6	90.9	91.1	138.1	116.0
MF2014	WEIGHTED AVERAGE	97.2	73.3	86.7	97.1	76.3	88.0	101.4	93.8	98.1	100.5	93.8	97.6	97.9	94.3	96.4	98.2	124.8	109.8

	DIVISION	NEW JERSEY																	
		CAMDEN			DOVER			ELIZABETH			HACKENSACK			JERSEY CITY			LONG BRANCH		
		081			078			072			076			073			077		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		99.1	99.1		100.9	100.9		100.9	100.9		100.9	100.9		99.1	99.1		98.7	98.7
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	97.8	105.5	103.3	102.0	106.3	105.1	106.1	106.3	106.3	103.0	106.3	105.3	93.4	106.3	102.5	97.5	106.0	103.6
0310	Concrete Forming & Accessories	100.2	127.5	123.8	97.8	128.3	124.1	110.2	128.4	125.9	97.8	128.3	124.1	101.8	128.3	124.7	102.4	128.0	124.5
0320	Concrete Reinforcing	100.1	118.3	109.4	77.2	137.2	107.7	77.2	137.2	107.7	77.2	137.2	107.7	100.1	137.2	119.0	77.2	137.1	107.7
0330	Cast-in-Place Concrete	83.5	132.9	103.8	101.5	127.7	112.2	87.1	131.4	105.3	99.2	131.4	112.4	79.2	127.7	99.1	88.0	132.9	106.4
03	CONCRETE	94.0	126.5	110.0	98.8	128.7	113.5	94.5	130.1	112.0	97.0	130.0	113.2	92.1	128.6	110.0	96.2	130.2	112.9
04	MASONRY	101.3	132.0	120.4	93.0	132.5	117.6	108.7	132.5	123.5	96.9	132.5	119.1	87.0	132.5	115.4	101.3	132.0	120.5
05	METALS	101.1	106.1	102.6	93.3	116.2	100.4	94.8	116.2	101.4	93.4	116.1	100.4	98.9	113.9	103.5	93.4	113.7	99.7
06	WOOD, PLASTICS & COMPOSITES	98.4	127.2	114.5	96.2	127.2	113.5	111.7	127.2	120.4	96.2	127.2	113.5	97.1	127.2	114.0	98.2	127.1	114.4
07	THERMAL & MOISTURE PROTECTION	105.8	123.3	113.0	100.6	132.8	113.8	100.8	133.3	114.1	100.4	125.5	110.7	100.2	132.8	113.5	100.3	124.4	110.2
08	OPENINGS	104.1	124.5	108.8	105.5	127.7	110.6	103.6	127.7	109.2	102.9	127.7	108.7	101.6	127.7	107.7	97.8	127.6	104.7
0920	Plaster & Gypsum Board	101.5	127.5	119.0	100.9	127.5	118.9	107.7	127.5	121.0	100.9	127.5	118.9	104.3	127.5	120.0	102.7	127.5	119.4
0950, 0980	Ceilings & Acoustic Treatment	91.5	127.5	115.1	83.8	127.5	112.5	85.7	127.5	113.1	83.8	127.5	112.5	94.9	127.5	116.3	83.8	127.5	112.5
0960	Flooring	101.5	159.9	118.2	93.6	178.1	117.8	98.5	178.1	121.3	93.6	178.1	117.8	94.6	178.1	118.5	94.8	178.1	118.6
0970, 0990	Wall Finishes & Painting/Coating	93.9	130.2	115.8	98.4	132.5	119.0	98.4	132.5	119.0	98.4	132.5	119.0	98.5	132.5	119.0	98.5	130.2	117.6
09	FINISHES	96.4	134.5	117.4	93.7	136.9	117.5	96.9	136.9	118.9	93.5	136.9	117.4	96.6	136.9	118.8	94.5	137.5	118.2
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	111.5	102.3	100.0	118.1	103.7	100.0	118.1	103.7	100.0	118.1	103.7	100.0	118.1	103.7	100.0	111.3	102.3
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	100.0	123.6	109.5	99.7	127.4	110.9	100.1	125.5	110.3	99.7	127.4	110.9	100.1	127.4	111.1	99.7	127.1	110.8
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	96.0	138.1	118.2	92.8	137.7	116.5	93.4	137.7	116.8	92.8	140.1	117.8	97.6	140.1	120.1	92.5	130.8	112.7
MF2014	WEIGHTED AVERAGE	99.5	124.8	110.5	97.9	127.8	110.9	98.8	127.6	111.3	97.6	128.1	110.9	97.9	127.9	111.0	97.1	126.3	109.8

DIVISION		UNITED STATES			ALABAMA															
		30 CITY AVERAGE			ANNISTON			BIRMINGHAM			BUTLER			DECATUR			DOTHAN			
					362			350 - 352			369			356			363			
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	
015433	CONTRACTOR EQUIPMENT		100.0	100.0		101.0	101.0		101.1	101.1		98.2	98.2		101.0	101.0		98.2	98.2	
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	100.0	100.0	100.0	90.2	93.1	92.3	97.4	93.8	94.8	103.5	87.1	91.8	88.8	91.5	90.7	101.2	87.1	91.1	
0310	Concrete Forming & Accessories	100.0	100.0	100.0	90.1	47.1	53.0	93.1	75.9	78.2	86.4	42.6	48.6	94.6	45.4	52.1	95.5	42.0	49.4	
0320	Concrete Reinforcing	100.0	100.0	100.0	87.8	86.3	87.1	94.7	86.9	90.7	92.8	45.9	68.9	88.6	77.0	82.7	92.8	45.4	68.7	
0330	Cast-in-Place Concrete	100.0	100.0	100.0	101.8	49.7	80.4	110.0	74.6	95.4	99.3	54.8	81.0	103.4	64.1	87.2	99.3	46.3	77.5	
03	CONCRETE	100.0	100.0	100.0	102.1	57.0	79.9	102.2	78.4	90.5	103.0	49.3	76.6	98.3	59.3	79.1	102.3	46.0	74.7	
04	MASONRY	100.0	100.0	100.0	100.1	66.8	79.3	98.8	76.0	84.6	105.9	48.6	70.2	97.3	51.3	68.6	107.1	39.7	65.1	
05	METALS	100.0	100.0	100.0	104.0	91.5	100.1	104.0	94.1	101.0	102.8	76.6	94.8	106.2	86.1	100.0	102.9	75.3	94.4	
06	WOOD, PLASTICS & COMPOSITES	100.0	100.0	100.0	90.5	42.7	63.7	97.4	76.1	85.4	85.0	42.4	61.1	98.9	42.9	67.6	97.4	42.4	66.6	
07	THERMAL & MOISTURE PROTECTION	100.0	100.0	100.0	97.9	52.9	79.5	99.7	81.5	92.2	98.0	56.7	81.0	96.7	58.3	81.0	98.0	49.1	77.9	
08	OPENINGS	100.0	100.0	100.0	98.6	50.1	87.3	103.2	76.0	96.8	98.6	44.2	85.9	106.5	50.4	93.5	98.6	44.2	86.0	
0920	Plaster & Gypsum Board	100.0	100.0	100.0	90.8	41.4	57.4	94.8	75.8	81.9	87.9	41.0	56.2	95.8	41.6	59.2	98.6	41.0	59.7	
0950, 0980	Ceilings & Acoustic Treatment	100.0	100.0	100.0	80.4	41.4	54.7	89.8	75.8	80.6	80.4	41.0	54.5	87.2	41.6	57.2	80.4	41.0	54.5	
0960	Flooring	100.0	100.0	100.0	91.5	40.2	76.8	102.5	76.7	95.1	95.8	56.0	84.4	99.7	50.6	85.6	100.6	27.5	79.7	
0970, 0990	Wall Finishes & Painting/Coating	100.0	100.0	100.0	103.7	31.5	60.1	103.9	66.5	81.3	103.7	53.3	73.3	99.6	66.8	79.8	103.7	53.3	73.3	
09	FINISHES	100.0	100.0	100.0	87.0	43.0	62.8	95.4	74.8	84.1	89.9	45.7	65.5	91.9	47.7	67.6	92.5	40.1	63.6	
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	100.0	100.0	100.0	68.3	93.6	100.0	88.4	97.7	100.0	41.4	88.2	100.0	43.2	88.5	100.0	41.5	88.2	
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	100.0	100.0	100.0	100.0	55.4	82.0	100.0	70.4	88.1	97.3	33.3	71.5	100.0	40.8	76.1	97.3	33.2	71.5	
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	100.0	100.0	100.0	93.1	57.3	74.2	99.0	61.6	79.3	95.0	40.2	66.0	94.2	64.9	78.7	93.8	57.4	74.6	
MF2014	WEIGHTED AVERAGE	100.0	100.0	100.0	98.6	61.8	82.6	100.6	76.7	90.2	98.9	49.4	77.3	99.8	57.9	81.5	99.0	49.4	77.4	

DIVISION		ALABAMA																	
		EVERGREEN			GADSDEN			HUNTSVILLE			JASPER			MOBILE			MONTGOMERY		
		364			359			357 - 358			355			365 - 366			360 - 361		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		98.2	98.2		101.0	101.0		101.0	101.0		101.0	101.0		98.2	98.2		98.2	98.2
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	104.0	87.4	92.2	94.9	92.7	93.3	88.6	92.7	91.5	94.6	92.4	93.1	96.4	88.1	90.5	96.5	88.1	90.5
0310	Concrete Forming & Accessories	83.0	44.2	49.5	86.9	42.5	48.6	94.6	69.9	73.3	92.1	34.6	42.5	94.5	54.0	59.6	94.1	44.1	51.0
0320	Concrete Reinforcing	92.9	45.9	69.0	94.0	86.8	90.3	88.6	81.6	85.1	88.6	85.6	87.1	90.6	83.6	87.0	95.8	86.1	90.9
0330	Cast-in-Place Concrete	99.3	57.3	82.1	103.4	66.7	88.3	100.7	69.5	87.9	114.5	44.1	85.6	104.1	66.4	88.6	105.2	56.5	85.2
03	CONCRETE	103.3	50.9	77.5	102.9	60.8	82.2	97.0	72.9	85.2	106.6	49.4	78.5	98.9	65.3	82.4	100.2	57.9	79.4
04	MASONRY	105.9	53.2	73.0	95.6	62.4	74.9	98.8	67.7	79.4	92.9	41.2	60.7	103.7	54.2	72.9	100.0	49.7	68.6
05	METALS	102.9	76.5	94.7	104.0	93.2	100.7	106.2	90.6	101.4	104.0	90.2	99.7	105.0	91.6	100.9	104.0	91.9	100.3
06	WOOD, PLASTICS & COMPOSITES	81.3	42.4	59.5	89.3	38.7	61.0	98.9	72.6	84.2	95.9	31.6	59.9	95.9	52.8	71.8	95.3	42.4	65.6
07	THERMAL & MOISTURE PROTECTION	97.9	56.9	81.1	96.8	71.7	86.5	96.6	77.6	88.8	96.8	45.4	75.7	97.6	70.1	86.3	97.9	66.6	85.0
08	OPENINGS	98.6	44.2	85.9	102.8	49.0	90.3	106.5	67.4	97.4	102.8	48.0	90.0	102.2	58.8	92.1	103.3	53.1	91.7
0920	Plaster & Gypsum Board	87.2	41.0	56.0	88.2	37.3	53.8	95.8	72.2	79.9	92.1	30.0	50.1	95.2	51.8	65.9	94.6	41.0	58.4
0950, 0980	Ceilings & Acoustic Treatment	80.4	41.0	54.5	83.8	37.3	53.2	89.0	72.2	78.0	83.8	30.0	48.4	85.6	51.8	63.4	88.0	41.0	57.1
0960	Flooring	93.9	56.0	83.1	95.5	76.7	90.1	99.7	76.7	93.1	97.8	40.2	81.3	100.5	58.5	88.5	97.3	58.5	86.2
0970, 0990	Wall Finishes & Painting/Coating	103.7	53.3	73.3	99.6	60.7	76.1	99.6	65.9	79.3	99.6	38.6	62.8	107.3	54.3	75.3	103.3	53.3	73.1
09	FINISHES	89.2	46.8	65.9	89.4	48.7	67.0	92.3	70.7	80.4	90.5	34.4	59.6	92.7	53.5	71.1	92.8	46.1	67.0
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	42.9	88.5	100.0	79.8	95.9	100.0	85.3	97.0	100.0	39.8	87.8	100.0	83.1	96.6	100.0	79.6	95.9
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	97.3	35.6	72.4	102.0	36.3	75.5	100.0	61.6	84.5	102.0	61.4	85.6	99.9	60.7	84.1	100.0	34.2	73.4
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	92.5	40.2	64.8	94.3	61.6	77.0	95.3	64.9	79.3	93.8	61.3	76.6	95.7	59.1	76.3	96.3	60.9	77.6
MF2014	WEIGHTED AVERAGE	98.6	50.7	77.7	99.9	60.0	82.5	99.8	72.1	87.8	100.2	57.5	81.6	99.9	65.4	84.9	99.9	57.1	81.2

