PLAN OF OPERATIONS
RECLAMATION AND CLOSURE PLAN

Donlin Gold Project

December 2018

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ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish & Game
ADNR	Alaska Department of Natural Resources
ANCSA	Alaska Native Claims Settlement Act
AS	Alaska Statute
BLM	Bureau Land Management
BMPs	best management practices
Calista	Calista Native Corporation
CIL	carbon-in-leach
CSIA	Closure Social Impact Assessment
CWD	Contact Water Dam
HDPE	high density polyethylene
HDS	high density sludge
LLDPE	linear low-density polyethylene
LOM	life of mine
ML/ARD	metal leaching/acid rock drainage
MOU	Memorandum of Understanding
NAG	non-acid generating
PAG	potentially acid generating
PLS	pure live seed
PMP	probable maximum precipitation
RC	reverse circulation
RO	reverse osmosis
SRCE	Standard Reclamation Cost Estimator Model
SRS	seepage recovery system
SWPPP	Storm Water Pollution Prevention Plan
TKC	The Kuskokwim Corporation
TSF	tailings storage facility
WRF	waste rock facility
WTP	water treatment plant

UNITS OF MEASURE

acre-ft	43,560 cubic feet or 325,851 gallons
amsl	above mean sea level
bmsl	below mean sea level
cfs	cubic feet per second
cm	centimeter
ft	foot/feet
ha	hectares
kg	kilogram
km	kilometers
lbs	pounds
m	meter
m^3	cubic meters
m^3/s	cubic meters per second
Mgal	million gallon
ML	million liters
mm	millimeters
Mm^3	million cubic meters
Mst	million short tons
Mt	million tonnes
Myd^3	million cubic yards
st	short tons
t	tonne
yd^3	cubic yards

1.0 INTRODUCTION

Donlin Gold LLC[1] (Donlin Gold) is proposing the development of an open pit, hardrock gold mine in southwestern Alaska, about 277 miles (446 km) west of Anchorage, 145 miles (233 km) northeast of Bethel, and 10 miles (16 km) north of the village of Crooked Creek (Figure 1-1). This document was prepared in accordance with state regulations governing the reclamation of mined lands and describes reclamation goals and techniques for the mine site and ancillary facilities. Reclamation and closure of the 315-mile long (507 km) 14-inch (35.6 cm) diameter natural gas pipeline that will provide a reliable source of energy to the mine is covered by the *Natural Gas Pipeline, Plan of Development*, SRK 2013, Amended 2017.

The purpose of this Reclamation and Closure Plan (Plan) is to provide guidelines for implementing stabilization and reclamation procedures for the various facilities associated with the proposed Donlin Gold project. These guidelines are based on the best available reclamation technologies. As Donlin Gold is committed to concurrent reclamation of portions of the site during operations, these guidelines may be modified as actual reclamation data are gathered during field reclamation of individual facilities or reclamation test plots. Revisions to this Plan would be made to address changes in the design, construction, operations, and concurrent stabilization and reclamation of the facility.

This approach will:

- allow the incorporation of new design information as subsequent phases of the project are developed
- reflect changes in the operating plans and mining schedule
- account for the stabilization and reclamation of previous phases or specific components of the facility
- incorporate information and actual operating experience developed during the initial phases of the project
- allow for the utilization of new, reasonable and practical reclamation techniques as they are developed.

Table 1-1 provides a record of changes to this Plan.

[1] Donlin Gold LLC is a limited liability company jointly owned by Barrick Gold U.S. Inc. and NovaGold Resources Alaska, Inc. on a 50/50 basis.

Table 1-1: Record of Changes and Amendments

Date	Section(s) Revised or Amended

1.1 Alaska Reclamation and Closure Requirements

Reclamation and closure of the proposed Donlin Gold project falls under the jurisdiction of the Alaska Department of Natural Resources (ADNR), Division of Mining, Land, and Water and the Alaska Department of Environmental Conservation (ADEC).

1.1.1 Alaska Department of Natural Resources

Alaska Statute (AS) 27.19, the Reclamation Act, applies to state, federal, municipal, and private land and water subject to mining operations. This statute is administered by the commissioner of ADNR. The Reclamation Act states that "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" and 11 AAC 97.240 further states "a miner shall reclaim a mined area that has potential to generate acid rock drainage (acid mine drainage) in a manner that prevents the generation of acid rock drainage or prevents the offsite discharge of acid rock drainage."

An approved reclamation plan is required by the State mining regulations (11 AAC 97.300 – 97.350). The reclamation plan does not become effective until a performance bond is in place, with the exception of certain small operations. The performance bond amount shall be set at a level not more than an amount reasonably necessary to ensure the faithful performance of the requirements of the reclamation plan. Alaska Administrative Code 11 AAC 97 Mining Reclamation applies to the approval of reclamation plans, reclamation bonding, and enforcement of reclamation requirements under AS 27.19 for locatable mineral, leasable mineral, and material mining operations on state, federal, municipal, and private land. Nothing in the Reclamation Act precludes a federal or state agency (including ADNR), acting under its own regulatory or proprietary authority, from establishing and enforcing additional requirements or higher standards for reclamation. The Reclamation Performance Standards are defined in 11 AAC 97.200.

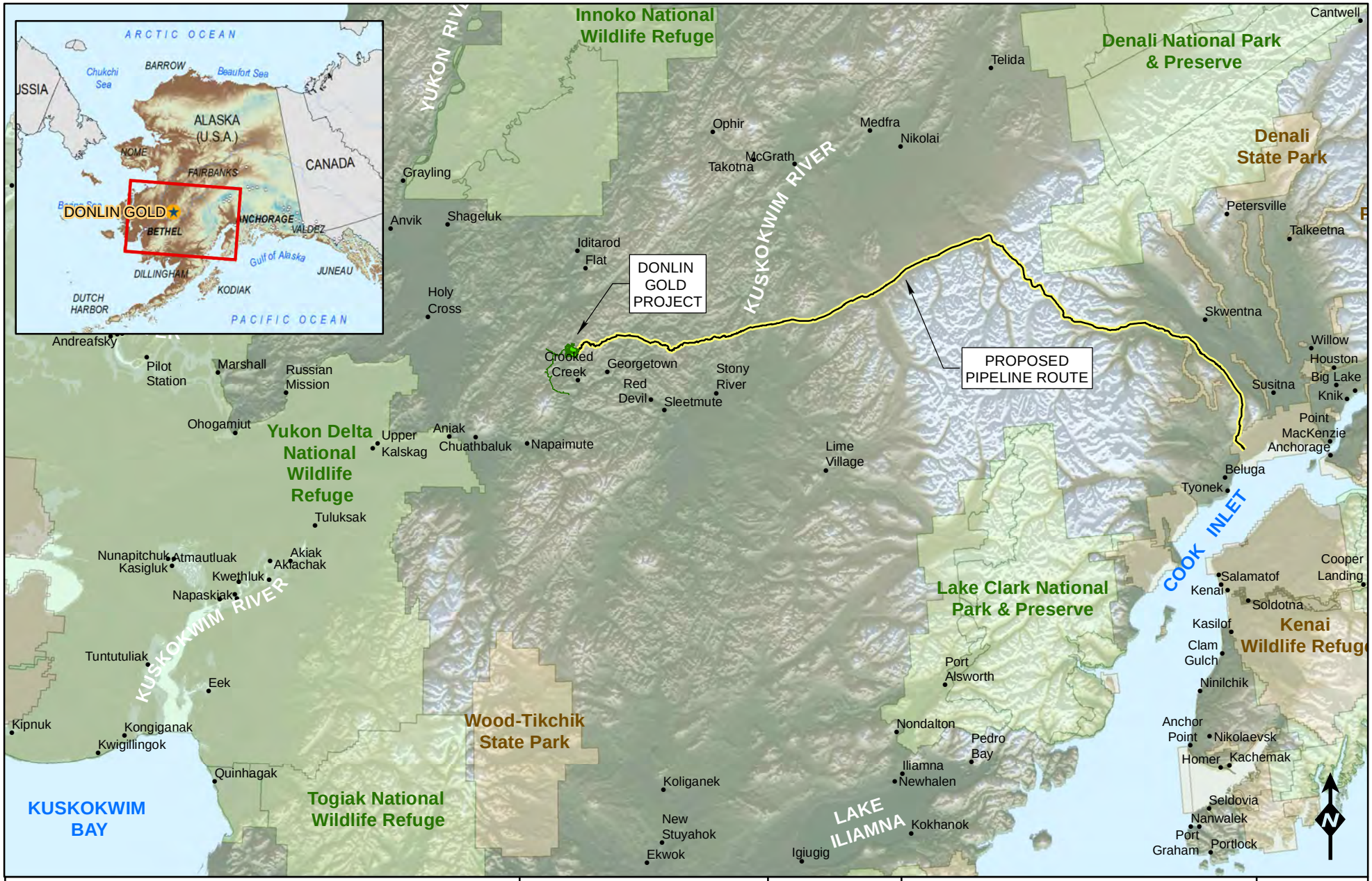
An amendment to the State Dam Safety Regulation (11 AAC 93) in 2004 also has a financial assurance requirement:

> "… the owner must provide a performance bond or other financial assurance adequate to provide sufficient money to pay for the costs of safely breaching the dam at the end of the dam's service life and restoring the stream channel and reservoir land to natural conditions, or for the costs of performing reclamation and post-closure monitoring and maintenance".

1.1.2 Alaska Department of Environmental Conservation

ADEC Solid Waste Permit regulations (18 AAC 60.265) have comprehensive requirements for closure and reclamation planning, including provision for funding for long-term water treatment. Specifically, 18 AAC 60.265 states:

> "...(ADEC) will require proof of financial responsibility to cover the cost of closing a landfill and, if monitoring is required, the cost of post closure monitoring, if the department determines proof of financial responsibility is necessary to protect the public health, safety, welfare, or the environment. Proof of financial responsibility under this section may be demonstrated by self-insurance, insurance, surety, or other guarantee approved by the department to assure compliance applicable closure standards and post closure monitoring requirements."