DIVISION		ALABAMA									ALASKA								
		PHENIX CITY			SELMA			TUSCALOOSA			ANCHORAGE			FAIRBANKS			JUNEAU		
		368			367			354			995 - 996			997			998		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		98.2	98.2		98.2	98.2		101.0	101.0		114.7	114.7		114.7	114.7		114.7	114.7
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	107.8	88.2	93.9	101.0	88.1	91.8	89.1	92.9	91.8	127.2	129.6	128.9	119.2	129.6	126.6	135.6	129.6	131.3
0310	Concrete Forming & Accessories	90.1	39.1	46.1	87.6	42.6	48.8	94.5	47.9	54.3	123.7	119.8	120.3	131.6	119.9	121.5	130.1	119.8	121.2
0320	Concrete Reinforcing	92.8	61.4	76.8	92.8	85.2	89.0	88.6	86.8	87.7	149.7	110.7	129.9	150.9	110.7	130.5	135.7	110.7	123.0
0330	Cast-in-Place Concrete	99.3	57.0	81.9	99.3	46.5	77.6	104.9	68.4	89.9	132.0	117.8	126.2	128.3	118.2	124.1	133.2	117.8	126.9
03	CONCRETE	106.2	51.3	79.2	101.7	53.7	78.1	99.0	63.8	81.7	138.6	116.7	127.9	123.8	116.9	120.4	136.0	116.7	126.5
04	MASONRY	105.9	41.1	65.5	109.6	38.7	65.4	97.6	65.5	77.6	184.6	125.3	147.6	189.5	125.3	149.5	176.6	125.3	144.6
05	METALS	102.8	81.9	96.4	102.8	89.3	98.7	105.3	93.2	101.6	113.6	103.4	110.5	117.6	103.5	113.3	116.3	103.4	112.3
06	WOOD, PLASTICS & COMPOSITES	90.2	35.4	59.5	87.0	42.4	62.0	98.9	44.4	68.4	129.2	118.7	123.4	136.1	118.7	126.4	129.4	118.7	123.4
07	THERMAL & MOISTURE PROTECTION	98.3	63.8	84.1	97.8	52.1	79.1	96.7	73.7	87.3	159.5	118.0	142.5	166.5	119.1	147.1	168.0	118.0	147.5
08	OPENINGS	98.6	43.5	85.8	98.6	53.1	88.0	106.5	58.8	95.4	132.7	115.6	128.7	128.9	115.7	125.8	129.8	115.6	126.5
0920	Plaster & Gypsum Board	92.2	33.9	52.8	90.1	41.0	56.9	95.8	43.1	60.2	140.9	119.1	126.2	164.8	119.1	133.9	148.1	119.1	128.5
0950, 0980	Ceilings & Acoustic Treatment	80.4	33.9	49.8	80.4	41.0	54.5	89.0	43.1	58.9	119.6	119.1	119.3	119.2	119.1	119.2	125.9	119.1	121.4
0960	Flooring	97.6	58.5	86.4	96.2	28.5	76.8	99.7	76.7	93.1	134.6	133.0	134.1	127.2	133.0	128.9	131.0	133.0	131.6
0970, 0990	Wall Finishes & Painting/Coating	103.7	53.3	73.3	103.7	53.3	73.3	99.6	45.9	67.2	136.8	116.3	124.4	133.5	121.2	126.1	132.1	116.3	122.6
09	FINISHES	91.4	42.2	64.3	90.0	40.2	62.6	92.3	51.2	69.7	134.3	122.2	127.7	132.4	122.8	127.1	134.4	122.2	127.7
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	79.3	95.8	100.0	41.4	88.2	100.0	81.4	96.2	100.0	112.8	102.6	100.0	112.8	102.6	100.0	112.8	102.6
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	97.3	34.5	72.0	97.3	33.6	71.6	100.0	34.0	73.4	100.3	105.0	102.2	100.2	108.0	103.4	100.3	105.0	102.2
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	94.4	69.5	81.3	93.6	40.2	65.4	94.8	61.6	77.3	117.7	117.8	117.7	130.0	117.8	123.5	119.9	117.8	118.8
MF2014	WEIGHTED AVERAGE	99.5	54.6	79.9	98.7	49.9	77.4	99.8	61.2	83.0	121.1	115.6	118.7	121.0	116.4	119.0	121.3	115.6	118.8

DIVISION		ALASKA			ARIZONA														
		KETCHIKAN			CHAMBERS			FLAGSTAFF			GLOBE			KINGMAN			MESA/TEMPE		
		999			865			860			855			864			852		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		114.7	114.7		93.0	93.0		93.0	93.0		92.2	92.2		93.0	93.0		92.2	92.2
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	173.8	129.6	142.4	69.6	96.1	88.4	87.3	96.3	93.7	97.3	95.6	96.1	69.6	96.3	88.6	89.0	95.8	93.8
0310	Concrete Forming & Accessories	122.9	119.8	120.2	98.8	58.1	63.7	104.4	65.1	70.5	99.0	58.1	63.7	97.0	65.1	69.5	102.2	69.3	73.9
0320	Concrete Reinforcing	117.4	110.7	114.0	97.1	85.2	91.1	97.0	85.3	91.0	108.0	85.2	96.4	97.2	85.3	91.1	108.7	85.3	96.8
0330	Cast-in-Place Concrete	259.2	117.8	201.2	90.7	73.2	83.5	90.8	73.4	83.7	94.3	72.0	85.1	90.4	73.4	83.4	95.0	72.3	85.7
03	CONCRETE	208.7	116.7	163.5	95.0	68.6	82.0	114.1	71.8	93.3	110.0	68.2	89.5	94.6	71.8	83.4	101.8	73.3	87.8
04	MASONRY	198.4	125.3	152.8	92.5	62.3	73.7	92.6	62.4	73.8	109.9	62.2	80.1	92.5	62.4	73.7	110.1	62.2	80.3
05	METALS	117.8	103.4	113.4	96.2	75.6	89.8	96.7	76.3	90.4	93.3	76.0	88.0	96.8	76.3	90.5	93.6	76.8	88.4
06	WOOD, PLASTICS & COMPOSITES	126.3	118.7	122.1	101.0	55.0	75.2	107.3	64.2	83.1	97.6	55.0	73.8	96.1	64.2	78.2	101.1	69.8	83.6
07	THERMAL & MOISTURE PROTECTION	169.3	118.0	148.3	94.6	65.0	82.5	96.2	68.1	84.7	101.9	63.0	85.9	94.6	65.6	82.7	101.2	65.1	86.4
08	OPENINGS	130.8	115.6	127.3	108.1	65.3	98.2	108.3	70.3	99.4	100.0	65.3	91.9	108.3	70.3	99.5	100.1	73.3	93.8
0920	Plaster & Gypsum Board	152.7	119.1	130.0	90.2	53.7	65.5	93.6	63.2	73.0	96.6	53.7	67.6	82.9	63.2	69.6	98.7	68.9	78.6
0950, 0980	Ceilings & Acoustic Treatment	112.7	119.1	116.9	99.7	53.7	69.5	100.5	63.2	76.0	88.9	53.7	65.8	100.5	63.2	76.0	88.9	68.9	75.8
0960	Flooring	127.2	133.0	128.9	93.3	39.5	77.9	95.4	39.7	79.5	103.5	39.5	85.2	92.1	53.7	81.1	104.7	49.5	88.9
0970, 0990	Wall Finishes & Painting/Coating	133.5	116.3	123.1	98.3	55.1	72.2	98.3	55.1	72.2	103.4	55.1	74.3	98.3	55.1	72.2	103.4	55.1	74.3
09	FINISHES	133.4	122.2	127.2	93.7	52.9	71.2	96.6	58.4	75.6	97.1	53.0	72.8	92.5	60.7	75.0	96.8	63.6	78.5
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	112.8	102.6	100.0	82.3	96.4	100.0	83.3	96.6	100.0	82.4	96.4	100.0	83.3	96.6	100.0	84.0	96.8
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	98.4	105.0	101.1	97.0	78.9	89.7	100.2	79.0	91.6	95.2	78.9	88.7	97.0	79.0	89.7	100.0	79.0	91.5
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	129.9	117.8	123.5	104.5	70.9	86.7	103.4	61.3	81.1	97.5	61.2	78.3	104.5	61.3	81.7	94.2	61.3	76.8
MF2014	WEIGHTED AVERAGE	132.0	115.6	124.8	97.6	71.5	86.2	101.3	71.8	88.4	98.8	70.0	86.3	97.6	72.0	86.4	98.6	72.8	87.4

DIVISION		ARIZONA												ARKANSAS					
		PHOENIX			PRESCOTT			SHOW LOW			TUCSON			BATESVILLE			CAMDEN		
		850,853			863			859			856 - 857			725			717		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		92.7	92.7		93.0	93.0		92.2	92.2		92.2	92.2		89.1	89.1		89.1	89.1
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	89.4	96.0	94.1	76.0	96.0	90.2	99.2	95.6	96.6	85.2	95.8	92.7	77.1	84.9	82.6	78.3	84.4	82.7
0310	Concrete Forming & Accessories	103.1	68.3	73.1	100.4	52.5	59.1	106.3	69.1	74.2	102.5	68.1	72.9	85.9	44.9	50.5	83.7	30.7	38.0
0320	Concrete Reinforcing	107.0	85.4	96.0	97.0	85.2	91.0	108.7	85.2	96.8	89.9	85.3	87.5	87.4	67.5	77.3	93.6	67.4	80.3
0330	Cast-in-Place Concrete	95.1	72.4	85.8	90.7	73.1	83.5	94.3	72.1	85.2	97.8	72.3	87.3	77.4	45.3	64.2	82.6	38.3	64.4
03	CONCRETE	101.4	73.0	87.4	100.1	66.1	83.4	112.4	73.1	93.1	100.0	72.8	86.6	83.5	50.1	67.1	87.5	41.3	64.8
04	MASONRY	97.5	64.1	76.7	92.6	62.3	73.7	109.9	62.2	80.1	95.5	62.2	74.8	99.8	40.7	63.0		4	.5
05	METALS	95.1	77.6	89.7	96.7	75.3	90.1	93.1	76.1	87.8	94.3	76.7	88.9	99.5	66.9	89.4	03.	.	.4
06	WOOD, PLASTICS & COMPOSITES	102.1	68.3	83.2	102.4	47.4	71.6	105.8	69.8	85.6	101.4	68.3	82.8	89.9	45.5	65.0	.3	.	.4
07	THERMAL & MOISTURE PROTECTION	100.9	67.0	87.0	95.1	64.2	82.4	102.1	65.0	86.9	102.4	64.2	86.7	98.2	43.9	76.0	94.2		0.
08	OPENINGS	102.0	72.5	95.2	108.3	61.1	97.3	99.2	73.3	93.2	96.3	72.5	90.7	97.7	45.8	85.6	2.	.	
0920	Plaster & Gypsum Board	101.0	67.4	78.2	90.3	45.9	60.3	100.9	68.9	79.3	104.0	67.4	79.2	83.3	44.3	56.9	85.0	.	.5
0950, 0980	Ceilings & Acoustic Treatment	96.5	67.4	77.3	98.8	45.9	64.0	88.9	68.9	75.8	89.8	67.4	75.0	83.2	44.3	57.6	3.3		.
0960	Flooring	104.9	51.7	89.7	94.1	39.5	78.5	106.2	45.0	88.7	95.2	44.2	80.6	96.7	59.1	85.9	.6	.	.4
0970, 0990	Wall Finishes & Painting/Coating	103.4	61.7	78.3	98.3	55.1	72.2	103.4	55.1	74.3	104.5	55.1	74.7	107.4	41.2	67.4	4	.4	
09	FINISHES	98.9	63.8	79.6	94.2	48.5	69.0	98.7	62.7	78.8	94.9	61.6	76.5	86.6	46.7	64.6	88.5	33.5	58.2
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	83.9	96.7	100.0	81.4	96.3	100.0	84.0	96.8	100.0	83.9	96.7	100.0	39.5	87.8	100.0	35.6	87.0
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	99.9	79.0	91.5	100.2	78.9	91.6	95.2	79.0	88.7	100.0	79.0	91.5	95.3	51.6	77.7	95.3	53.1	78.3
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	101.0	66.7	82.9	103.0	61.2	80.9	94.6	61.2	77.0	96.5	61.3	77.9	96.5	63.5	79.0	96.8	62.1	78.5
MF2014	WEIGHTED AVERAGE	99.2	73.8	88.1	99.2	68.9	86.0	98.9	72.5	87.4	97.4	72.4	86.5	94.6	54.6	77.1	.	50.1	.

DIVISION		ARKANSAS																	
		FAYETTEVILLE			FORT SMITH			HARRISON			HOT SPRINGS			JONESBORO			LITTLE ROCK		
		727			729			726			719			724			720 - 722		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		89.1	89.1		89.1	89.1		89.1	89.1		89.1	89.1		108.3	108.3		89.1	89.1
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	76.4	86.3	83.5	81.8	86.7	85.3	82.1	84.9	84.1	81.4	85.8	84.5	103.2	101.1	101.7	93.1	86.8	88.6
0310	Concrete Forming & Accessories	81.2	38.5	44.4	101.3	57.3	63.4	90.6	44.8	51.1	81.1	35.7	41.9	89.6	48.2	53.9	96.4	60.0	65.0
0320	Concrete Reinforcing	87.4	71.3	79.2	88.4	72.0	80.1	87.0	63.7	75.1	91.8	67.5	79.4	84.5	70.1	77.2	93.4	68.3	80.6
0330	Cast-in-Place Concrete	77.4	49.4	65.9	88.5	70.3	81.0	85.8	43.4	68.4	84.5	38.8	65.7	84.3	55.0	72.2	87.3	70.3	80.3
03	CONCRETE	83.2	49.3	66.5	91.3	65.0	78.4	90.8	48.7	70.1	91.2	43.7	67.9	88.1	56.0	72.3	92.8	65.5	79.4
04	MASONRY	90.5	41.4	59.9	96.9	50.9	68.3	100.1	39.0	62.0	87.6	33.5	53.9	91.9	41.9	60.7	96.8	50.9	68.2
05	METALS	99.5	67.8	89.7	101.8	70.6	92.2	100.6	66.5	90.1	103.8	66.9	92.5	95.9	80.0	91.0	102.0	69.4	92.0
06	WOOD, PLASTICS & COMPOSITES	85.8	35.5	57.6	107.6	59.0	80.4	96.0	45.5	67.7	87.5	35.7	58.5	93.9	48.3	68.4	99.9	62.5	78.9
07	THERMAL & MOISTURE PROTECTION	99.0	45.3	77.0	99.4	57.5	82.2	98.5	42.6	75.6	94.4	37.9	71.2	103.3	49.1	81.1	95.7	57.8	80.2
08	OPENINGS	97.7	44.7	85.4	98.5	56.2	88.7	98.5	46.5	86.4	102.1	42.3	88.2	100.6	54.0	89.7	99.5	58.4	89.9
0920	Plaster & Gypsum Board	81.8	34.0	49.5	89.4	58.3	68.4	88.3	44.3	58.6	84.0	34.2	50.4	97.7	46.9	63.4	94.6	61.8	72.5
0950, 0980	Ceilings & Acoustic Treatment	83.2	34.0	50.9	84.8	58.3	67.4	84.8	44.3	58.2	83.3	34.2	51.0	86.2	46.9	60.3	88.0	61.8	70.8
0960	Flooring	94.0	59.1	84.0	102.9	60.8	90.9	98.8	59.1	87.5	98.5	59.1	87.2	68.9	53.4	64.5	101.0	60.8	89.5
0970, 0990	Wall Finishes & Painting/Coating	107.4	29.4	60.3	107.4	53.8	75.1	107.4	41.2	67.4	104.4	55.2	74.7	94.9	48.4	66.8	108.8	55.2	76.5
09	FINISHES	85.7	40.0	60.5	89.9	57.6	72.1	88.6	46.8	65.6	88.4	41.0	62.3	83.7	48.5	64.3	92.7	59.8	74.6
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	100.0	48.7	89.6	100.0	78.8	95.7	100.0	49.1	89.7	100.0	36.5	87.2	100.0	45.2	88.9	100.0	79.2	95.8
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	95.3	50.2	77.1	100.1	50.6	80.1	95.3	49.4	76.8	95.3	48.7	76.5	100.3	52.5	81.0	99.9	56.2	82.3
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	90.1	51.2	69.5	93.7	64.5	78.3	95.0	37.1	64.4	99.0	67.8	82.5	100.2	63.5	80.8	100.7	70.2	84.6
MF2014	WEIGHTED AVERAGE	93.4	52.0	75.4	97.2	61.6	81.7	95.9	50.4	76.0	96.4	51.8	76.9	96.7	59.1	80.3	98.5	64.0	83.4

Appendix B-4.

Seeds: FW Scott Enterprises

FW Scott Entrprises
Landscaping

To: SRK Consulting
Dated: 2-7-2017

Project: Provide hydro-seeding for reclamation at Pogo Mine, Alaska

Includes: hydro-seeding with Promatrix Fiber mulch (or available equivalent), Fertilizer , and seed.

Estimated Cost

Materials are approximately	$4,000 per acre
equipment and labor	$2,000 per acre

Ex. if the area to be seeded is 1,000 acres @ $6,000/acre = $6,000,000
900 acres @ $6,000/acre= $5,400,000

price good for 12 months

Respectfully Submitted,

Fred Scott

fwscottenterprises@gmail.com
907-322-3527

Appendix B-5.

Cement: Alaska Basic Industries

ALASKA BASIC INDUSTRIES

Current Cement Market Price January 1, 2016

Fairbanks Terminal

This price will take effect January 1st 2016 is F.O.B. our Fairbanks Terminal, 1510 Well Street, and is subject to market fluctuations... All pricing is NET 30 days. Pricing is good until 12/31/16 the contact number is 907-479-8661.

Type I/II	**Bulk Portland Cement**	**$180.00 per ton**

Included in this price is a $0.50 / ton cost that reflects Port of Anchorage Security Fees. There will be a $10.00 / ton winter charge for cement loaded between November 1st and April 1st.

Our terms are Net 30 Days.
See attached terms

If you have any questions, please call Xavier Schlee at 348-6717or on my cell at 240-4024.

Appendix B-6.

Monitoring:

Appendix B-6a.

Laboratory: ARS Aleut Analytical

ARS Aleut Analytical

Anchorage
4307 Arctic Boulevard
Anchorage, Alaska 99503
907.258.2155
907.258.6634 fax
800.873.8707 ext. 105

Fairbanks
475 Hall Street
Fairbanks, Alaska 99701
907.456.3116
907.456.3125 fax
800.873.8707 ext. 132

Mat-Su Service Center
701 E. Parks Highway
Suite 206
Wasilla, Alaska 99654
907.373.5440
800.873.8707 ext. 109

www.amrad.com

January 31, 2017

Ms. Karena Carpenter, Staff Consultant, SRK, kcarpenter@srk.com
Mr. Filiz Toprak, Mining Consultant, SRK, ftoprak@srk.com
SRK Consulting
Suite 300
Reno, Nevada 89502

RE: Request 2017 Analytical Laboratory Services
Table 1 – Mine Sampling Profiles 2017

ARS Aleut Analytica acknowledges the inherent requests associated with this project. We are pleased to offer the enclosed Profile chart encapsulating the pricing and analyses. Analysis are included for effluent, groundwater, surface water, potable water, waste water, and soils testing.

Unit pricing is based on one of each analysis listed for the requested Profiles. Contract deliverables include the following:

- Assigned Report Writer and Review – Ms. Erin West, ewest@amrad.com
- Level II, Batch Quality Control Reports
- 10 Business Day Turnaround (barring analytical issues)
- Custom Electronic Data Deliverables (interfaces with Pogo EDMS)
- Freight – All shipping costs paid by ARS from the Fairbanks portal

Drinking Water and Wastewater System Monitoring: ARS Aleut Analytica is the largest provider of regulatory compliance water testing services in Alaska. Our labs currently monitor over 600 PWS and wastewater treatment facilities throughout Alaska. ARS is certified by the State of Alaska. Certifications can be viewed at:

https://dec.alaska.gov/applications/eh/EHLabStatus/Home/Index
https://dec.alaska.gov/applications/eh/EHLabStatus/MicroReport/Index

With **20 years** of regulatory expertise in Alaska, we take pride in our solid reputation to deliver technically valid, legally defensible data to our clients on time. Our local presence allows ARS to offer the invaluable combination of sound data and **exemplary** customer service. We appreciate this opportunity to earn your continued business and look forward to hearing from you soon!

Best Regards,

Mary Curry

Mary Curry, Project Manager
ARS Aleut Analytica
907-750-6130
mcurry@amrad.com

ARS Aleut Analytical

Table 1 – Mine Sampling Profiles 2017

Profile	one site	2012 Cost	New 2017 Cost	Analysis Included (one sample location)
Profile 8 - fish tissue	ea.	$7,238 (Ea: $235)	$188	6020 (Sb, As, Cd, Cu, Pb, Ni, Se, Ag; Methyl Mercury - Hg 7741A or 1631; Homogonization of filets (add $100 if % lipids are required)
Profile 10a - ORTW 001&011 weekly	ea.	$239.40	$78	10a: 200.8 (TR: Cd, Cu, Pb, Mn); 4500 WAD CN
Profile 10b - ORTW 001 monthly	ea.	$232.40	$164	1631 LL Hg; 300.0 (SO4); 200.8 (TR:As, Mn, Zn); 200..7 (TR:Ca, Mg); 2340B Total Hardness; 2540C TDS; 2130B Turbidity;
Profile 11a - Weekly NPDES Outfall 001	ea.	$93.00	$75	4500 WAD CN; 200.7 (TR: Ca, Mg); TSS; Hardness Calc
Profile 11b - ORTW 011 quarterly	ea.	$280.00	$198	1631 LL Hg; 300.0 (Cl, SO4); 200.8 (TR: As, Cd, Cr, Cu, Pb, Ni, Se, Ag, Zn); 2540C TDS (equiv to method 160.2); 200.7 (Al Only)
Profile 12a - STP 002 weekly	ea.	$196.00	$123	2540D TSS; 5210B BOD 5; 9222D FC by MF; Hach TNT835;
Profile 12b - STP 002 monthly	ea.	$95.20	$63	2540D TSS; 5210B BOD 5;
Profile 12c - PWTP1 monthly	ea.	$196.00	$105	317.0; 9223B Coli PA
Profile 12d - PWTP1 bi-annual	ea.	$56.00	$35	12d: Pb/Cu First Draw
Profile 12e - PWT1 annual	ea.	$2,020.20	$1,075.50	12e: 4500 NO3/NO3; 552.2 (HLAA); 524.2 (tthm); 524.2 (VOC); 524.2 (VOC and TTHM); 200.8 (TR: As - Pull alone for ADEC upload); 200.8 (Inorganics: Sb,Ba,Be,Cd,Cr,Ni,Se, and Tl); 4500 CN, 300.0 (F)
Profile 13s - RTP surface water	ea.	$551.60	$475	4500 NO2/NO3; 300.0 (SO4, Cl); 4500 WAD CN Low; 200.8 (TR:Al, Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Ni, Ag, Zn); 200.7 (TR: Ca, Mg); 200.8 (Diss:As, Cd, Cr, Cu, Pb, Ni, Ag, Zn); 200.7 (Ca, Mg(hardness calc)); 1631 LL Hg Diss; 2340B T. Hardness; 351.2 TKN; 2320B Alk (Total, Bicarb, hydroxide, carbonate); 2540C TDS; 2540D TSS; 2130B Turb; Dissolved Metals Filters
Profile 13g - RTP wells	ea.	$537.60	$405	13g:4500 NO2/NO3; 1631 LL Hg; 300.0 (SO4, Cl, F (340.1), NO2, NO3); 4500 WAD CN; 200.8 (Diss: Al,Sb, As, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Zn); 200.7 (diss: Ca, Fe, Mg, K, Na); 2340B Total Hardness (diss); 351.2TKN; 2320B Alk (Total Alk, Carbonate); 2540C TDS; 4500 NO3/NO2
WET 001 Annually	ea.	$3,800.00	$1,500	WET Analysis - Longer TAT due to long anaysis
Hydrocarbon Contamination in Soils	ea.		$275	1664 A/B Soils (O&G HEM); 8015 DRO (solids); 8015 GRO (solids)

Appendix B-6b.

Helicopter: Aurora Aviation

Carpenter, Karena

From: Keith Warren <auroraaviationservices@yahoo.com>
Sent: Friday, January 20, 2017 11:18 AM
To: Carpenter, Karena
Subject: Re: Request for Quote

Hello Karena,

Sorry I missed your call, I am in Michigan visiting family,

Our current rates are $950 per flight hour, with at least 3 hours per day.
Fuel, the aircraft uses 30 gallons per flight hour
Only extra pilot charges, we ask for room & board when the pilot is working away from home base.

Hope helps you out,

Thanks,

Keith Warren
Aurora Aviation Services, Inc.

From: "Carpenter, Karena" <kcarpenter@srk.com>
To: "kwarren@wildak.net" <kwarren@wildak.net>
Cc: Pogo Closure <pogoclosure@srk.com>; "Ben.Bridwell@smmpogo.com" <Ben.Bridwell@smmpogo.com>
Sent: Thursday, January 19, 2017 2:32 PM
Subject: Request for Quote

Hello Mr. Warren,

To follow up on the message I left you today, I am writing to obtain pricing information for your helicopter services for the purpose of updating the Reclamation Cost Estimate for Pogo Mine. The cost estimate is based on the assumption that Pogo Mine is no longer operational and that the State of Alaska's appointed contractor is performing reclamation work at the site. Environmental monitoring would continue under such scenario and costs for providing helicopter support need to be included. I am hoping to get pricing that includes:

1. Current hourly helicopter rates
2. An estimate of fuel expenditure per hour
3. Helicopter pilot rate (all-in hourly labor rate including all burden/extras)

Please let me know if you have any questions or need additional information.

Thank you for your time,

Karena Carpenter

Staff Consultant

srk consulting

SRK Consulting (U.S.), Inc.

Suite 300, 5250 Neil Road, Reno, NV, 89502, USA

Tel: +1-775-828-6800; **Fax**: +1-775-828-6820
Mobile:+ 1-775-848-3573; **Direct**: +1-775-284-2210
Email: kcarpenter@srk.com

www.srk.com

Aurora Aviation Services, Inc.

Keith Warren
Owner/Operator OAS Certified and State of Alaska Certified for Fish and Game

At Aurora Aviation Services, Inc. we pride ourselves in quality service and dedication to our customers.

MD500E

Cruise Speed .....135 mph
Passengers.....3
Range.....200 miles

Helicopter Service ~ External Load (Baskets) and Long Line Operations

Drill Moves ~ Mineral Exploration Support ~ Seismic Exploration and Support

Remote area Operations ~ Fuel Moves ~ Water Surveys ~ Wet Land Surveys

Power Line Surveys ~ Wildlife Surveys

Forest Fire Support ~ General Charters ~ Aerial Photography

Sightseeing ~ Limited Medevac

Aurora Aviation Services, Inc.

6192 Remington Road
PO Box 110
Delta Junction, Alaska 99737

Phone: (907) 895-1850
Fax: (907) 895-5579

We now accept major credit cards.

Email: kwarren@wildak.net

Appendix B-7.

Diesel: Crowley Fuels

Toprak, Filiz

From: Carbaugh, Trevor <Trevor.Carbaugh@crowley.com>
Sent: Wednesday, January 25, 2017 3:15 PM
To: Lassiter, Patric; Toprak, Filiz
Cc: Carpenter, Karena; Pogo Closure
Subject: RE: Bulk Diesel Fuel Cost Quote

$2.57/ gallon (exclusive of taxes) is my current 3K gallon Delta Junction, AK terminal posted rate delivered to the mine. This would be a standard rate for any commercial or construction customer. The mine is roughly 60 miles from my terminal.