- Populated Place
- Proposed Natural Gas Pipeline Alignment
- Proposed Infrastructure Layout
- Federal Administrative Boundaries
- State Administrative Boundaries

Seward Meridian, UTM Zone 5, NAD83

SCALE:

0 12.5 25 50 mi

0 20 40 80 km

DONLIN GOLD

PROJECT LOCATION MAP

DONLIN GOLD PROJECT

FIGURE:

1-1

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2.0 APPLICANT INFORMATION

2.1 Surface and Mineral Lease Information

Information on land status for the proposed Donlin Gold project is listed in Appendix A.

2.2 Corporation Officer Completing Application

Name:	Andrew Cole
Title:	General Manager
Telephone:	(907) 273-0200
Date:	December 2018

2.3 Designated Contact Person

Name:	Andrew Cole
Title:	General Manager
Telephone:	(907) 273-0200

2.4 Corporate Information

Business Name:	Donlin Gold LLC
Address:	4720 Business Park Blvd., Suite G-25 Anchorage, Alaska 99503
Telephone:	(907) 273-0200
General Manger:	Andrew Cole

Donlin Gold is a Delaware Limited Liability Company jointly owned by Barrick Gold U.S. Inc. and NovaGold Resources Alaska, Inc. on a 50/50 basis.

2.5 Alaska Registered Agent

Name:	Corporation Service Company
Address:	9360 Glacier Hwy, Suite 202 Juneau, Alaska 99801

3.0 PROJECT DESCRIPTION

The proposed Donlin Gold project would require approximately three to four years to construct, with the active mine life currently projected to be approximately 27 years. The mine is proposed to be a year-round, conventional "truck and shovel" operation using both bulk and selective mining methods. Currently there is no road or rail access to the site, and all personnel and supplies are transported by air. The project is completely isolated from existing power and other infrastructure. Figure 1-1 shows the project location. A detailed description of the project can be found in the *Project Description, Volume I,* SRK 2016a. Detailed management plans for the project have been prepared, including:

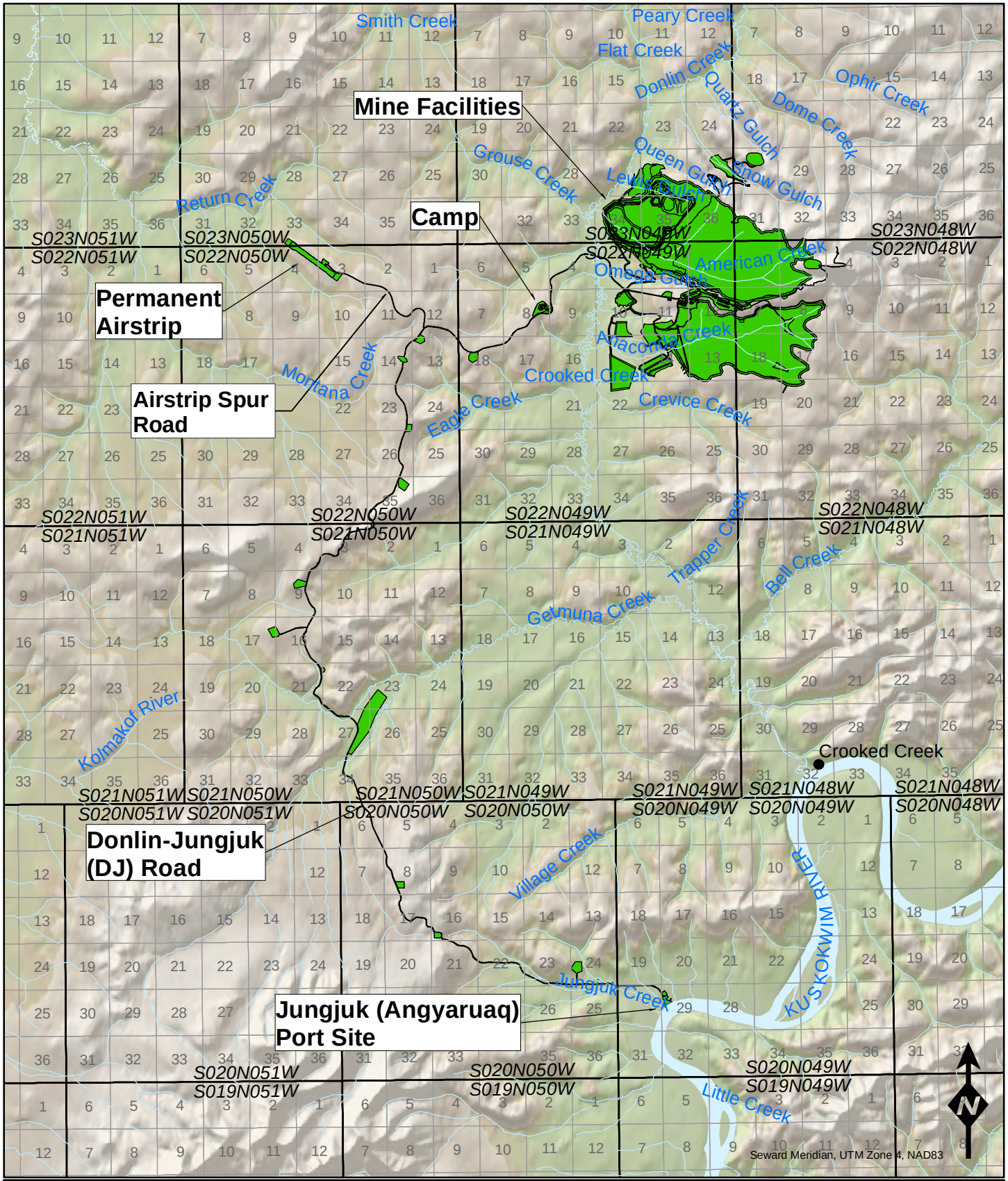
- Water Resources Management Plan (SRK 2017)
- Integrated Waste Management Plan (SRK 2016)
- Tailings Management Plan (SRK 2016)
- Waste Rock Management Plan (SRK 2016)

3.1 Location and Land Status

The proposed Donlin Gold project includes land leased from Calista Native Corporation (Calista), an Alaska Native Claims Settlement Act (ANCSA) regional corporation that holds the subsurface (mineral) estate for ANCSA lands in the region (Figures 3-1 and 3-2). All titled sections in the lease area have been conveyed to Calista. In addition to the subsurface estate, Calista owns some surface estate lands in the lease area. A surface use agreement with The Kuskokwim Corporation (TKC), an ANCSA village corporation, grants surface use rights to lands that TKC holds in the area. A 13 acre (5.26 ha) parcel of surface estate within the Snow Gulch area is owned by Lyman Resources in Alaska, Inc. et al. ("Lymans"). Donlin has lease agreements with Calista and the Lymans and a surface use agreement with TKC that provide Donlin with legal control and authority to exclude the public from the lands owned by these entities for regulatory, safety, or other operational needs.

The currently identified mineral resource, all mine facilities, and the Jungjuk Port site are located on the leased lands. Additional lands required for the road to the port site, material sites, natural gas pipeline, and pipeline-related infrastructure are located on a combination of Native-owned, State of Alaska, and federal lands managed by the Bureau of Land Management.

All exploration activities on leased lands are covered under the terms of the lease agreement with Calista and the surface use agreement with TKC. Activities on ANCSA-owned lands not currently within the agreement, or on state and federal lands, are permitted on an individual basis as required.



Proposed Infrastructure Layout

DONLIN GOLD

LOCATION OF MINE FOOTPRINT AND OFFSITE FACILITIES

DONLIN GOLD PROJECT

SCALE:

0 1 2 4 mi

0 1.5 3 6 km

FIGURE:

3-1

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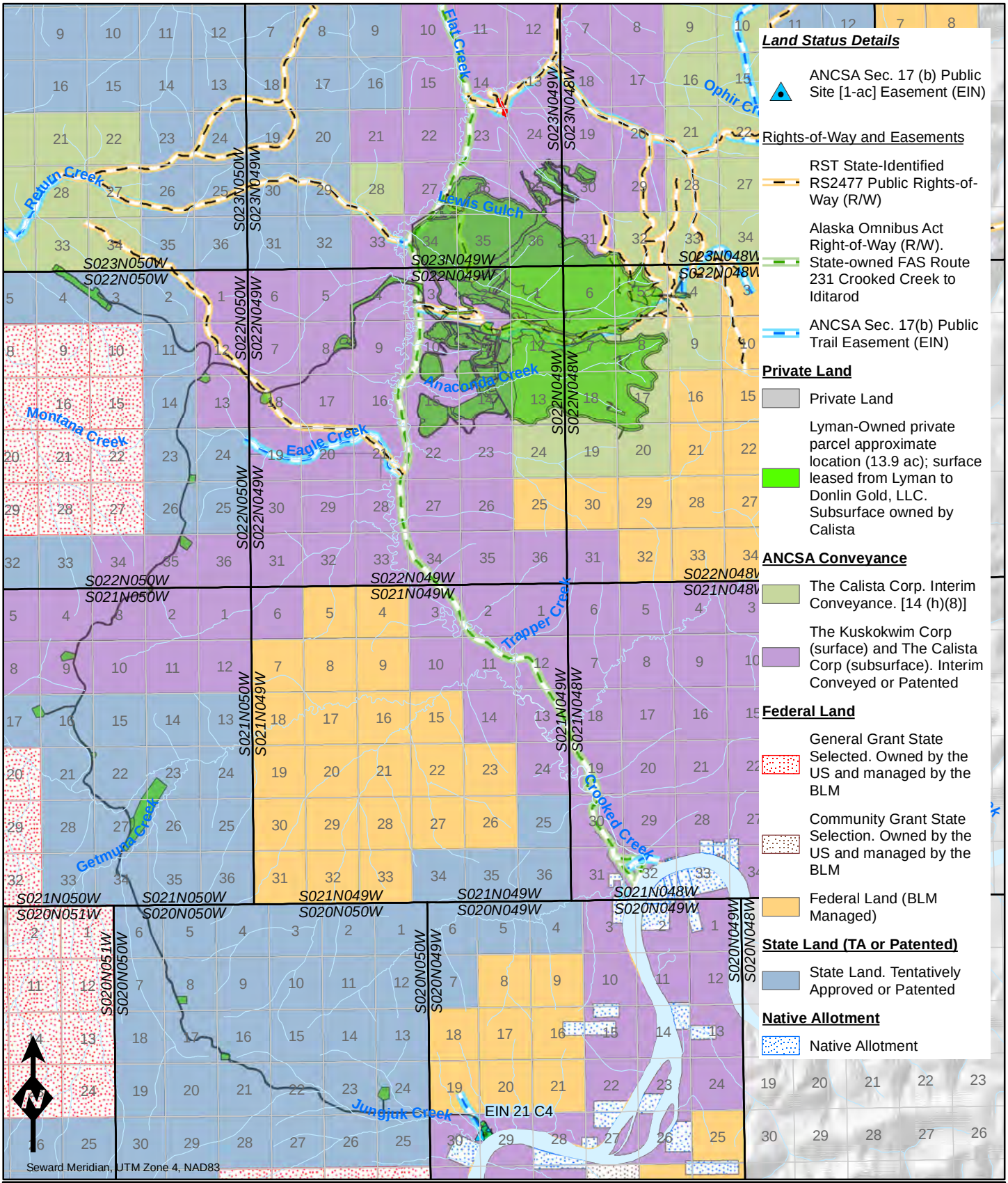