$2.6605/ gallon inclusive of taxes for “off highway diesel”
$2.9035/ gallon inclusive of taxes for “on highway diesel”

From: Lassiter, Patric [mailto:plassiter@srk.com]
Sent: Wednesday, January 25, 2017 2:03 PM
To: Carbaugh, Trevor <Trevor.Carbaugh@crowley.com>; Toprak, Filiz <ftoprak@srk.com>
Cc: Carpenter, Karena <kcarpenter@srk.com>; Pogo Closure <pogoclosure@srk.com>
Subject: RE: Bulk Diesel Fuel Cost Quote

Need to be careful about this. Unlike most products, fuels are often quoted at the after tax rate. Just need to make sure whether the quote did or did not include taxes.

From: Carbaugh, Trevor [mailto:Trevor.Carbaugh@crowley.com]
Sent: Wednesday, January 25, 2017 12:31 PM
To: Toprak, Filiz <ftoprak@srk.com>
Cc: Carpenter, Karena <kcarpenter@srk.com>; Lassiter, Patric <plassiter@srk.com>; Pogo Closure <pogoclosure@srk.com>
Subject: RE: Bulk Diesel Fuel Cost Quote

Filiz,

Current taxes: (per gallon)

	Off Highway Diesel	On Highway Diesel
Federal Tax		0.2430
State Tax	0.0800	0.0800
Alaska RFS	0.0095	0.0095
LUST Tax	0.0010	0.0010

Trevor

From: Toprak, Filiz [mailto:ftoprak@srk.com]
Sent: Wednesday, January 25, 2017 11:12 AM
To: Carbaugh, Trevor <Trevor.Carbaugh@crowley.com>
Cc: Carpenter, Karena <kcarpenter@srk.com>; Lassiter, Patric <plassiter@srk.com>; Pogo Closure

<pogoclosure@srk.com>
Subject: FW: Bulk Diesel Fuel Cost Quote

Trevor,
Could you advise on what percent taxes would apply to Alaska?

Regards,

Filiz Toprak
Mining Consultant
srk consulting
SRK Consulting (U.S.), Inc.
Suite 300, 5250 Neil Road, Reno, NV, 89502, USA
Tel: +1-775-828-6800; **Fax**: +1-775-828-6820
Email: ftoprak@srk.com
www.srk.com

From: Carpenter, Karena
Sent: Wednesday, January 25, 2017 12:02 PM
To: Toprak, Filiz <ftoprak@srk.com>
Subject: Fwd: Bulk Diesel Fuel Cost Quote

Begin forwarded message:

> **From:** "Carbaugh, Trevor" <Trevor.Carbaugh@crowley.com>
> **Date:** January 25, 2017 at 11:22:39 AM PST
> **To:** "kcarpenter@srk.com" <kcarpenter@srk.com>
> **Subject: FW: Bulk Diesel Fuel Cost Quote**
>
> Hi Karena, Dan passed on your message on to me.
>
> Current cost for diesel fuel delivered to the mine would be $2.57/ gallon (exclusive of taxes).
>
> Let me know if we can be of further assistance.
>
> Best regards,

Trevor Carbaugh, Manager, Sales
Crowley Fuels | Highway Division
o 907.777.5546 | **m** 907.793.7202
trevor.carbaugh@crowley.com

From: Carpenter, Karena [mailto:kcarpenter@srk.com]
Sent: Tuesday, January 24, 2017 11:23 AM
To: Virgin, Daniel <Dan.Virgin@crowley.com>
Cc: Pogo Closure <pogoclosure@srk.com>; Ben.Bridwell@smmpogo.com; Toprak, Filiz <ftoprak@srk.com>
Subject: Bulk Diesel Fuel Cost Quote

Hi Dan,

Thank you for talking with me today. As we discussed, I am looking for cost information for bulk diesel fuel and delivery. We are working with Pogo Mine on a project to estimate hypothetical reclamation bond costs for the State of Alaska, so this cost needs to be as if a third party were requesting it with no discounts to Pogo Mine. The pricing information will be included in the report to the state as backup for calculations.

We are looking for diesel fuel price and delivery to the Pogo Mine. Pricing divided into $/Gallon or $/Liter and transportation, or a single cost per load with load capacity would be most helpful.

Thank you for your time in this matter, and please feel free to contact me with any additional questions.

Regards,

Karena Carpenter
Staff Consultant

SRK Consulting (U.S.), Inc.
Suite 300, 5250 Neil Road, Reno, NV, 89502, USA
Tel: +1-775-828-6800; **Fax**: +1-775-828-6820
Mobile:+ 1-775-848-3573; **Direct**: +1-775-284-2210
Email: kcarpenter@srk.com

www.srk.com

Appendix B-8.

Electricity: Golden Valley Electric Association

Select Service Type	Set kWh	Set kW	
GS-3 Industrial Service ▼	1080000 kWh	500 kW	Go

GVEA Bill Calculator

Customer Charge:	$295.00
Demand Charge: $22.86 x 500kW)	$11,430.00
Utility Charge: $0.029400 x 1080000kWh)	$31,752.00
Fuel and Purchased Power: $0.08257000 x 1080000kWh)	$89,175.60
Regulatory Cost Charge: $0.00067500 x 1080000kWh)	$729.00
Total Due:	$133,381.60

Appendix B-9.

Landfill disposal: future on-site landfill & Fairbanks North Star Borough

FAIRBANKS NORTH STAR BOROUGH — SOLID WASTE DIVISION
455 Sanduri Street • Fairbanks, Alaska 99701 • (907)459-1482 • FAX 459-1017

FY17 SOLID WASTE USER FEE SCHEDULE

(JULY 1, 2016 – JUNE 30, 2017)

http://www.fnsb.us, Borough Functions, Solid Waste and Transfer Sites

✸ *FEE SCHEDULES AND VARIOUS OTHER SOLID WASTE DIVISION FORMS ARE LOCATED ON THE WEBSITE:* ✸		
REGULAR SOLID WASTE	**Residential** - Accepted free of charge. **Commercial** – **$101/ton** (2,000 lbs) **Regular Solid Waste generated outside the FNSB:** 1. Disposal of less than 25 tons per month of solid waste accepted at 200% of **Regular Solid Waste** rate. **($202/ton)** 2. Disposal of more than 25 tons per month of solid waste: download an application from our website. Rate for approved projects will be 200% of Regular Solid Waste rate. **($202/ton)**	**RESIDENTIAL:** Loads from a "residence in a passenger vehicle, pick-up truck, or a trailer with two wheels and a single axle will be considered minor loads if the vehicle is not registered in the name of a company or business or used for commercial purposes." (Ordinance 8.12.055A) **Lumber, pipe, cable, etc., must be less than 8 ft. in length. All loads should be tarped or secured.**
BRUSH	**Residential** - All loads accepted free of charge. **Commercial** - Same as **Regular Solid Waste.**	Trees, brush, stumps, leaves, branches, roots, undergrowth ***Loads must not include regular Solid Waste***
JUNK AUTOMOBILES ♻	**Residential** - Accepted free of charge **Commercial** - **$30/each**	Must be free of trash or debris. Download a disposal form from our website. Ownership title is requested.
HOUSEHOLD APPLIANCES ♻ ***(Washers, dryers, freezers, stoves, refrigerators, etc.)***	Same as **Regular Solid Waste** **Commercial** -Additional **$20.00** charge per appliance that contains Freon	Certificate of removal required to avoid $20.00 charge.
MOBILE HOMES	Same as **Regular Solid Waste**	Refer to website for Construction & Demolition Project Application
SCRAP METAL ♻	Same as **Regular Solid Waste**	Metal pieces, etc., must be less than 8 feet in length.
METAL CONTAINERS (drums & tanks) ♻	Same as **Regular Solid Waste**	Must be clean and have one end completely cut out. Metal containers larger than 500 gallons must be cut into sections no larger than a 500 gallon container.
CONSTRUCTION DEBRIS	Same as **Regular Solid Waste**	
LOADER ASSISTANCE	**Residential** - Free of charge. **Commercial - $2.00/minute.**	
ALUMINUM ♻	Accepted free of charge	
ASBESTOS	**Asbestos material generated within the FNSB**, accepted at **$152/ton,** plus **$50* flat rate fee per load** of asbestos brought to the Solid Waste Facility. **Asbestos material generated outside the FNSB:** 1. Disposal of less than 25 tons per month of asbestos accepted at 200% of Regular Solid Waste rate **($202/ton)**, plus **$50* flat rate fee per load** of asbestos brought to the Solid Waste Facility. 2. Disposal of more than 25 tons per month of asbestos: download an application from our website. Rate for approved projects will be 200% of Regular Solid Waste rate **($202/ton),** plus **$50* flat rate fee per load** of asbestos brought to the Solid Waste Facility. *** $200 flat rate fee for customer-caused asbestos discrepancy**	Parties interested in disposing asbestos are required to complete an asbestos packet prior to disposal, which is located on the FNSB Solid Waste website. Metal pieces, etc., must be less than 8 feet in length.

♻ ***RECYCLED BY THE FAIRBANKS NORTH STAR BOROUGH SOLID WASTE DIVISION.***

Appendix B-10.

POL transport and remediation: Organic Incineration Technology

Carpenter, Karena

From: Mark Sanford <mark.sanford@oitinc.net>
Sent: Wednesday, January 4, 2017 6:12 PM
To: Carpenter, Karena
Subject: RE: Pricing Request

Hi Karena,

The same prices will work.

The transportation is by the hour and you would be billed for time to the loading location. A round trip should be about 6 – 7 hours from OIT to Pogo Mine.

I would like to mention that we could set up sets of double side dumps that would haul about 42 tons per load if you think that might work.

If you need a number by the ton or by the trip for transportation I can work on that but I will need additional information.

Do you have an approximate volumes?

Mark

From: Carpenter, Karena [mailto:kcarpenter@srk.com]
Sent: Wednesday, January 4, 2017 1:42 PM
To: Mark Sanford <mark.sanford@oitinc.net>
Cc: Pogo Closure <pogoclosure@srk.com>; Ben.Bridwell@smmpogo.com
Subject: Pricing Request

Hello Mr. Sanford,

I am hoping you can assist in obtaining updated pricing for the remediation and transport of POL contaminated soils. You had assisted in obtaining pricing a few years ago, and we are hoping to get updated costs. I have attached the previous correspondence with costs for your reference.

We would need:

1) Price per ton of contaminated soil
2) Transportation using a 20 yard side dump (per hour)
3) Transportation using a 10 yard side dump (per hour)

I was also wondering if the transportation costs include travel time to the site? We are building a cost estimate for Pogo Mine, so I want to ensure we capture all of the cost of transportation.

Please let me know if you need any other information.

Regards,

Karena Carpenter
Staff Consultant

SRK Consulting (U.S.), Inc.

Suite 300, 5250 Neil Road, Reno, NV, 89502, USA

Tel: +1-775-828-6800; **Fax**: +1-775-828-6820
Mobile:+ 1-775-848-3573; **Direct**: +1-775-284-2210
Email: kcarpenter@srk.com

www.srk.com

Jurcevic, Marija

From: Mark Sanford <mark.sanford@oitinc.net>
Sent: Friday, February 10, 2012 3:49 PM
To: Jurcevic, Marija
Subject: Soil Quote

Hello Maria,

The price of remediation of POL contaminated soils.

1) $117.57 per ton.

2) Transportation using a 20 yard side dump is $135.00 per hour.

3) Transportation using a 10 yard end dump is $120.00 per hour.

If there is anything else I can help with just let me know.

Thank you,

Mark Sanford

Appendix B-11.

Fencing material: 2016 NV

CSI Number	Quantity	Description	Crew	Daily Output	Labor Hours	Ext. Labor Hours	Unit	Bare Material	Bare Labor	Bare Equipment	Bare Total	Total Incl O&P	SRCE Value	SRCE Line #	SRCE Cost Tab	Zip Code Prefix	Type	Release
01 31 1820 0200	1.00	Field personnel, project manager, average					Week	$0.00	$1,950	$0.00	$1,950	$3,000.00	$67.50	161	Labor	898	Union	2016 Qtr 2
01 31 1820 0280	1.00	Field personnel, superintendent, average (Foreman)					Week	$0.00	$1,825	$0.00	$1,825	$2,800.00	$63.00	162	Labor	898	Union	2016 Qtr 2
01 54 3320 3350	1.00	Rent, smooth drum vibratory roller, 75 H.P					Week	$0.00	$0.00	$1,775	$1,775	$1,952.50	$7,810.00	74	Equipment	898	Union	2016 Qtr 2
01 54 3320 5450	1.00	Rent truck flatbed 1axle 1-1/2 ton rating					Week+	$0.00	$0.00	$1,198	$1,198	$1,317.80	$5,271.20	78/80	Equipment	898	Union	2016 Qtr 2
01 54 3340 7200	1.00	Rent truck pickup 3/4 ton 4 wheel drive					Week+	$0.00	$0.00	$759	$759	$834.90	$3,339.60	79	Equipment	898	Union	2016 Qtr 2
01 54 3340 0400	1.00	Rent air compressor, towed type, diesel, rotary screw 250 cfm					Week+	$0.00	$0.00	$957	$957	$1,052.70	$4,210.80	81	Equipment	898	Union	2016 Qtr 2
01 54 3340 0930	1.00	Rent air tool, breaker, pavement 60 lbs					Week+	$0.00	$0.00	$49	$49.20	$54.12	$216.48	81	Equipment	898	Union	2016 Qtr 2
01 54 3340 1200	1.00	Rent air accessory, 1-1/2"by 50 ft air hose w/couplings					Week+	$0.00	$0.00	$25.00	$25.00	$27.50	$110.00	81	Equipment	898	Union	2016 Qtr 2
01 54 3340 8000	1.00	Rent arc welder gas engine 300 amp					Week+	$0.00	$0.00	$711.50	$711.50	$782.65	$3,130.60	82	Equipment	898	Union	2016 Qtr 2
01 54 3310 2120	1.00	Rent pump concrete truck mounted 4"line 80'boom					Week+	$0.00	$0.00	$3,535	$3,535	$3,888.50	$15,554.00	85	Equipment	898	Union	2016 Qtr 2
01 54 3310 3000	1.00	Rent vibrators concrete gas engine 8 HP					Week+	$0.00	$0.00	$152.90	$152.90	$168.19	$672.76	86	Equipment	898	Union	2016 Qtr 2
01 54 3340 2200	1.00	Rent electric generator gas engine 5 kW					Week+	$0.00	$0.00	$230.10	$230.10	$253.11	$1,012.44	87	Equipment	898	Union	2016 Qtr 2
01 54 3360 2800	1.00	Rent crane self-propelled, 4x4 telescoping boom 5 ton					Week+	$0.00	$0.00	$1,357	$1,357	$1,492.70	$5,970.80	89	Equipment	898	Union	2016 Qtr 2
01 54 3360 2500	1.00	Rent crane truck mounted, hydraulic, 25 ton capacity					Week+	$0.00	$0.00	$3,625	$3,625	$3,987.50	$15,950.00	90/91	Equipment	898	Union	2016 Qtr 2
01 54 3320 5300	1.00	Rent truck dump 3 axle 16 ton, 12 CY payload, 400 H.P.					Week+	$0.00	$0.00	$3,345	$3,345	$3,679.50	$14,718.00	108	Equipment	898	Union	2016 Qtr 2
01 54 3340 1690	1.00	Equipment rental, butt fusion machine, tracked, 20 HP diesel, 4"-12" pipe					Week+	$0.00	$0.00	$1,827	$1,827	$2,009.70	$8,038.80	88	Equipment	898	Union	2016 Qtr 2
02 41 1376 1000	1,500	Selective demolition, water wells, well screen & casing, 6" to 16" dia	B23	300	0.133	199.500	V.L.F	$0.00	$7,140	$13,875	$21,015	$26,175.00	$61,050.00	83/84	Equipment	898	Union	2016 Qtr 2
02 41 1923 0910	1.00	Selective demolition, rubbish handling, dumpster, alternate pricing method, delivery, average for all sizes, cost to be added to demolition cost.					Ea.	$53.00	$0.00	$0.00	$53.00	$58.50	$53.00	49	Misc. Unit Cost	898	Union	2016 Qtr 2
02 41 1923 0920	1.00	Selective demolition, rubbish handling, dumpster, alternate pricing method, haul, average for all sizes, includes one dump per week, cost to be added to demolition cost.					Ea.	$166.00	$0.00	$0.00	$166.00	$183.00	$166.00	50	Misc. Unit Cost	898	Union	2016 Qtr 2
02 41 1923 0940	1.00	Selective demolition, rubbish handling, dumpster, alternate pricing method, rent per month, average for all sizes, includes one dump per week, cost to be added to demolition cost.					Ea.	$56.50	$0.00	$0.00	$56.50	$62.00	$56.50	51	Misc. Unit Cost	898	Union	2016 Qtr 2
02 41 1923 0950	1.00	Selective demolition, rubbish handling, dumpster, alternate pricing method, disposal fee per ton, average for all sizes, cost to be added to demolition cost.					Ton	$62.00	$0.00	$0.00	$62.00	$68.50	$62.00	52	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 1100	1.00	Hazardous waste cleanup/pickup/disposal, solid pickup, 55 gallon drums					Ea.	$0.00	$0.00	$0.00	$223.00	$246.00	$246.00	58	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 1120	1.00	Hazardous waste cleanup/pickup/disposal, solid pickup, bulk material, minimum					Ton	$0.00	$0.00	$0.00	$177.00	$195.00	$402.50	59	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 1130	1.00	Hazardous waste cleanup/pickup/disposal, solid pickup, bulk material, maximum					Ton	$0.00	$0.00	$0.00	$555.00	$610.00			Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 1260	1.00	Hazardous waste cleanup/pickup/disposal, transportation to disposal site, truckload = 80 drums or 25 C.Y. or 18 tons, minimum					Mile	$0.00	$0.00	$0.00	$3.67	$4.14	$5.50	60	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 1270	1.00	Hazardous waste cleanup/pickup/disposal, transportation to disposal site, truckload = 80 drums or 25 C.Y. or 18 tons, maximum					Mile	$0.00	$0.00	$0.00	$6.75	$6.85			Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 6000	1.00	Hazardous waste cleanup/pickup/disposal, dumpsite disposal charge, minimum					Ton	$0.00	$0.00	$0.00	$130.00	$144.00	$284.50	61	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 6020	1.00	Hazardous waste cleanup/pickup/disposal, dumpsite disposal charge, maximum					Ton	$0.00	$0.00	$0.00	$385.00	$425.00			Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 3110	1.00	Hazardous waste cleanup/pickup/disposal, liquid pickup, vacuum truck, stainless steel tank, 2200 gallons, minimum charge, 4 hours, 1 compartment					Hr.	$0.00	$0.00	$0.00	$130.00	$144.00	$144.00	67	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 3120	1.00	Hazardous waste cleanup/pickup/disposal, liquid pickup, vacuum truck, stainless steel tank, 5000 gallons, minimum charge, 4 hours, 2 compartment					Hr.	$0.00	$0.00	$0.00	$186.00	$209.00	$209.00	68	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 6000	1.00	Hazardous waste cleanup/pickup/disposal, dumpsite disposal charge, minimum					Ton	$0.00	$0.00	$0.00	$130.00	$144.00	$284.50	69	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 6020	1.00	Hazardous waste cleanup/pickup/disposal, dumpsite disposal charge, maximum					Ton	$0.00	$0.00	$0.00	$385.00	$425.00			Misc. Unit Cost	898	Union	2016 Qtr 2
02 65 1030 2020	1.00	Removal of underground storage tanks, petroleum storage tanks, non-leaking, decontamination of soil on site, soil containment berm, and chemical treatment, includes poly tarp on top/bottom, minimum	B11C	100	0.160	0.160	C.Y.	$7.85	$5.80	$3.53	$17.28	$21.50	$18.43	75	Misc. Unit Cost	898	Union	2016 Qtr 2
02 65 1030 2021	1.00	Removal of underground storage tanks, petroleum storage tanks, non-leaking, decontamination of soil on site, soil containment berm, and chemical treatment, includes poly tarp on top/bottom, maximum	B11C	100	0.160	0.160	C.Y.	$10.15	$5.80	$3.53	$19.58	$24.00			Misc. Unit Cost	898	Union	2016 Qtr 2
02 65 1030 2050	1.00	Removal of underground storage tanks, petroleum storage tanks, non-leaking, disposal of decontaminated soil, includes poly tarp on top/bottom, minimum					C.Y.	$0.00	$0.00	$0.00	$126.00	$140.00	$275.00	76	Misc. Unit Cost	898	Union	2016 Qtr 2
02 65 1030 2055	1.00	Removal of underground storage tanks, petroleum storage tanks, non-leaking, disposal of decontaminated soil, includes poly tarp on top/bottom, maximum					C.Y.	$0.00	$0.00	$0.00	$370.00	$410.00			Misc. Unit Cost	898	Union	2016 Qtr 2
03 30 5340 4300	1.00	Structural concrete, in place, free-standing wall (3000 psi), 15" thick x 8' high, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	C14D	80.02	2.499	2.499	C.Y.	$137.00	$94	$9.20	$240.20	$305.00	$137.00	84	Misc. Unit Cost	898	Union	2016 Qtr 2
03 30 5340 4350	1.00	Structural concrete, in place, free-standing wall (3000 psi), 15" thick x 12' high, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	C14D	51.26	3.902	3.902	C.Y.	$137.00	$146	$14.35	$297.35	$390.00	$137.00	85	Misc. Unit Cost	898	Union	2016 Qtr 2
03 30 5340 2700	1.00	Structural concrete, in place, elevated slab (4000 psi), one way beam and slab, 125 psf superimposed load, 15' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	C14B	20.59	10.102	10.102	C.Y.	$249.00	$385	$36.00	$670.00	$895.00	$249.00	86	Misc. Unit Cost	898	Union	2016 Qtr 2
03 30 5340 2750	1.00	Structural concrete, in place, elevated slab (4000 psi), one way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	C14B	28.36	7.334	7.334	C.Y.	$235.00	$278	$26.00	$539.00	$710.00	$235.00	87	Misc. Unit Cost	898	Union	2016 Qtr 2
32 31 1340 1650	1.00	Fence, fabric & accessories, barbed wire, galvanized, cost per strand	B80A	2,280	0.011	0.011	L.F.	$0.16	$0.44	$0.13	$0.73	$1.00	$0.16	101	Misc. Unit Cost	898	Union	2016 Qtr 2
32 31 1320 0920	1.00	Fence, chain link industrial, galvanized steel, 6 ga. wire, 2-1/2" posts @ 10' OC, 8' high, includes excavation, in concrete, excludes barbed wire	B80C	180	0.133	0.133	L.F.	$38.50	$5.80	$1.38	$45.68	$53.00	$38.50	104	Misc. Unit Cost	898	Union	2016 Qtr 2
32 31 2910 1240	1.00	Wood fences & gates, stockade fence, No. 1 cedar, 3-1/4" rails, 6' high, includes post and post hole	B80C	160	0.150	0.150	L.F.	$16.00	$6.55	$1.55	$24.10	$29.50	$16.00	105	Misc. Unit Cost	898	Union	2016 Qtr 2
33 11 1335 0100	1.00	Water supply distribution piping, piping HDPE, butt fusion joints, 40' lengths, 4" diameter, SDR 21	B22A	400	0.100	0.100	L.F.	$2.27	$3.47	$1.59	$7.33	$9.55	$2.27	131	Misc. Unit Cost	898	Union	2016 Qtr 2
33 11 1335 0200	1.00	Water supply distribution piping, piping HDPE, butt fusion joints, 40' lengths, 6" diameter, SDR 21	B22A	360	0.105	0.105	L.F.	$6.30	$3.65	$1.67	$11.62	$14.35	$6.30	132	Misc. Unit Cost	898	Union	2016 Qtr 2
33 46 1630 2100	1.00	Subdrainage Piping, plastic, perforated PVC, pipe, 4" diameter, excludes excavation and backfill	B14	314	0.153	0.153	L.F.	$1.29	$4.90	$1.12	$7.31	$10.15	$1.29	134	Misc. Unit Cost	898	Union	2016 Qtr 2
33 46 1630 2110	1.00	Subdrainage Piping, plastic, perforated PVC, pipe, 6" diameter, excludes excavation and backfill	B14	300	0.160	0.160	L.F.	$2.84	$5.10	$1.18	$9.12	$12.25	$2.84	135	Misc. Unit Cost	898	Union	2016 Qtr 2
33 46 1635 0040	1.00	Subdrainage Piping, corrugated plastic tubing, perforated or plain, in rolls, 4" diameter, excludes excavation and backfill	2 Clab	1,200	0.013	0.013	L.F.	$0.59	$0.41	$0.00	$1.00	$1.27	$0.59	136	Misc. Unit Cost	898	Union	2016 Qtr 2

Appendix B-12.