Proposed Infrastructure Layout

DONLIN GOLD

REGIONAL LAND STATUS

DONLIN GOLD PROJECT

SCALE:

0 0.5 1 2 mi

0 0.751.5 3 km

FIGURE:

3-2

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3.2 Proposed Project Disturbance

The acreage of surface disturbances associated with the proposed Donlin Gold project at premature closure and at the end of mine life are detailed by facility in Table 3-1 and Table 3-2 and depicted on Figure 3-3 and Figure 3-4.

Table 3-1: Proposed Surface Disturbances (Premature Closure)

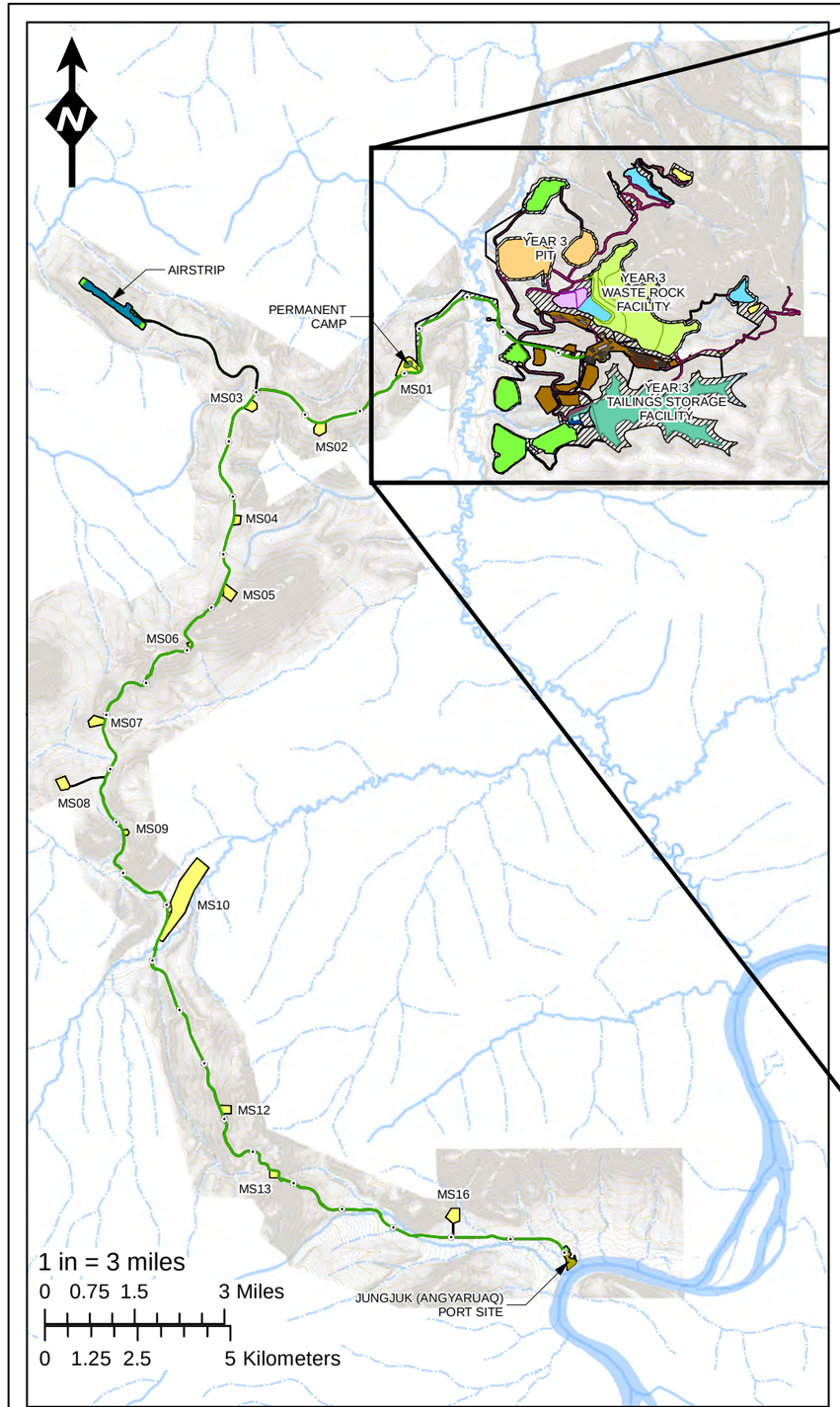
Group	Acres	Hectares
Buffer Areas	2,257	913
Growth Media/Overburden Stockpile	621	251
Material Sites	461	186
Mine Roads	444	180
Diversion/Drainage	12	5
Powerlines	25	10
Seepage Collection Pond	7	3
Snow Gulch Fresh Water Reservoir	77	31
American Creek Lower Contact Water Pond	74	30
American Creek Upper Contact Water Pond	53	22
Open Pit	438	177
Tailings Dam and Storage Area	688	278
Waste Rock Facility (Full Build-Out)	841	341
Ore Stockpile	88	36
Laydown Areas	391	158
Fuel Tank Storage Yard	63	26
Mill and Process Buildings and Foundations	24	10
Primary Crusher Buildings and Foundations	5	2
Fuel Farm Buildings and Foundations	14	6
Truck Shop Buildings and Foundations	0	0
Airstrip (Not Reclaimed)	92	37
Jungjuk (Angyaruaq) Port Site (Not Reclaimed)	21	9
Permanent Man Camp Yards (Not Reclaimed)	10	4
Mine Roads (Not Reclaimed)	258	104
Crooked Creek Bridge (Not Reclaimed)	1	0
Water Treatment Plant (Not Reclaimed, Not Shown)	2	1
Total	**6,969**	**2,820**

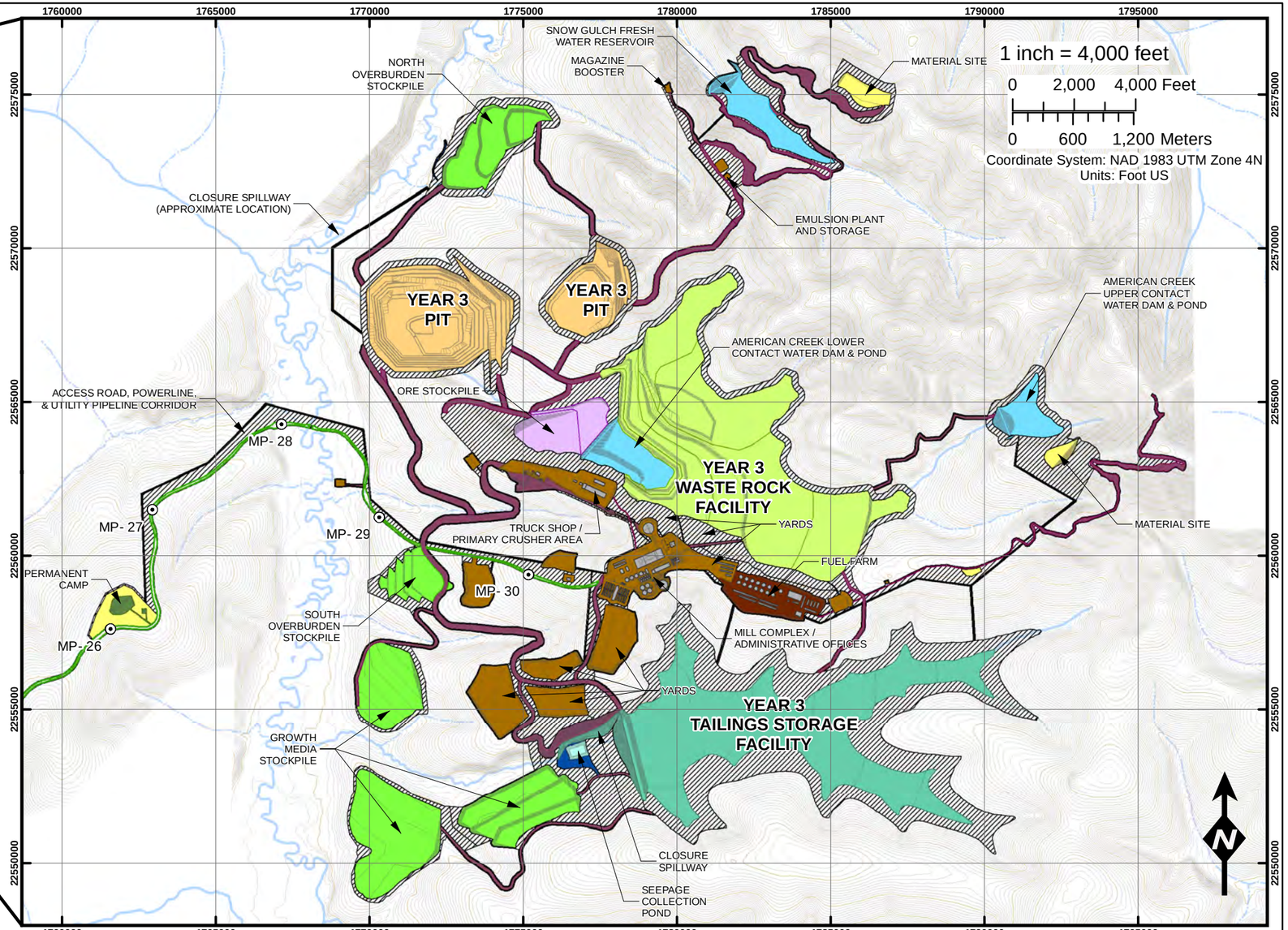
* Truck shop building is 0.09 ha. (All fractions of an acre and hectare are rounded up to the next whole number)