Pipe installation: 2016 NV

CSI Number	Quantity	Description	Crew	Daily Output	Labor Hours	Ext. Labor Hours	Unit	Bare Material	Bare Labor	Bare Equipment	Bare Total	Total Incl O&P	SRCE Value	SRCE Line #	SRCE Cost Tab	Zip Code Prefix	Type	Release
01 31 1820 0200	1.00	Field personnel, project manager, average					Week	$0.00	$1,950	$0.00	$1,950	$3,000.00	$67.50	161	Labor	898	Union	2016 Qtr 2
01 31 1820 0280	1.00	Field personnel, superintendent, average (Foreman)					Week	$0.00	$1,825	$0.00	$1,825	$2,800.00	$63.00	162	Labor	898	Union	2016 Qtr 2
01 54 3320 3350	1.00	Rent, smooth drum vibratory roller, 75 H.P					Week	$0.00	$0.00	$1,775	$1,775	$1,952.50	$7,810.00	74	Equipment	898	Union	2016 Qtr 2
01 54 3320 5450	1.00	Rent truck flatbed 1axle 1-1/2 ton rating					Week+	$0.00	$0.00	$1,198	$1,198	$1,317.80	$5,271.20	78/80	Equipment	898	Union	2016 Qtr 2
01 54 3340 7200	1.00	Rent truck pickup 3/4 ton 4 wheel drive					Week+	$0.00	$0.00	$759	$759	$834.90	$3,339.60	79	Equipment	898	Union	2016 Qtr 2
01 54 3340 0400	1.00	Rent air compressor, towed type, diesel, rotary screw 250 cfm					Week+	$0.00	$0.00	$957	$957	$1,052.70	$4,210.80	81	Equipment	898	Union	2016 Qtr 2
01 54 3340 0930	1.00	Rent air tool, breaker, pavement 60 lbs					Week+	$0.00	$0.00	$49	$49.20	$54.12	$216.48	81	Equipment	898	Union	2016 Qtr 2
01 54 3340 1200	1.00	Rent air accessory, 1-1/2"by 50 ft air hose w/couplings					Week+	$0.00	$0.00	$25.00	$25.00	$27.50	$110.00	81	Equipment	898	Union	2016 Qtr 2
01 54 3340 8000	1.00	Rent arc welder gas engine 300 amp					Week+	$0.00	$0.00	$711.50	$711.50	$782.65	$3,130.60	82	Equipment	898	Union	2016 Qtr 2
01 54 3310 2120	1.00	Rent pump concrete truck mounted 4"line 80'boom					Week+	$0.00	$0.00	$3,535	$3,535	$3,888.50	$15,554.00	85	Equipment	898	Union	2016 Qtr 2
01 54 3310 3000	1.00	Rent vibrators concrete gas engine 8 HP					Week+	$0.00	$0.00	$152.90	$152.90	$168.19	$672.76	86	Equipment	898	Union	2016 Qtr 2
01 54 3340 2200	1.00	Rent electric generator gas engine 5 kW					Week+	$0.00	$0.00	$230.10	$230.10	$253.11	$1,012.44	87	Equipment	898	Union	2016 Qtr 2
01 54 3360 2800	1.00	Rent crane self-propelled, 4x4 telescoping boom 5 ton					Week+	$0.00	$0.00	$1,357	$1,357	$1,492.70	$5,970.80	89	Equipment	898	Union	2016 Qtr 2
01 54 3360 2500	1.00	Rent crane truck mounted, hydraulic, 25 ton capacity					Week+	$0.00	$0.00	$3,625	$3,625	$3,987.50	$15,950.00	90/91	Equipment	898	Union	2016 Qtr 2
01 54 3320 5300	1.00	Rent truck dump 3 axle 16 ton, 12 CY payload, 400 H.P.					Week+	$0.00	$0.00	$3,345	$3,345	$3,679.50	$14,718.00	108	Equipment	898	Union	2016 Qtr 2
01 54 3340 1690	1.00	Equipment rental, butt fusion machine, tracked, 20 HP diesel, 4"-12" pipe					Week+	$0.00	$0.00	$1,827	$1,827	$2,009.70	$8,038.80	88	Equipment	898	Union	2016 Qtr 2
02 41 1376 1000	1,500	Selective demolition, water wells, well screen & casing, 6" to 16" dia	B23	300	0.133	199.500	V.L.F	$0.00	$7,140	$13,875	$21,015	$26,175.00	$61,050.00	83/84	Equipment	898	Union	2016 Qtr 2
02 41 1923 0910	1.00	Selective demolition, rubbish handling, dumpster, alternate pricing method, delivery, average for all sizes, cost to be added to demolition cost.					Ea.	$53.00	$0.00	$0.00	$53.00	$58.50	$53.00	49	Misc. Unit Cost	898	Union	2016 Qtr 2
02 41 1923 0920	1.00	Selective demolition, rubbish handling, dumpster, alternate pricing method, haul, average for all sizes, includes one dump per week, cost to be added to demolition cost.					Ea.	$166.00	$0.00	$0.00	$166.00	$183.00	$166.00	50	Misc. Unit Cost	898	Union	2016 Qtr 2
02 41 1923 0940	1.00	Selective demolition, rubbish handling, dumpster, alternate pricing method, rent per month, average for all sizes, includes one dump per week, cost to be added to demolition cost.					Ea.	$56.50	$0.00	$0.00	$56.50	$62.00	$56.50	51	Misc. Unit Cost	898	Union	2016 Qtr 2
02 41 1923 0950	1.00	Selective demolition, rubbish handling, dumpster, alternate pricing method, disposal fee per ton, average for all sizes, cost to be added to demolition cost.					Ton	$62.00	$0.00	$0.00	$62.00	$68.50	$62.00	52	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 1100	1.00	Hazardous waste cleanup/pickup/disposal, solid pickup, 55 gallon drums					Ea.	$0.00	$0.00	$0.00	$223.00	$246.00	$246.00	58	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 1120	1.00	Hazardous waste cleanup/pickup/disposal, solid pickup, bulk material, minimum					Ton	$0.00	$0.00	$0.00	$177.00	$195.00	$402.50	59	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 1130	1.00	Hazardous waste cleanup/pickup/disposal, solid pickup, bulk material, maximum					Ton	$0.00	$0.00	$0.00	$555.00	$610.00			Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 1260	1.00	Hazardous waste cleanup/pickup/disposal, transportation to disposal site, truckload = 80 drums or 25 C.Y. or 18 tons, minimum					Mile	$0.00	$0.00	$0.00	$3.67	$4.14	$5.50	60	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 1270	1.00	Hazardous waste cleanup/pickup/disposal, transportation to disposal site, truckload = 80 drums or 25 C.Y. or 18 tons, maximum					Mile	$0.00	$0.00	$0.00	$6.75	$6.85			Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 6000	1.00	Hazardous waste cleanup/pickup/disposal, dumpsite disposal charge, minimum					Ton	$0.00	$0.00	$0.00	$130.00	$144.00	$284.50	61	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 6020	1.00	Hazardous waste cleanup/pickup/disposal, dumpsite disposal charge, maximum					Ton	$0.00	$0.00	$0.00	$385.00	$425.00			Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 3110	1.00	Hazardous waste cleanup/pickup/disposal, liquid pickup, vacuum truck, stainless steel tank, 2200 gallons, minimum charge, 4 hours, 1 compartment					Hr.	$0.00	$0.00	$0.00	$130.00	$144.00	$144.00	67	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 3120	1.00	Hazardous waste cleanup/pickup/disposal, liquid pickup, vacuum truck, stainless steel tank, 5000 gallons, minimum charge, 4 hours, 2 compartment					Hr.	$0.00	$0.00	$0.00	$186.00	$209.00	$209.00	68	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 6000	1.00	Hazardous waste cleanup/pickup/disposal, dumpsite disposal charge, minimum					Ton	$0.00	$0.00	$0.00	$130.00	$144.00	$284.50	69	Misc. Unit Cost	898	Union	2016 Qtr 2
02 81 2010 6020	1.00	Hazardous waste cleanup/pickup/disposal, dumpsite disposal charge, maximum					Ton	$0.00	$0.00	$0.00	$385.00	$425.00			Misc. Unit Cost	898	Union	2016 Qtr 2
02 65 1030 2020	1.00	Removal of underground storage tanks, petroleum storage tanks, non-leaking, decontamination of soil on site, soil containment berm, and chemical treatment, includes poly tarp on top/bottom, minimum	B11C	100	0.160	0.160	C.Y.	$7.85	$5.80	$3.53	$17.28	$21.50	$18.43	75	Misc. Unit Cost	898	Union	2016 Qtr 2
02 65 1030 2021	1.00	Removal of underground storage tanks, petroleum storage tanks, non-leaking, decontamination of soil on site, soil containment berm, and chemical treatment, includes poly tarp on top/bottom, maximum	B11C	100	0.160	0.160	C.Y.	$10.15	$5.80	$3.53	$19.58	$24.00			Misc. Unit Cost	898	Union	2016 Qtr 2
02 65 1030 2050	1.00	Removal of underground storage tanks, petroleum storage tanks, non-leaking, disposal of decontaminated soil, includes poly tarp on top/bottom, minimum					C.Y.	$0.00	$0.00	$0.00	$126.00	$140.00	$275.00	76	Misc. Unit Cost	898	Union	2016 Qtr 2
02 65 1030 2055	1.00	Removal of underground storage tanks, petroleum storage tanks, non-leaking, disposal of decontaminated soil, includes poly tarp on top/bottom, maximum					C.Y.	$0.00	$0.00	$0.00	$370.00	$410.00			Misc. Unit Cost	898	Union	2016 Qtr 2
03 30 5340 4300	1.00	Structural concrete, in place, free-standing wall (3000 psi), 15" thick x 8' high, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	C14D	80.02	2.499	2.499	C.Y.	$137.00	$94	$9.20	$240.20	$305.00	$137.00	84	Misc. Unit Cost	898	Union	2016 Qtr 2
03 30 5340 4350	1.00	Structural concrete, in place, free-standing wall (3000 psi), 15" thick x 12' high, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	C14D	51.26	3.902	3.902	C.Y.	$137.00	$146	$14.35	$297.35	$390.00	$137.00	85	Misc. Unit Cost	898	Union	2016 Qtr 2
03 30 5340 2700	1.00	Structural concrete, in place, elevated slab (4000 psi), one way beam and slab, 125 psf superimposed load, 15' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	C14B	20.59	10.102	10.102	C.Y.	$249.00	$385	$36.00	$670.00	$895.00	$249.00	86	Misc. Unit Cost	898	Union	2016 Qtr 2
03 30 5340 2750	1.00	Structural concrete, in place, elevated slab (4000 psi), one way beam and slab, 125 psf superimposed load, 25' span, includes forms(4 uses), reinforcing steel, concrete, placing and finishing	C14B	28.36	7.334	7.334	C.Y.	$235.00	$278	$26.00	$539.00	$710.00	$235.00	87	Misc. Unit Cost	898	Union	2016 Qtr 2
32 31 1340 1650	1.00	Fence, fabric & accessories, barbed wire, galvanized, cost per strand	B80A	2,280	0.011	0.011	L.F.	$0.16	$0.44	$0.13	$0.73	$1.00	$0.16	101	Misc. Unit Cost	898	Union	2016 Qtr 2
32 31 1320 0920	1.00	Fence, chain link industrial, galvanized steel, 6 ga. wire, 2-1/2" posts @ 10' OC, 8' high, includes excavation, in concrete, excludes barbed wire	B80C	180	0.133	0.133	L.F.	$38.50	$5.80	$1.38	$45.68	$53.00	$38.50	104	Misc. Unit Cost	898	Union	2016 Qtr 2
32 31 2910 1240	1.00	Wood fences & gates, stockade fence, No. 1 cedar, 3-1/4" rails, 6' high, includes post and post hole	B80C	160	0.150	0.150	L.F.	$16.00	$6.55	$1.55	$24.10	$29.50	$16.00	105	Misc. Unit Cost	898	Union	2016 Qtr 2
33 11 1335 0100	1.00	Water supply distribution piping, piping HDPE, butt fusion joints, 40' lengths, 4" diameter, SDR 21	B22A	400	0.100	0.100	L.F.	$2.27	$3.47	$1.59	$7.33	$9.55	$2.27	131	Misc. Unit Cost	898	Union	2016 Qtr 2
33 11 1335 0200	1.00	Water supply distribution piping, piping HDPE, butt fusion joints, 40' lengths, 6" diameter, SDR 21	B22A	360	0.105	0.105	L.F.	$6.30	$3.65	$1.67	$11.62	$14.35	$6.30	132	Misc. Unit Cost	898	Union	2016 Qtr 2
33 46 1630 2100	1.00	Subdrainage Piping, plastic, perforated PVC, pipe, 4" diameter, excludes excavation and backfill	B14	314	0.153	0.153	L.F.	$1.29	$4.90	$1.12	$7.31	$10.15	$1.29	134	Misc. Unit Cost	898	Union	2016 Qtr 2
33 46 1630 2110	1.00	Subdrainage Piping, plastic, perforated PVC, pipe, 6" diameter, excludes excavation and backfill	B14	300	0.160	0.160	L.F.	$2.84	$5.10	$1.18	$9.12	$12.25	$2.84	135	Misc. Unit Cost	898	Union	2016 Qtr 2
33 46 1635 0040	1.00	Subdrainage Piping, corrugated plastic tubing, perforated or plain, in rolls, 4" diameter, excludes excavation and backfill	2 Clab	1,200	0.013	0.013	L.F.	$0.59	$0.41	$0.00	$1.00	$1.27	$0.59	136	Misc. Unit Cost	898	Union	2016 Qtr 2

Appendix B-13.

Insulated & Heat-traced 6” HDPE pipe: Ferguson Enterprises, Inc.

From: Jason.Trine@Ferguson.com
To: Jason.Trine@Ferguson.com
Subject: Email Bid# B708650
Date: Wednesday, December 21, 2016 11:31:22 AM

Price Quotation # B708650

FEI - FAIRBANKS #3022

3105 INDUSTRIAL AVENUE
FAIRBANKS, AK 99701-4160

Phone : 907-456-1234
Fax : 907-451-6244

Bid No.....: B708650
Bid Date...: 12/21/16
Quoted By: JMT
Customer.: SUMITOMO METAL MINING POGO
POGO MINE
PO BOX 145
DELTA JUNCTION, AK 99737

Cust Phone: 907-895-2756
Terms.....: NET 10TH PROX
Ship To.....: SUMITOMO METAL MINING POGO
POGO MINE
PO BOX 145
DELTA JUNCTION, AK 99737

Cust PO#..: SRK HDPE BUDGET
Job Name.: POGO MINE

Item	Description	Quantity	Net Price	UM	Total	Customer Code
SP-PEI116X40INSUL	6X40 IPS SDR11 INSUL W/ JCKT	3000	66.000	FT	198000.00	
	6" X 15" INSULATED PIPE WITH DUAL					
	1-1/2" IPS TO ACCEPT 1" PEX HEAT					
	LOOP					
	6" HDPE SDR 11 PE 4710 AWWA C906					
	CORE PIPE WITH 15.65" OD .250" WALL					
	PE 3608 HDPE JACKET 3 LBCF URETHANE					
	FOAM 40'-0" LENGTHS WITH 12"					
	CUTBACKS					
UF1101000	1X500 COIL AQUAPEX WHIT	6	583.000	EA	3498.00	
SP-6X15JOINTKIT	6X15 INSUL JOINT KITS	75	240.000	EA	18000.00	
	6" X 15" INSULATION JOINT KIT WITH					
	DUAL HEAT TRACE CHANNELS TO ACCEPT					
	1" PEX PIPE (LOCATION TO BE					
	DETERMINDED) 6" IPS X 15.875"OD X					
	24" LONG 4LB/CF URETHANE FOAM WITH					
	36" WIDE HEAT SHRINK SLEEVE AND					
	CLOSURE STRIP					
	MATERIAL IS FOB POGO MINE					
	WITH 2-4 WEEKS FACTORY					
	LEAD TIME PLUS 2-3 WEEKS					

	FOR SHIPPING.					
	THANKS,					

Subtotal:	$219498.00
Inbound Freight:	$0.00
Tax:	$0.00
Order Total:	$219498.00

Quoted prices are based upon receipt of the total quantity for immediate shipment (48 hours). SHIPMENTS BEYOND 48 HOURS SHALL BE AT THE PRICE IN EFFECT AT TIME OF SHIPMENT UNLESS NOTED OTHERWISE. Seller not responsible for delays, lack of product or increase of pricing due to causes beyond our control, and/or based upon Local, State and Federal laws governing type of products that can be sold or put into commerce. This Quote is offered contingent upon the Buyer's acceptance of Seller's terms and conditions, which are incorporated by reference and found either following this document, or on the web at http://wolseleyna.com/terms_conditionsSale.html. Govt Buyers: All items quoted are open market unless noted otherwise.