Table 3-2: Proposed Surface Disturbances (Life of Mine)

Group	Acres	Hectares
Buffer Areas	2,003	811
Growth Media/Overburden Stockpile	621	251
Material Sites	461	186
Mine Roads	365	148
Diversion/Drainage	36	14
Powerlines	24	10
Seepage Collection Pond	7	3
Snow Gulch Fresh Water Reservoir	77	31
American Creek Lower Contact Water Pond	74	30
American Creek Upper Contact Water Pond	48	20
Open Pit	1,458	590
Tailings Dam and Storage Area	2,364	957
Waste Rock Facility (Full Build-Out)	2,227	901
Ore Stockpile	88	36
Laydown Areas	391	158
Fuel Tank Storage Yard	63	26
Mill and Process Buildings and Foundations	24	10
Primary Crusher Buildings and Foundations	5	2
Fuel Farm Buildings and Foundations	14	6
Truck Shop Buildings and Foundations	0	0
Airstrip (Not Reclaimed)	92	37
Jungjuk (Angyaruaq) Port Site (Not Reclaimed)	21	9
Permanent Man Camp Yards (Not Reclaimed)	10	4
Mine Roads (Not Reclaimed)	258	104
Crooked Creek Bridge (Not Reclaimed)	1	0
Water Treatment Plant (Not Reclaimed, Not Shown)	2	1
Total	**10,734**	**4,345**

* Truck shop building is 0.09 ha. (All fractions of an acre and hectare are rounded up to the next whole number)





Group	Acres	Hectares
Buffer	2257	913
Growth Media/Overburden Stockpile	621	251
Material Sites	461	186
Mine Roads	444	180
Diversion/Drainage	12	5
Powerlines	25	10
Seepage Collection Pond	7	3
Snow Gulch Fresh Water Reservoir	77	31
American Creek Lower Contact Water Dam and Pond	74	30

Group	Acres	Hectares
American Creek Upper Contact Water Dam and Pond	53	22
Open Pit	438	177
Tailings Dam and Storage Area	688	278
Ore Stockpile	88	36
Waste Rock Facility (Year 3)	841	341
Laydown Areas	391	158
Fuel Tank Storage Yard	63	26
Mill and Process Buildings and Foundations	24	10
Primary Crusher Buildings and Foundations	5	2

Group	Acres	Hectares
Fuel Farm Buildings and Foundations	14	6
Truck Shop Buildings and Foundations	0	0
Airstrip (Not Reclaimed)	92	37
Jungjuk (Angyaruaq) Port Site (Not Reclaimed)	21	9
Permanent Man Camp Yards (Not Reclaimed)	10	4
Mine Roads (Not Reclaimed)	258	104
Crooked Creek Bridge (Not Reclaimed)	1	0
Water Treatment Plant (Not Reclaimed - Not Shown)	2	1
Total	6969	2820

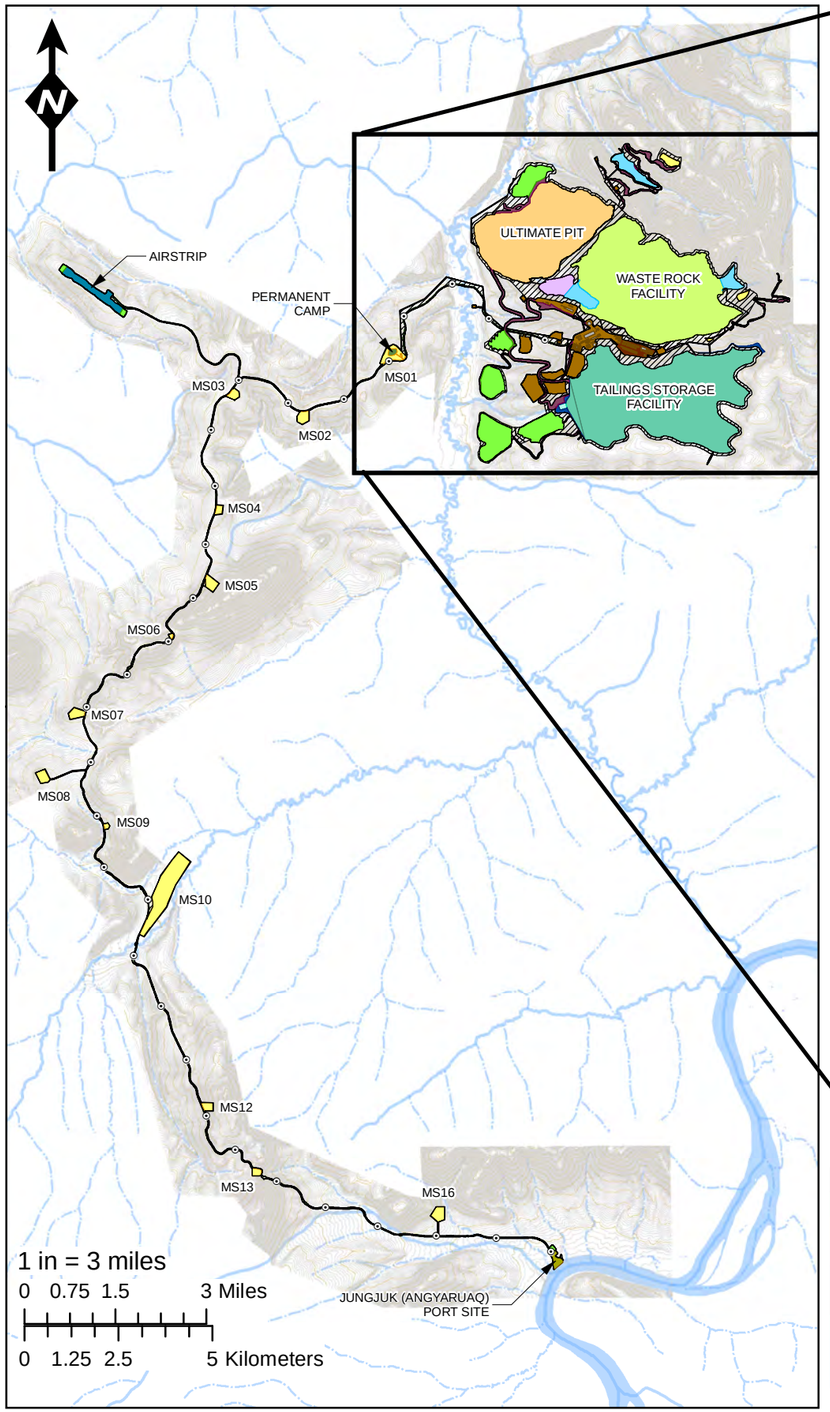
DONLIN GOLD

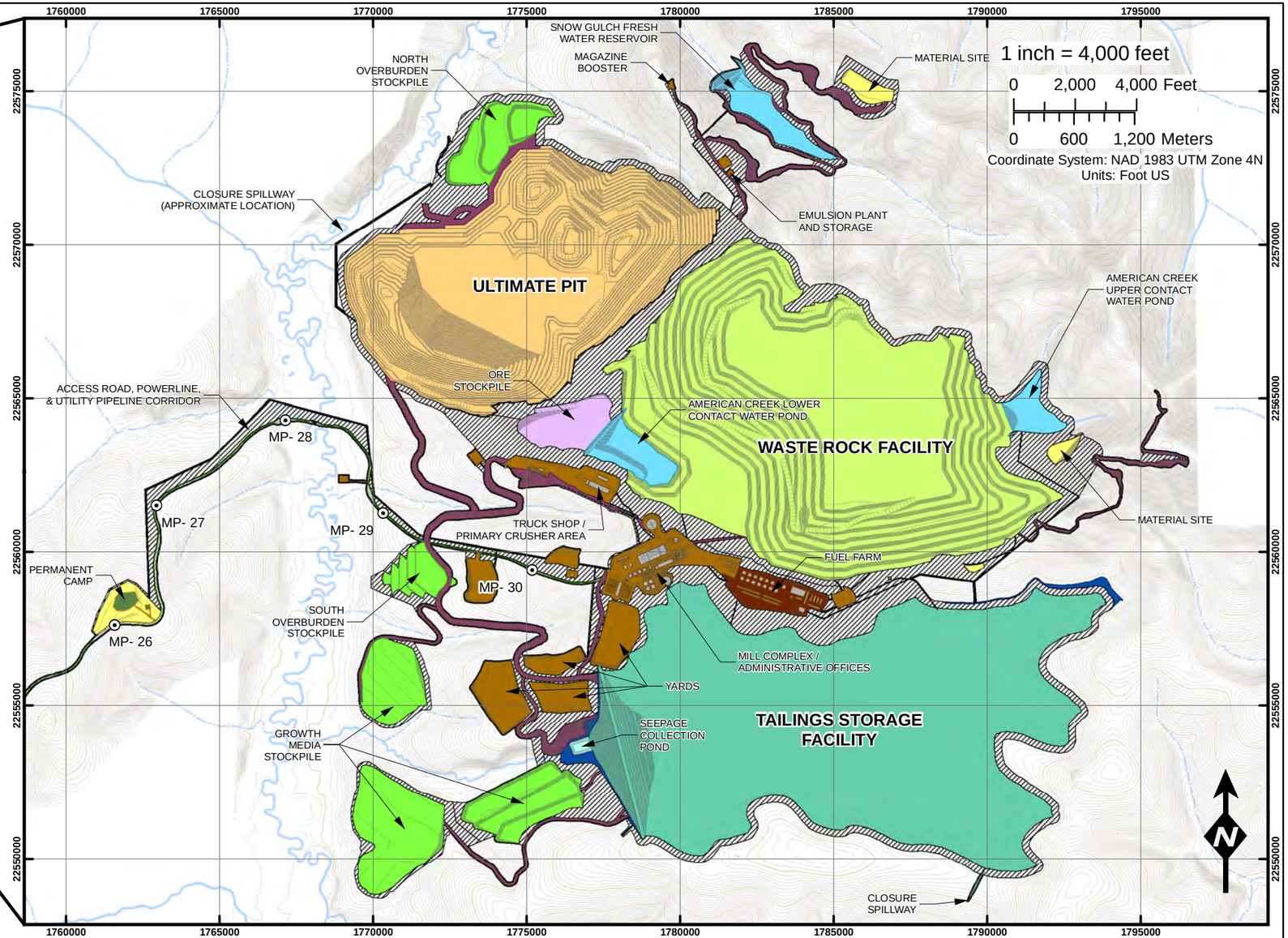
PREMATURE CLOSURE DISTURBANCE FOOTPRINT

DONLIN GOLD PROJECT

FIGURE: 3-3

PATH: H:\Donlin Gold\181202.017_Donlin_Gold_LLC_2017\040_Drafting\Task_300.11_Reclamation_&_Closure\E-1_YR3_Facility_Disturbance_20170522_ml.mxd





Group	Acres	Hectares
Buffer	2003	811
Growth Media/Overburden Stockpile	621	251
Material Sites	461	186
Mine Roads	365	148
Diversion/Drainage	36	14
Powerlines	24	10
Seepage Collection Pond	7	3
Snow Gulch Fresh Water Reservoir	77	31
American Creek Lower Contact Water Pond	74	30

Group	Acres	Hectares
American Creek Upper Contact Water Pond	48	20
Open Pit	1458	590
Tailings Dam and Storage Area	2364	957
Waste Rock Facility (Full Build-out)	2227	901
Ore Stockpile	88	36
Laydown Areas	391	158
Fuel Tank Storage Yard	63	26
Mill and Process Buildings and Foundations	24	10
Primary Crusher Buildings and Foundations	5	2

Group	Acres	Hectares
Fuel Farm Buildings and Foundations	14	6
Truck Shop Buildings and Foundations	0	0
Airstrip (Not Reclaimed)	92	37
Jungjuk (Angyaruaq) Port Site (Not Reclaimed)	21	9
Permanent Man Camp Yards (Not Reclaimed)	10	4
Mine Roads (Not Reclaimed)	258	104
Crooked Creek Bridge (Not Reclaimed)	1	0
Water Treatment Plant (Not Reclaimed - Not Shown)	2	1
Total	10735	4344

DONLIN GOLD

LIFE OF MINE DISTURBANCE FOOTPRINT

DONLIN GOLD PROJECT

FIGURE: 3-4

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4.0 IMPLEMENTATION PLAN

4.1 General

Donlin Gold and the landowners' long-term reclamation goals during and after mining and beneficiation process operations are to shape, revegetate, or otherwise stabilize the land to meet the objectives of the designated post-mining land use. The current designated post-mining uses for the proposed Donlin Gold project area are for wildlife habitat and dispersed recreation, as prescribed by:

AS 27.19.020 Reclamation Standard:

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

AS 27.19.030 (b)

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

11 AAC 97.200 (b)

> "A miner shall reclaim an area disturbed by a mining operation so that the surface contours after reclamation is complete are conducive to natural revegetation or are consistent with an alternate post-mining land use approved under AS 27.19.030(b) on state, federal, or municipal land, or with the post-mining land use intended by the landowner on private land."

Donlin Gold will incorporate practices that include contouring and stabilizing disturbed areas using best engineering practices to create seedbeds that invite and promote early seral colonization, using commercially available native plant species and soil amendments with proven track records.

Donlin Gold would continue to adhere to the above goals in developing and implementing this Plan for the proposed Donlin Gold project. Therefore, the objectives of the Plan are:

- provide for public safety
- stabilize and protect surficial soil materials from wind and water erosion
- stabilize steep slopes through contouring and leveling to provide rounded land forms and suitable seedbeds
- establish a productive vegetative community based on the applicable land use plan, pertinent visual resources, and designated post-mining land uses
- implement water management to reduce contact with disturbed materials and adequate treatment of pit water

- design closure plans, to the extent feasible, that would address community concerns and be aligned with local community land use and development objectives.

Attainment of these objectives would be measured by the success of concurrent reclamation of disturbed areas and would include long-term mine revegetation research and evaluation (Czapla and Wright 2012). Donlin Gold would work with ADNR, Division of Agriculture/Plant Materials Center, and Alaska Department of Fish & Game (ADF&G) in the implementation and evaluation of both concurrent and long-term reclamation activities at the site.

The design and implementation of the mine reclamation and closure plans are important for the surrounding communities during mine closure. Measures to mitigate the potential socioeconomic effects associated with mine closure would be reviewed and discussed every five years during permit renewals throughout the mine life. To the extent feasible, the project's community development program would encourage development projects that are sustainable without ongoing support from the mine project. The goals would be to encourage development of local capacity from the start of the mine project and to engage the community throughout the mine life. Closure planning would also include regularly scheduled outreach to the communities within the area of mine influence to hear residents' concerns and objectives before and during the active closure period.

Donlin Gold considers reclamation to be a progressive process tied directly to the design, construction, operation, and closure of the project. Reclamation of the site would utilize best practicable, proven, and documented technology. The specifics of this technology are discussed in the following sections.

For the purposes of this Plan, the term "growth media" refers to all native (in-place) soil material with the physical and chemical properties capable of germinating and sustaining vegetation growth with or without amendments, and is interchangeable with the terms "topsoil" and "overburden"[2] in relation to the proposed Donlin Gold site. Overburden material suitable for use as growth media is unconsolidated material that may consist of terrace gravels, colluvium, loess, and other non-organic material that lies between the topsoil horizon (where present) and bedrock.

4.1.1 Land Use

Land Use Prior to Operations

The proposed Donlin Gold project area includes land leased from Calista and TKC that has historically been used to support a subsistence lifestyle by local residents and has been subject to prospecting, small-scale mining, and exploration since placer gold was first discovered in Snow Gulch in 1909.

Exploration drilling programs began in 1988 and continued intermittently until 1995, when Placer Dome U.S. began the current project in earnest. Intensive drilling in support of

[2] "topsoil" is the upper, outermost layer of soil, usually the top 2 inches (5.1 cm) to 8 inches (20 cm). It has the highest concentration of organic matter and microorganisms.

"overburden" is the material that lies above an area of economic or scientific interest. Overburden is also described as the soil and other material that lies above a specific geologic feature.

resource delineation, engineering studies, and environmental baseline work was conducted between 1995 and 2010.

Land Use during Operations

Land use during operations is summarized in this section. A detailed description can be found in the *Project Description, Volume I*, SRK 2016a. The Donlin Gold deposit would be mined with a combination of bulk and selective mining methods. Reverse circulation (RC) drilling would be the primary source of ore control samples, and blasthole sampling would be done for waste characterization. The open pit mine design and production schedule were developed for a nominal process plant throughput of 59,000 st (53,500 t) of ore per day. The estimated mine life is 27 years. A combination of 20 ft (6 m) and 40 ft (12 m) bench heights have been used in mine planning to allow a relatively high mining rate, while allowing for more selective mining in complex ore zones.

The resource is divided into two main areas, ACMA and Lewis. The pits have similar mineralization characteristics, with ore-grade gold hosted in both intrusive and sedimentary rock units. The initial phases of the two pits are independent, but they partially merge later in the mine life.

Waste rock from open pit mining would be placed in the Waste Rock Facility (WRF), located in the American Creek valley (east of the pit area). Material from the WRF would be used to partially backfill the ACMA Pit. Sufficient overburden would be stored separately for use in final site reclamation; the remainder would be placed into the WRF or used for construction.

Tailings consist of streams from flotation tailings, wash thickener overflow, and the detoxified cyanide slurry from the carbon-in-leach (CIL). The Tailings Storage Facility (TSF) constructed in the Anaconda Creek valley consists of a main lined embankment, a lined impoundment, a reclaim water system, and a seepage recovery system (SRS).

The tailings dam would be constructed of compacted rockfill using the downstream method, with a 60 mil (1.5 mm) single-side, textured (lower side), and linear low-density polyethylene (LLDPE) composite liner on the upstream face. The tailings impoundment footprint would be lined with a 60 mil (1.5 mm) textured LLDPE liner over a 3.3 ft (1.0 m) thick layer of broadly graded silty sand and gravel acting as low-permeability bedding material.

The TSF would be constructed in eight stages over the mine life. The TSF is designed to handle the 200-year return period snowmelt, 24-hour probable maximum precipitation (PMP) rainfall event, excess water accumulation under average conditions in the site water balance, and emergency freeboard.

A seepage recovery system (SRS) collection pond for water from the underdrain below the TSF, diversion ditches below the downstream face of the tailings dam, and four monitoring/seepage collection wells downslope of the pond (pumped as required) would be constructed. The collection pond would be immediately downstream of the footprint of the main tailings dam. The seepage rate from the lined TSF to the underdrain is anticipated to be *de minimis*. During operations, water from the collection pond would be pumped to the process plant or to the water treatment plant (WTP). A full description of the water

management strategy for the project is available in the *Water Resources Management Plan, Volume II,* SRK 2017.

Operating pond water would be reclaimed from the TSF impoundment using a floating barge. This reclaimed water would be recycled back to the process plant for use as make up water or sent to the WTP for treatment and discharge.

4.1.2 Schedule of Reclamation Activities

The proposed Donlin Gold operation would alter the landscape of the site for the long term, while creating opportunities for establishing more diverse wildlife habitat and dispersed recreation. The open pit will be reclaimed as a lake creating a source of open water where none existed previously, for use by avian and terrestrial wildlife. The potential to develop constructed wetlands, with their associated open water, formed from the material borrow sites (terrace gravel sites) along Crooked Creek, would alter, diversify, and enhance the use of these areas by humans and wildlife following reclamation. These constructed sites would be developed to receive storm water runoff and diverted flow from Omega Gulch, and have overall depths such that over-wintering of resident and anadromous fish would be supported. Donlin Gold would reclaim upland sites by establishing successive vegetation, leading to more productive post-mining land use as wildlife habitat.