LEAD LAW WARNING: It is illegal to install products that are not "lead free" in accordance with US Federal or other applicable law in potable water systems anticipated for human consumption. Products with *NP in the description are NOT lead free and can only be installed in non-potable applications. Buyer is solely responsible for product selection.

Appendix B-14.

Powerline removal: 2016 NV

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	***srce_cdf_1_12_std_2016.xlsm***
Date:	***August 1, 2016***
Cost Basis:	***User Data***
Author/Source:	***Nevada Division of Environmental Protec***

MISCELLANEOUS COST TABLE

JOB DESCRIPTION		Basis 1 *Northern Nevada*	
Powerline and Transformer Removal			**Total**
Single Pole Powerlines [7]	mile		$40,559
Double Pole Powerlines [8]	mile		$46,353
Substation [9]	unit		$29,068
NOTES:			
(7) Single Pole Source:		NVEnergy estimate (2009) Adjusted to 2016	
(8) Double Pole Source:		NVEnergy estimate (2009) Adjusted to 2016	
(9) Transformer Source:		SPPC estimate (2004) adjusted to 2016	

Appendix B-15.

Transformer removal: 2016 NV

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	***srce_cdf_1_12_std_2016.xlsm***
Date:	***August 1, 2016***
Cost Basis:	***User Data***
Author/Source:	***Nevada Division of Environmental Protec***

MISCELLANEOUS COST TABLE

JOB DESCRIPTION		Basis 1 *Northern Nevada*	
Powerline and Transformer Removal			**Total**
Single Pole Powerlines [7]	mile		$40,559
Double Pole Powerlines [8]	mile		$46,353
Substation [9]	unit		$29,068
NOTES:			
(7) Single Pole Source:		NVEnergy estimate (2009) Adjusted to 2016	
(8) Double Pole Source:		NVEnergy estimate (2009) Adjusted to 2016	
(9) Transformer Source:		SPPC estimate (2004) adjusted to 2016	

Appendix B-16.

Rip-rap & rock lining: 2016 NV

CSI Number	Quantity	Description	Crew	Daily Output	Labor Hours	Ext. Labor Hours	Unit	Bare Material	Bare Labor	Bare Equipment	Bare Total	Total Incl O&P	SRCE Value	SRCE Line #	SRCE Cost Tab	Zip Code Prefix	Type	Release
33 46 1635 0060	1.00	Subdrainage Piping, corrugated plastic tubing, perforated or plain, in rolls, 6" diameter, excludes excavation and backfill	2 Clab	900	0.018	0.018	L.F.	$1.37	$0.53	$0.00	$1.90	$2.33	$1.37	137	Misc. Unit Cost	898	Union	2016 Qtr 2
31 37 1310 0110	1.00	Rip-rap and rock lining, random, broken stone, 3/8 to 1/4 C.Y. pieces, machine placed for slope protection, grouted	B13	80	0.700	0.700	S.Y.	$27.00	$27.00	$9.05	$63.05	$81.00	$27.00	157	Misc. Unit Cost	898	Union	2016 Qtr 2
31 37 1310 0200	1.00	Rip-rap and rock lining, random, broken stone, 18" minimum thickness, machine placed for slope protection, not grouted	B13	53	1.057	1.057	S.Y.	$8.10	$40.50	$13.70	$62.30	$86.00	$8.10	158	Misc. Unit Cost	898	Union	2016 Qtr 2
31 36 1310 0400	1.00	Gabion boxes, galvanized steel mesh mats or boxes, stone filled, 6" deep	B13	200	0.280	0.280	S.Y.	$7.70	$10.80	$3.62	$22.12	$29.00	$7.70	159	Misc. Unit Cost	898	Union	2016 Qtr 2
31 36 1310 0600	1.00	Gabion boxes, galvanized steel mesh mats or boxes, stone filled, 12" deep	B13	153	0.366	0.366	S.Y.	$12.80	$14.05	$4.73	$31.58	$41.00	$12.80	161	Misc. Unit Cost	898	Union	2016 Qtr 2
31 36 1310 0700	1.00	Gabion boxes, galvanized steel mesh mats or boxes, stone filled, 18" deep	B13	102	0.549	0.549	S.Y.	$18.00	$21.00	$7.10	$46.10	$59.50	$18.00	162	Misc. Unit Cost	898	Union	2016 Qtr 2
31 36 1310 0800	1.00	Gabion boxes, galvanized steel mesh mats or boxes, stone filled, 36" deep	B13	60	0.933	0.933	S.Y.	$30.50	$36.00	$12.10	$78.60	$102.00	$30.50	163	Misc. Unit Cost	898	Union	2016 Qtr 2
33 47 1353 1200	1.00	Pond and Reservoir Liners, membrane lining systems HDPE, 100,000 S.F. or more, 60 mil thick	3	1,600	0.015	0.015	S.F.	$0.55	$0.60	$0.00	$1.15	$1.53	$0.55	169	Misc. Unit Cost	898	Union	2016 Qtr 2
01 54 3340 6410	1.00	Rent toilet portable chemical					Week+	$0.00	$0.00	$67.20	$67.20	$73.92	$137.00	173	Misc. Unit Cost	898	Union	2016 Qtr 2
01 54 3340 6410	1.00	Rent toilet portable chemical					Month+	$0.00	$0.00	$206.80	$206.80	$227.48		173	Misc. Unit Cost	898	Union	2016 Qtr 2
01 52 1320 0250	1.00	Office Trailer, furnished, rent per month, 20' x 8', excl. hookups					Ea.	$194.00	$0.00	$0.00	$194.00	$214.00	$194.00	172	Misc. Unit Cost	898	Union	2016 Qtr 2
31 36 1310 0500	1.00	Gabion boxes, galvanized steel mesh mats or boxes, stone filled, 9" deep	B13	163	0.344	0.344	S.Y.	$9.65	$13.20	$4.44	$27.29	$35.50	$9.65	160	Misc. Unit Cost	898	Union	2016 Qtr 2
02 41 1370 0500	1.00	Selective demolition, water wells, pump, up to 500' deep, 30 HP	Q22	1	16.000	16.000	Ea.	$0.00	$795	$640.00	$1,435	$1,900.00			Not Used	898	Union	2016 Qtr 2
32 92 1914 7000	1.00	Seeding athletic fields, apply fertilizer, 800 lb./acre	B66	4	2.000	2.000	Ton	$746.00	$94	$84.00	$903	$1,025.00			Not Used	898	Union	2016 Qtr 2
32 91 1316 0700	1.00	Soil preparation, mulching, oat straw, 1" deep, power mulcher, large	B65	530	0.030	0.030	M.S.F.	$42.00	$1.16	$1.03	$44.19	$49.50			Not Used	898	Union	2016 Qtr 2
01 54 3340 6600	1.00	Rent trailer, platform, flush deck 2 axle, 40 ton					Week+	$0.00	$0.00	$746	$746	$822.60			Not Used	898	Union	2016 Qtr 2
01 54 3320 5250	1.00	Rent truck, dump, 2-axle, 12 ton, 8 C.Y. payload, 220 H.P.					Week+	$0.00	$0.00	$2,010	$2,010	$2,211.00	$8,844.00		Equipment	898	Union	2016 Qtr 2
01 54 3340 6500	1.00	Rent trailer, platform, flush deck 3 axle, 75 ton					Week+	$0.00	$0.00	$1,055	$1,055	$1,160.50			Not Used	898	Union	2016 Qtr 2
01 54 3340 6500	1.00	Rent trailer, platform, flush deck 2 axle, 25 ton					Week+	$0.00	$0.00	$548	$548	$602.80			Not Used	898	Union	2016 Qtr 2
01 54 3340 7200	1.00	Rent truck pickup 3/4 ton 4 wheel drive					Week+	$0.00	$0.00	$759	$759	$834.90			Not Used	898	Union	2016 Qtr 2
01 54 3340 7600	1.00	Rent truck tractor 6 x 4 drive, 450 HP					Week+	$0.00	$0.00	$3,500	$3,500	$3,850.00			Not Used	898	Union	2016 Qtr 2
01 54 3 650 1300	1.00	Mobilization or demobilization, delivery charge for equipment, hauled on 3-ton capacity towed trailer	A3Q	3	3.000	3.000	Ea.	$0.00	$123.00	$65.50	$188.50	$258.00			Not Used	898	Union	2016 Qtr 2
01 54 3 650 1400	1.00	Mobilization or demobilization, delivery charge for equipment, hauled on 20-ton capacity towed trailer	B34U	2	8.000	8.000	Ea.	$0.00	$310.00	$228.00	$538.00	$715.00			Not Used	898	Union	2016 Qtr 2
01 54 3 650 1500	1.00	Mobilization or demobilization, delivery charge for equipment, hauled on 40-ton capacity towed trailer	B34N	2	8.000	8.000	Ea.	$0.00	$315.00	$365.00	$680.00	$875.00			Not Used	898	Union	2016 Qtr 2
01 54 3360 2800	1.00	Rent crane self-propelled, 4x4 telescoping boom 5 ton					Day+	$0.00	$0.00	$363.40	$363.40	$399.74			Not Used	898	Union	2016 Qtr 2
01 54 3360 2500	1.00	Rent crane truck mounted, hydraulic, 25 ton capacity					Day+	$0.00	$0.00	$980	$980	$1,078.00			Not Used	898	Union	2016 Qtr 2
								$2,278	$13,661	$45,179	$63,925.59	$76,163.43	$159,509.53					

Appendix B-17.

HDPE Liner: Agru America

QUOTATION

SRK
Feliz Toprak

BUDGET
PH:
ftoprak@srk.com
Terms:

Quote Date **2/1/2017**

Project Number: **Budget**
Project Name Pogo Mine
Location: Delta Junction Alaska
Application: MIN-POND

PRODUCT	QUANTITY (SF)	ROLL SIZE	F.O.B.	UNIT PRICE ($/SF)	TOTAL PRICE	WARRANTY
60 mil HDPE Smooth-Avg	304,920 23 Rolls	23 x 600 11 rolls/truck	Fernley, NV Flatbed	$0.2431	$ 74,126.05	Agru Standard
60 mil HDPE SS MicroSpike-GRI	304,920 25 Rolls	23 x 550 12 rolls/truck	Fernley, NV Flatbed	$0.2485	$ 75,772.62	Agru Standard
60 mil HDPE DS MicroSpike-GRI	304,920 25 Rolls	23 x 540 12 rolls/truck	Fernley, NV Flatbed	$0.2461	$ 75,040.81	Agru Standard

# of trucks from Fernley	2	
Est Cost/Truck from Fernley	$ 11,950.00	$ 23,900.00

Freight price is an estimate.

Total Freight Cost	(Estimated)	$ 23,900.00
Material Cost		$ 224,939.48
Project Cost		$ 248,839.48

Exceptions/Clarifications and Special Requirements: Agru Standard

Comments:

- Unless otherwise specified, Agru America standard material specification values and testing will apply for this quotation and the Customer agrees that Agru America standard values will be acceptable according to this quote.
- Material prices are valid for 30 days.
- Agru America Standard Warranty shall apply.
- Agru America General Terms and Conditions will apply.
- If the material quantity changes from the above square footage, a revised quotation must be issued.
- Agru America reserves the right to pass along any verifiable resin increases from the resin supplier up to time of material shipment.
- Shipping dates are estimates only and Agru America will not be held liable for any delays due to shipping.
- Any costs associated with third party testing will be the responsibility of the customer.
- Interest will accrue on unpaid balances at 1 ½% per month and Purchaser is responsible for collection costs and attorney fees.

Customer Acknowledgment

P. O. No.:_____ Signature:_____

Date:_____ Title:_____

Date Required: _____

Please return to:

Phone:
Email:

Quality from the ground up.

Appendix G

CONSOLIDATED AGENCY AND PUBLIC COMMENTS

Response to Comments Document
Draft Waste Management Permit No. 2018DB0001 and
Draft Plan of Operations Approval (F20189500) for the
Pogo Mine

This document summarizes and addresses comments received on the Alaska Department of Environmental Conservation (DEC), draft Waste Management Permit (WMP) No. 2018DB0001 and the Alaska Department of Natural Resources (DNR), draft Plan of Operations Approval (F20189500). The WMP regulates the containment and disposal of mine tailings, waste rock, wastewater, and other mine-related wastes at Pogo Mine. Sumitomo Metal Mining Pogo LLC (Pogo) operates the Pogo Mine on state land located 38 miles northeast of Delta Junction, Alaska and 85 miles east-southeast of Fairbanks, Alaska. The state received comments from one party Sumitomo Metal Mining Pogo LLC during the public notice period from April 13, 2018 through May 14, 2017.

Permit-specific comments on the draft DEC permit and draft DNR approval and the state's responses to those comments are contained in the table on the following pages.