Table 4-1 provides an overall timeline for reclamation and closure. Details are provided in the subsections below.

Table 4-1: Construction, Reclamation, and Closure Timeline

Period				
Construction (Current Reclamation)	**Operation (Concurrent Reclamation)**	**Final Reclamation & Closure**	**Post-Closure (No Water Treatment)**	**Post-Closure (Water Treatment)**
Year -4 to -1	Year 1-27	Year 28-33	Year 34-~80	Year ~80>

Reclamation During and Directly After Construction

During stripping operations for construction of the process components (tailings dam, freshwater dam, process plant site, crusher, maintenance shops, etc.), topsoil (growth media) including organic material would be selectively stockpiled. Topsoil and overburden stripping would continue as the ore body is fully developed, and suitable growth media would continue to be stockpiled throughout the mine life. Interim reclamation of the growth media stockpiles, which includes stripped vegetation/peat, terrace gavels, and colluvium, would proceed after placement to stabilize and maintain the viability of all stockpiled material for potential use in final reclamation.

Areas disturbed during construction that are not subject to re-disturbance during operations would be reclaimed. Construction access roads and material borrow sites along the access road and in the immediate area of the mine, WRF and TSF have been identified for final reclamation during or immediately after construction. The Jungjuk Port access road would require 13 borrow pits during construction; all but three would be reclaimed immediately after construction is completed.

Concurrent Reclamation

The WRF and overburden stockpiles would be constructed as side-hill and head-of-valley dumps in steps or terraced lifts to achieve the desired overall slope. Inactive portions of these dumps would be recontoured and reclaimed as contemporaneously as practicable during the mine life.

Material pits developed for construction of the TSF would be evaluated for potential additional ponds to provide resident and anadromous fish with rearing and overwintering habitat. Borrow pits in Alaska, at locations with adequate depth (>20 ft or 6 m) and a low gradient surface water connection to riverine systems, have provided excellent overwintering habitat for resident and anadromous fish (Jeffress and Ott 1997).

Other material pits when no longer needed for construction or road maintenance will be reclaimed as contemporaneously as possible.

Temporary Closure and Premature 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 activities would be required to begin ("Premature Closure"), unless an extension of temporary closure is requested by Donlin Gold and approved by ADNR. Temporary closure scenarios, which could require modifications to the Plan of Operations management plans, Reclamation and Closure Plan, and/or state or federal permits, would be coordinated with the appropriate federal and state agencies for approval.

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 gold prices
- 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
- bankruptcy of the mine operator.

Donlin Gold would notify the appropriate agencies within three days of the first day of the temporary closure or of any unanticipated suspension or cessation of operations that is

expected to last ninety days or more. The notice would state the nature and reason for the temporary closure, the anticipated duration of the temporary closure and any event that would reasonably be anticipated to result in either the resumption or abandonment of operations. Project operations must resume for not less than ninety consecutive days in order to terminate the temporary closure status. Donlin Gold 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, the temporary closure. All water collection and treatment, monitoring and reporting required by the reclamation plan for the temporary cessation of operations or pre-mature closure would continue unless otherwise agreed to 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 the appropriate agencies.

Final Reclamation and Closure

After Donlin Gold has completed operations at the mine site, or at any individual facility or mine unit (e.g., WRF), final reclamation and closure can be initiated. When a facility is no longer needed for mine operations or when it has reached its design capacity, then reclamation will be initiated as soon as practical. It is assumed that at the final stage of operations, a significant amount of site-specific reclamation experience and performance data will have been incorporated into periodic reclamation plan updates. The final Plan will be submitted for approval two years prior to planned, final reclamation of the facility. Unlike the periodic updates, which make assumptions about the anticipated closure conditions (i.e., Basis of Cost Estimate); the final plan will be based on the actual conditions that exist at closure.

Post–Closure

Many reclamation goals would be expected to be completed over a five-year period after cessation of processing. Following final reclamation, the site will be inspected, monitored, and maintained in a fashion that helps achieve the long-term goals set out in this Plan. Donlin Gold has determined long-term post-closure water pumping during tailings consolidation and high density sludge (HDS) water treatment after the pit lake fills would be required. Specific water management practices are estimated based on current predictions of closure conditions. Monitoring data collected during operations (e.g., water quality, groundwater pumping) as well as operating experience and advances in treatment technology, among other relevant factors, will be used to develop a definitive closure water management plan prior to the completion of site reclamation. Water management practices may be further refined based on information obtained during post-closure monitoring.

4.2 Reclamation and Closure Plan Submission and Approval

Donlin Gold would continue to submit an updated Reclamation and Closure Plan as required to keep current with operations, regulatory changes, and issues identified during the regular five-year third-party Environmental Compliance Audits. Each updated and revised Plan will

contain sufficient detail to allow for calculation of estimated closure costs including post-closure maintenance and monitoring.

More frequent Plan revisions may be required by the agencies if substantial increases in the disturbed area have occurred since the last update, or if specific portions of the Plan are shown to be inconsistent with performance goals or changes to the designated post-mining land use. Updated Plans and revisions may be routinely submitted and authorized through Plan amendments. Updated financial assurance is only required if the reclamation cost estimate within any calendar year would be exceeded.

The Plan contains cost calculations and a tabulation of material quantities required to complete the end of Life of Mine (LOM) reclamation and cost calculations for premature closure based on a five to seven-year increment for the most recent Reclamation and Closure Plan authorization. The Annual Report required by ADNR and ADEC would contain a description of concurrent reclamation that has occurred and anticipated reclamation projects for the following year.

The Plan and other environmental management plans would be maintained in accordance with agency requirements. These documents describe the sites monitored, the data collected, and the monitoring frequency and duration during operations, closure, and post-closure.

4.3 Reclamation/Closure Cost Calculation and Bond Release

The regulatory agencies would coordinate their financial assurance authority through a Memorandum of Understanding (MOU) to require financial assurance for performance of reclamation and facility closure and post-closure monitoring activities at Donlin Gold. Proof of financial assurance, which may take any form mutually agreed upon by the agencies and Donlin Gold, is referred to as a “bond” in this section. Unless otherwise agreed between the agencies and Donlin Gold, the bond amount would be calculated based on the Reclamation Plan and use of the Standard Reclamation Cost Estimate Model (SRCE) Version 1.4.1 Build 16. The bond will address all costs that would be incurred by the agencies in taking over reclamation activities in the event of Operator ***default*** considering two separate closure scenarios as described below.

Two separate SRCE cost estimates are provided for:

1. Reclamation/closure estimate for the first seven years that include four years of construction and three years of operations (Premature Closure).
2. LOM reclamation/closure estimate that accounts for the full build out of facilities and final closure beginning at the end of in LOM Year 27. Physical reclamation would be completed in approximately five years prior to moving into the post-closure phase.

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

4.3.1 Incremental Bond Release

A site or area would be eligible for release or partial release of the bond amount directly attributable to that site or area when all pertinent aspects of final reclamation activities are complete. This includes, but is not limited to removing any facility and necessary materials, grading the surface, applying cover-soils as necessary, applying the approved final seed mix, and the area exhibits vegetative cover meeting the specific plant community goals. Bond release can be sought for areas reclaimed concurrently (during operation) or after final reclamation.

For a site or area subject to overlapping jurisdiction of the agencies, concurrence from all agencies having jurisdiction over the site or area will be sought as to the completeness of the reclamation. Donlin Gold would apply for incremental bond release by submitting a letter to the appropriate agencies requesting release of the specific site or area(s). The letter will summarize the conducted reclamation activities, the reclamation activity schedule, and the final revegetation completion date.

The agencies will approve incremental bond release through a process upon which they have agreed. The agencies may require a joint agency site visit to confirm that Donlin Gold has completed pertinent reclamation activities at the site or area(s). These reclamation requirements would be described in the Plan and stipulated in the *Integrated Waste Management Permit (IWMP), Volume III,* SRK 2016 and in other applicable permits.

4.3.2 Financial Assurance for Reclamation/Closure, and Post-Closure Obligations

As outlined in Table 4-1, physical reclamation and closure would occur over an approximately five year period following the cessation of operations. This would be followed by the post-closure period when all the physical reclamation is complete. Long-term post-closure monitoring and maintenance of the site would commence and, following the filling of the pit lake, water treatment would begin.

To address the need for financial assurance through construction and operations period Donlin will initially bond for the full cost of premature closure, including the immediate cost of physical closure, reclamation, and the long-term cost of water treatment, site monitoring, and maintenance.

Donlin Gold would update the Plan as required to keep current with operations, regulatory changes, and issues identified during the regular reclamation plan re-authorization, IWMP renewal cycle, and five year third party Environmental Compliance Audits. During the review and update the bonding for premature closure.