Responses to Comments on draft Waste Management Permit No. 2018DB0001 and draft Plan of Operations Approval (F20189500) for Pogo Mine

Comment #	Commenter	Comment	Comment Response
1	Pogo	Regarding Section 1.1.2 of the draft Waste Management Permit, please delete the reference to the *Basis of Reclamation Cost Estimate, Pogo Mine, Alaska*. The cost spreadsheets do not contain and are not intended to contain requirements regarding mine operations.	The comment accurately points out that the *Basis of Reclamation Cost Estimate, Pogo Mine, Alaska* imposes no requirements on the permittee. Instead, it provides documentation supporting the financial assurance amount. Reference to the *Basis of Reclamation Cost Estimate, Pogo Mine, Alaska* has been removed from Section 1.1.2 as suggested.
2	Pogo	Regarding Section 1.2.2.10 of the draft Waste Management Permit, please change "batteries" to "lead-acid batteries" similar to Waste Management Permits for other large mines in Alaska.	Section 1.2.2.10 has been changed to read "lead-acid batteries." It is now consistent with similar Waste Management Permits.
3	Pogo	Regarding Section 1.2.9 of the draft Waste Management Permit, please consider revising the beginning of the third sentence as follows and add the following additional waste streams: "The limitations also do not preclude, and authorization is hereby given for, disposal of non-hazardous waste **either underground or** in discrete cells **in the DSTF**, such as (i) ... **(xv) concrete slabs, scrap lumber, pipe and similar wastes; (xvi) empty drums and containers that have been triple-rinsed; (xvii) non-lead acid batteries**; and (xviii) such other material as would otherwise be disposed of in a surface landfill without special handling." These additional waste streams have been included in other Waste Management Permits issued by DEC to large mines.	Section 1.2.9 has been changed incorporating the suggestions provided in the comment.

4	Pogo	Regarding Section 1.2.10 of the draft Waste Management Permit, please note the following suggestions. 1) Consider adding the bold print language, "For WAD cyanide with a MDL equal to 10 µg/L and ML equal to 20 µg/L **(which is the compliance level)**, values between the MDL and ML provide a margin of safety indicating increasing trends prior to any exceedances." 2) Since Pogo is required to submit quarterly reports within 60 days of the end of the calendar quarter and annually on March 1st , verbally reporting within 60 days of the end of the calendar quarter and providing additional written notice 7 days thereafter seems excessive. Replace as follows, "~~Based on the rate and magnitude of a trend, the department may require corrective action according to section **Error! Reference source not found.** to prevent environmental harm. When lab results are between the MDL and ML, the permittee shall verbally notify the department within 60 days of the end of the calendar quarter when it occurred and provide written notification within seven days of verbal notice.~~ With the quarterly and annual reports in Section 1.6, permittee shall report when the WAD cyanide lab results are between the MDL and ML. If successive quarterly reports show a trend that could result in an exceedance of the compliance level, the department may require corrective action according to Section 1.7 to prevent environmental harm."	As for 1), the language in bold has been added. Regarding 2), the permit requires verbal notification 60 days after the end of the quarter because that is when each quarterly monitoring report is due. Since assembling and submitting the quarterly report allows the permittee to examine cyanide data, the best time to provide verbal notification is when a quarterly report is submitted, and it avoids the chance of this information being overlooked in a report. Verbal notice and a follow-up email serves the permittee and DEC with transparency in assessing each situation on a case by case basis. No permit changes resulted from this comment.

5	Pogo	Regarding Section 1.4.2 of the draft Waste Management Permit, please note the following suggestion. 1) Consider adding the language in bold, "The seepage system shall be operated to ensure that the Pogo Mine operates as a zero discharge facility, except for the discharges permitted under APDES Permit No. AK0053341, **APDES Multi-Sector General Permit No. AKR060000 or other effective APDES permit specifically authorizing a discharge at the facility**, which **are** excluded from this permit." These revisions are consistent with the text of Section 1.4.1	The suggested language has been added.
6	Pogo	Regarding Section 1.4.10 of the draft Waste Management Permit, consider adding the language in bold. "The permittee shall report spills of hazardous substances according to **18 AAC 75 or as required under** an agreement with the department's Spill Prevention and Response Program at http://dec.alaska.gov/spar/spillreport.htm. Pogo does not currently have an agreement with SPAR for reporting hazardous substances."	The suggested language has been added.
7	Pogo	In Section 1.5.3 of the draft Waste Management Permit, consider revising the first sentence as follows. "The permittee must implement **the** Pogo Quality Assurance Plan **(October 2017)** (QAP) for all monitoring required by this permit."	Since the *Pogo Quality Assurance Plan* (January 2017) was submitted with the permit application and adopted by reference on the permit's title page and Section 1.1.2, the suggestion lacks benefit. Additionally, Section 1.5.3 requires updating the QAP within 60 days of permit issuance, which negates any benefit in applying a date to the QAP in this section. Insertion of "the" is the only permit change resulting from this comment.

8	Pogo	In Section 1.6.3.3 of the draft Waste Management Permit, consider revising as follows. "Address the adequacy of the financial responsibility. Permittee shall review the Pogo Reclamation and Closure Plan (February 2017) and facility conditions to assess whether any significant changes have occurred which would increase or decrease the financial responsibility. Permittee is not required to complete a detailed engineering review or submit a new site reclamation cost model with the Annual Report."	Based on the comment, Section 1.6.3.3 has been changed, and it now reads as follows. "Address the adequacy of the financial responsibility. The permittee shall review the Pogo Reclamation and Closure Plan and facility conditions assessing changes that have significantly impacted the financial responsibility amount. The permittee is not required to complete a detailed engineering review or submit a new reclamation cost model with the annual report."
9	Pogo	In Section 1.6.6 of the draft Waste Management Permit, consider revising as follows. "Any onsite wildlife (large game) casualties associated with the activities authorized under this permit shall be verbally reported to ADEC and the Alaska Department of Fish and Game within five working days of discovery and shall be identified in the quarterly and annual reports under sections 1.6.2 and 1.6.3."	Consistent with similar Waste Management Permits, wildlife casualties are to be reported, not just large game, within one working day of discovery. However, it now specifies verbal notification instead of merely notification. Based on the comment, Section 1.6.6 has been changed, and it now reads as follows. "Any onsite wildlife casualties associated with facility activities shall be verbally reported to the department within one working day of discovery."

10	Pogo	Regarding Section 1.11 of the draft Waste Management Permit, please consider removing the sentence "The intent of the audit is to evaluate whether both Pogo Mine management and DEC permit administration provide reasonable assurances that the facility and environmental controls are functioning as intended." and make minor revisions so that it reads as follows. "A periodic third-party environmental audit shall be completed during the final year of the permit term or sooner if final closure starts during the permit term. However, the field inspection portion of the audit shall be conducted during the snow free season the year before permit expiration. The environmental audit shall verify Pogo Mine's compliance with the terms and conditions of this permit and applicable environmental laws associated with this permit. The environmental audit shall also include an evaluation of the adequacy of the approved financial assurance. The third-party contractor should be mutually agreed on by the State and Pogo Mine, but in the event that agreement cannot be reached, the State retains the final contractor selection decision. Costs for the third-party contractor shall be borne by Pogo Mine."	Most minor revisions were made as suggested. However, the suggestion to remove the sentence describing the audit's intention was rejected, and it was retained. Section 1.11 now reads, "A third-party environmental audit shall be completed during the final year of the permit term or sooner if final closure starts during the permit term. However, the field inspection portion of the audit shall be conducted during the snow free season the year before permit expiration. The audit will include all aspects of this Waste Management Permit. The environmental audit shall verify Pogo Mine's compliance with applicable environmental laws associated with this permit. The third party contractor should be mutually agreed on by the State and Pogo Mine, but in the event that agreement cannot be reached, the State retains the final contractor selection decision. Costs for the third-party contractor shall be borne by Pogo Mine. The intent of the audit is to evaluate whether both Pogo Mine management and DEC permit administration provide reasonable assurances that the facility and environmental controls are functioning as intended. The environmental audit shall include an evaluation of the adequacy of the approved financial assurance."
11	Pogo	In the draft Waste Management Permit, please update the facility map with the most current version that has been provided.	The facility map has been updated as suggested.

12	Pogo	The draft Plan of Operations Approval does not consistently refer to the Plan of Operations Approval. Suggest that ADNR consistently refer to Plan of Operations Approval as either the "Plan of Operations Approval" or the "Plan Approval" throughout the document to avoid confusion.	The "Plan of Operations Approval" is the correct term and is shortened to "Plan Approval" in many instances to simplify the wording. It is also used in general stipulation's that apply to the two different authorization's we issue, including the "Reclamation Plan Approval" that is issued in some cases. Many of these stipulations apply in all cases without regard for type of approval and "Plan Approval" is a catch-all. If we used "Plan of Operations Approval" in all references the document would read more awkwardly than it already does. In some cases we will revise the wording to "Plan of Operations Approval" to be more specific when appropriate. To minimize confusion, we also added the following sentence near the beginning of the document. "Any reference to the 'Plan Approval', is a reference to the 'Plan of Operations Approval'."

13	Pogo	Regarding *General Stipulations – Reporting* in the draft Plan of Operations Approval, please revise to read as follows. "The results of monitoring, required under this Plan Approval and the Waste Management Permit issued the Alaska Department of Environmental Conservation (unless otherwise indicated by the Authorized Officer), obtained during a reporting period shall be summarized and submitted to the Authorized Officer or designee quarterly, no later than 60 days after the last day of the quarter, in an electronic format acceptable to ADNR. An annual report will be due by March 1st and shall summarize activities (surface disturbance, reclamation, mining, leaching and milling) conducted during the previous calendar year and include fourth quarter monitoring data. The annual report shall also address the adequacy of the financial responsibility. Permittee shall review the Pogo Reclamation and Closure Plan (February 2017) and facility conditions to assess whether any significant changes have occurred which would increase or decrease the financial responsibility. Permittee is not required to complete a detailed engineering review or submit a new site reclamation cost model with the annual report. Electronic copies should also be sent to ADNR (Jim Vohden at jim.vohden@alaska.gov and dnr.water.reports@alaska.gov, Brent Martellaro at brent.martellaro@alaska.gov, and Audra Brase at audra.brase@alaska.gov), and Alaska Department of Environmental Conservation (ADEC) (Tim Pilon at tim.pilon@alaska.gov). Amendments to this distribution list will be provided to the Permittee as needed."	Based on the comment *General Stipulations – Reporting* has been changed to read as follows. "The results of monitoring, required under this Plan Approval obtained during a reporting period shall be summarized and submitted to the Authorized Officer or designee quarterly, no later than 60 days after the last day of the quarter, in an electronic format acceptable to ADNR. An annual report will be due by March 1st and shall summarize activities (surface disturbance, reclamation, mining, leaching and milling) conducted during the previous calendar year and include fourth quarter monitoring data. The annual report shall also address the adequacy of the financial responsibility. Permittee shall review the Pogo Reclamation and Closure Plan (February 2017) and facility conditions to assess whether any significant changes have occurred which would increase or decrease the financial responsibility. Permittee is not required to complete a detailed engineering review or submit a new site reclamation cost model with the annual report. Electronic copies should be sent to ADNR (Jim Vohden at jim.vohden@alaska.gov, dnr.water.reports@alaska.gov, and Brent Martellaro at brent.martellaro@alaska.gov), Alaska Department of Fish and Game (Audra Brase at audra.brase@alaska.gov), and Alaska Department of Environmental Conservation (Tim Pilon at tim.pilon@alaska.gov). Amendments to this distribution list will be provided to the Permittee as needed."

14	Pogo	Regarding *General Stipulations – Reporting* in the draft Plan of Operations Approval, please revise to read as follows. "A periodic third-party environmental audit shall be completed during the final year of this Plan Approval or sooner if final closure starts before the expiration this Plan Approval. However, the field inspection portion of the audit shall be conducted during the snow free season the year before permit expiration. The environmental audit shall verify Pogo Mine's compliance with the terms and conditions of this Plan Approval and the applicable environmental laws associated with this Plan Approval. The environmental audit shall also include an evaluation of the adequacy of the approved financial assurance. The third party contractor should be mutually agreed on by the State and Pogo Mine, but in the event that agreement cannot be reached, the State retains the final contractor selection decision. Costs for the third-party contractor shall be borne by Pogo Mine."	Most minor revisions were made as suggested. However, the suggestion to remove the sentence describing the audit's intention was rejected, and it was retained. The section now reads as follows. "A third-party environmental audit shall be completed during the final year of the permit term or sooner if final closure starts during the permit term. However, the field inspection portion of the audit shall be conducted during the snow free season the year before permit expiration. The audit will include all aspects of this Plan of Operations Approval. The environmental audit shall verify Pogo Mine's compliance with applicable environmental laws associated with this permit. The third-party contractor should be mutually agreed on by the State and Pogo Mine, but in the event that agreement cannot be reached, the State retains the final contractor selection decision. Costs for the third-party contractor shall be borne by Pogo Mine. The intent of the audit is to evaluate whether both Pogo Mine management and DNR permit administration provide reasonable assurances that the facility and environmental controls are functioning as intended. The environmental audit shall include an evaluation of the adequacy of the approved financial assurance."

15	Pogo	Regarding *Fuels and Hazardous Substances - Notification* in the draft Plan of Operations Approval, please revise to read as follows. "The permittee shall report spills of fuels and hazardous substances to ADNR and ADEC according to 18 AAC 75 or as required under an agreement with the department's Spill Prevention and Response Program at http://dec.alaska.gov/spar/spillreport.htm."	DNR reporting requirements are independent of DEC's, and the language has been revised to the following. "The Permittee shall immediately notify ADNR by phone of any unauthorized discharge of oil to water, any discharge of hazardous substances (other than oil), and any discharge of oil greater than 55 gallons on land. All fires and explosions must also be reported to ADNR. The ADNR 24 hour incident notification number is (907) 451-2678; the Fax number is (907) 451-2751. ADNR shall be supplied with all follow-up incident reports."