4.4 Public Safety

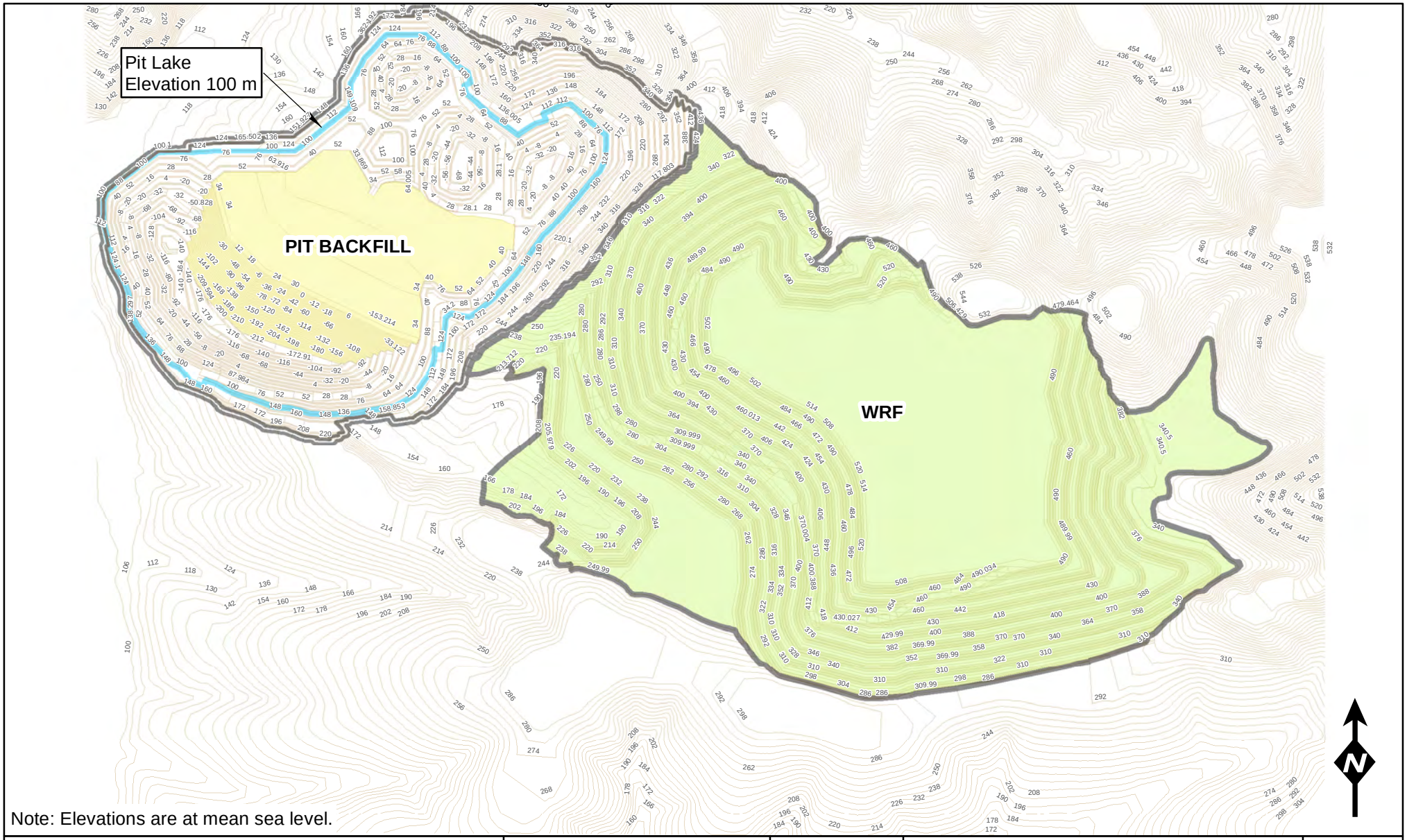
Public safety is a principal concern in closure and reclamation of mining operations. The ACMA and Lewis pits' highwall safety berms would remain in place to restrict access to the pit area along pit perimeters. Generally, 4 to 6 ft (1.2 to 1.8 m) vegetated berms would be used to restrict access to the steeper highwall sections of the pit. Signs would be posted to provide additional warning of potentially hazardous areas. Final signage and placement would be coordinated with the landowner.

4.5 Post-Reclamation Topography

Figure 4-1 depicts the anticipated topography of the WRF and pit. Figure 4-2 shows a plan view of the TSF, respectively, once final re-contouring of surfaces has occurred.

4.6 Closure Social Impact Assessment

Prior to closure Donlin Gold would develop a Closure Social Impact Assessment (CSIA). The CSIA is not a regulatory requirement and is based, in part, on the International Council on Mining and Metals, *Financial Assurance for Mine Closure and Reclamation* (ICMM 2006). The CSIA would describe potential positive and negative social impacts as a result of mine closure and would provide information to assist in maintaining sustainable improvements in communities. While appropriate planning of sustainable community projects would support the long-term sustainability of the nearby communities, the CSIA would focus on positive benefits from the operation and identify alternative uses for the skills and infrastructure developed during operations.



Note: Elevations are at mean sea level.

Contours (6 meter interval)
Pit - Reclaimed
Pit Back Fill
Pit Lake
Waste Rock Facility Reclaimed (WRF)

SCALE:

0 600 1,200 2,400 ft
0 150 300 600 m

DONLIN GOLD

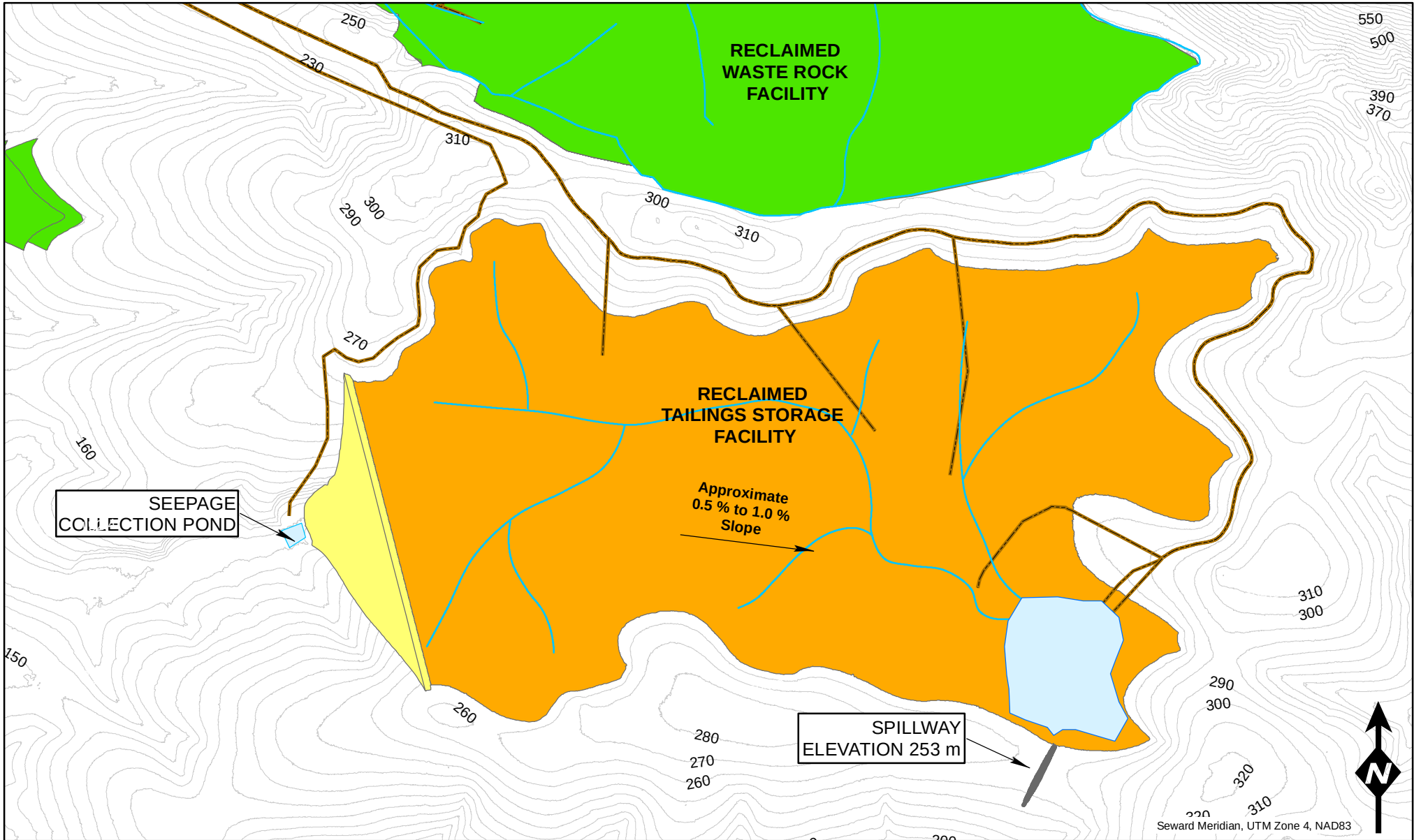
WASTE ROCK FACILITY POST - RECLAMATION TOPOGRAPHY

DONLIN GOLD PROJECT

FIGURE:

4-1

DG: PER0294.mxd, 07/05/17, R04



Contour (10 m)
Closure Drainage
Closure Dam
Closure Pipeline
Pond
Reclaimed Waste Rock Facility
Spillway
Reclaimed Tailings Storage Facility

SCALE:

0 500 1,000 2,000 ft
0 150 300 600 m

DONLIN GOLD

TSF POST RECLAMATION PLAN VIEW

DONLIN GOLD PROJECT

FIGURE:

4-2

DG: PER0293.mxd, 07/06/17, R07

4.7 General Reclamation Procedures

Common measures to prevent unnecessary and undue degradation of land and water resources implemented by mining operations are well documented and proven. These time-tested techniques are incorporated throughout the proposed Donlin Gold management plans and would be used during project implementation (e.g., concurrent reclamation) as well as for final reclamation and closure. However, given the length of the mine life, Donlin Gold would evaluate new and innovative reclamation technologies as they are developed at the site, or around the world.

In preparation for interim, concurrent, and final reclamation, timber will be salvaged and un-merchantable organic materials will be stripped and stockpiled. Prior to initial growth media stripping for construction of facilities, timber that is greater than 6 inches (>15 cm) in diameter at breast height would be cut and decked. All other plant material would be hydro-axed[3] and incorporated as a soil amendment in the growth media. In some cases, this hydro-axed material may be stockpiled for later use as mulch.

4.7.1 Earthwork

Reclamation would require considerable earthwork activities. The WRF and TSF, freshwater and process ponds, and those portions of the pit designed to allow human access, would require major grading, contouring, and possible growth media placement. Generally, slopes would be constructed to 3H:1V overall, or shallower where feasible. Top surface areas for the WRF would be regraded to promote run-off and minimize ponding and infiltration.

Industry-standard heavy equipment would be used to perform earthwork. The anticipated equipment list would include the following or their equivalents:

- Caterpillar D10N dozer
- Caterpillar D9N dozer
- Caterpillar D8L dozer
- rubber tired scraper
- rubber tired dozer
- front end loader
- track or tire mounted backhoe
- haul truck
- 20,000 gallons (75,700 L) water truck
- motor graders
- hydro-seeder
- Brillion cultipacker
- rangeland seed drill

[3] The hydro-ax (or hydraulic ax) is a piece of machinery that can “mow” a tree up to 12 inches (31 cm) in diameter, creating course mulch.

- broadcast seeder
- straw blower
- disc harrow.

Other equipment may be substituted for, or included with, this general equipment list. Equipment needs and uses during implementation of the plan would remain dynamic, as specific conditions require.

4.7.2 Revegetation and Growth Media Placement

Growth media (topsoil and overburden) would be stockpiled in anticipation of future use in reclamation. From initial development to anticipated cessation of mining, an estimated 55.3 Myd^3 (42.1 Mm^3) of possible growth media would be available for use during reclamation. The total estimated volume required to meet reclamation cover quantities for the LOM closure would be approximately 21.25 Myd^3 (16.25 Mm^3). Table 4-2 and Table 4-3 provide the estimate of growth media volumes that would be stockpiled for premature closure and LOM closure.

Table 4-2: Estimated Premature Closure Growth Media Volumes

Growth Media Overburden Stockpile	Non-Organic (Overburden/Growth Media)		Organics (Peat & Woody Debris)	
	yd^3	m^3	yd^3	m^3
Northern - Overburden Stockpiles (from Lewis Pit and the northern portion of ACMA Pit)			12,105,000	9,255,900
South - Overburden Stockpile (from ACMA Pit)	12,150,000	9,289,100		
TSF – Stockpiles	3,680,835	2,814,200	1,263,900	1,653,119
Total All Stockpiles	15,830,835	12,103,300	13,368,900	10,909,019

Table 4-3: Estimated LOM Growth Media Volumes

Growth Media Overburden Stockpile	Non-Organic (Overburden/Growth Media)		Organics (Peat & Woody Debris)	
	yd^3	m^3	yd^3	m^3
Northern - Overburden Stockpiles (from Lewis Pit and the northern portion of ACMA Pit)			15,492,152	11,844,600
South - Overburden Stockpile (from ACMA Pit)	25,750,670	19,687,800		
TSF – Stockpiles	10,040,000	7,677,000	3,776,000	2,887,000
Total All Stockpiles	35,790,670	27,364,800	19,468,152	14,731,600

If the growth media becomes compacted while in the stockpile, it would be tilled prior to placement to regain pre-disturbance bulk densities. Before placement of the growth media, the subsoil surface would be roughened by ripping or disking to ensure good contact. The growth media would be dumped and spread using a minimum of passes to limit compaction. Controlled dozer tracking may be performed during placement of the growth media to roughen the surface, lightly compact the soil, increase water retention, and prevent erosion.

Experience with reclamation of exploration disturbances on the site, and at other mine sites in Alaska (Czapla and Wright 2012), a minimum of 6 inches (15 cm) of growth media would be applied to those sites requiring additional growth media to establish a vegetative cover by seeding or to promote natural re-invasion by native species. However, application depth may vary depending on the facility, existing growth media at the site, and if applicable, engineered cover design. For example, areas of the WRF that contain mixed overburden and high levels of fines would require less growth media than rockier areas. Roads and building sites may require little, if any, growth media; each site would be individually evaluated on a site-specific base. Growth media would be applied by scraper or dump truck and spread by a dozer or grader.

4.7.3 Seedbed Preparation

Mine and mine-related disturbances typically result in compacted surfaces unsuitable for revegetation. Thus, preparation of a seedbed suitable for plant germination and growth may be the most critical task in any successful land reclamation project. Growth media (whether applied or in situ) and the underlying subsurface must be prepared in such a manner as to retain moisture and allow adequate root development and penetration in those areas where infiltration and surface water retention are desired. Reclamation of the WRF will require only surficial scarification of the growth media cover to facilitate plant growth, but minimize infiltration.

The method of primary seedbed preparation at Donlin Gold would be ripping or scarifying (depending on the area) using a Caterpillar D10N (or equivalent). If necessary, ripping with two or three shanks would occur along contours of sloped areas. Highly compacted areas such as equipment lots and roads would be ripped in a linear fashion. If needed, the surface of growth media would be scarified after application just prior to seeding. A broken, roughened surface would serve to trap moisture, reduce wind shear, minimize surface erosion by increasing infiltration, and create micro habitats conducive to seed germination and development.

4.7.4 Soil Amendments

Past exploration reclamation sites, vegetation test plots and/or concurrent reclaimed sites would be evaluated to determine the revegetation potential of applied growth media. Donlin Gold may conduct nutrient analyses of the soil materials that would be used for growth media. It is not currently projected that fertilizer would be required or desirable for establishing a permanent perennial cover. However, for reclamation cost estimating purposes, it is assumed that some level of soil amendment would be required during reclamation. In the event future, nutrient testing indicates a need for soil amendments, the procedures described below would be employed.

Prepared seedbeds would be amended prior to, after, or during (when a hydro-seeder is used) the seeding operation. Specific soil amendment requirements would depend on the quality of growth media used for a particular area. Growth media would be tested for standard soil agricultural constituents, including organic matter, nitrogen (N), phosphorus (P), and potassium (K).

Application of soil amendments could produce mixed results and must be managed carefully. Although soil amendments may enhance the initial establishment of desirable species, the projected low nutrient retention capacity of waste rock and tailings may lead to nitrogen and potassium leaching from the materials or being tied up in the biomass within several years. Soil amendments may also increase the establishment and growth of undesirable colonizing species and dormant ruderals present in the growth media.

Based on results at other locations within Interior Alaska, the general recommended rate of fertilizer application would be on the order of 100 to 500 lbs (45 to 227 kg) per acre of 20N-20P-10K.

The selection of final products and their application rates would be determined from information acquired during concurrent reclamation and revegetation test plots. Mine revegetation research and monitoring would be conducted in cooperation with ADNR-Plant Material Center (A Revegetation Manual for Alaska, Wright 2008).

4.7.5 Seed and Seeding

The general reclamation seed mixes proposed for use are listed in Tables 4-4 and 4-5. The seed mixes consist of native species that have been used extensively in other Alaska reclamation activities.

Table 4-4: Proposed Reclamation Seed Mix – (Hydric) Wetland

Common Name	Scientific Name	Percentage of Mix
‘Egan’ American sloughgrass	*Beckmannia syzigachne*	45%
‘Norcoast’ Bering Hairgrass	*Deschampsia beringénsis*	40%
‘Arctared’ Red Fescue	*Festuca rubra*	10%
‘Alyeska’ Polargrass	*Artagrostis latifolia*	5%

Table 4-5: Proposed Reclamation Seed Mix – (Mesic) Upland

Common Name	Scientific Name	Percentage of Mix
'Arctared' Red Fescue	*Festuca rubra*	40%
'Norcoast' Bering Hairgrass	*Deschampsia beringénsis*	40%
'Wainwright' slender wheatgrass	*Elymus trachycaulus*	10%
'Gruening' Alpine Bluegrass	*Poa alpina*	10%
'Nortran' Tufted Hairgrass	*Deschampsia caespitosa*	0% unless substituted for Norcoast

As with any seed mix, a degree of flexibility is necessary depending on seed availability and site-specific conditions; the mix may be modified. The mix may change over time to include forbs and woody species, depending on factors such as internal and external research results, changes in technology, changes in land management philosophy, and commercial availability. Native species would be the preferred mix, unless information developed by the ADNR Plant Materials Center and onsite test plots indicates other, more desirable species meet the post-mining land use criteria. Seeding would be done via drill seeding, broadcast seeding via ground or aerial application, and hydro-seeding.

The preferred method for concurrent reclamation would be broadcast seeding. Broadcast seeding would be used on terrain considered too steep or rocky for seed drill equipment. Hydro-seeding may be employed around the edge of the pit where safety is a primary consideration. The application rate for hydric or wetlands seeding using the presently proposed seed mix would be 15 lbs (5 kg) of pure live seed (PLS) per acre. Approximately 15 to 30 lbs (5 to 14 kg) of PLS per acre would be applied for mesic or upland areas depending on surface contours, grade, aspect, and rockiness of the specific site.

In addition to seeding, upon completion of seedbed preparation, select areas would be left unseeded in order to evaluate the potential for natural recolonization of the site. If these areas do not meet the revegetation criteria discussed in the following sections, they would be seeded using the methods described above.

4.7.6 Mulch

In most instances of mined land reclamation in the Lower 48 states, mulches are necessary to protect the seed and help retain soil moisture during the critical germination process. Numerous types of materials have been used successfully as mulch in revegetation efforts. However, experience has proven that straw or grass hay at a rate of 12 st (11 t) per acre is most cost effective. Slopes too steep for equipment generally require an application of hydro-mulch via a hydro-seeder at an approximate rate of 1 st (0.9 t) per acre. Commercial hydro-mulch generally consists of wood fiber byproducts or other forms of cellulose.

If mulch application is necessary, it would be applied following seeding and soil amendment application with a standard straw (or hay)[4] blower mounted behind a truck or tractor.

[4] Certified Noxious Weed Free

If necessary, the mulch would then be crimped into the seedbed using a cultipacker or shallow set disk harrow to prevent wind blow and increase microhabitat for seed germination.

On those areas where a hydro-seeder may be used, hydro-mulch, if needed, would be incorporated into the seed and amendment mix for one-time application. The hydro-mulch would contain a tackifier, if necessary, to help hold the mulch mix in place.

4.7.7 Control of Invasive Species

During vegetation establishment, weed control practices would be implemented to limit the growth and spread of noxious weeds and benefit the revegetation process. The control program would include the use of weed-free mulch in the reclamation program, and all seeds would be tested and certified "weed-free" before planting. The primary method of control would be to seed disturbed areas as soon as practicable after the seedbed has been prepared.

4.7.8 Revegetation Timing

Generally, seeding would be implemented after spring break-up until mid-July to allow the seed to take advantage of the summer moisture period, seeding as soon as possible following seedbed preparation. Mine revegetation test plot research and experience with concurrent reclamation would be used to determine the most productive planting time, and evaluate the potential for dormant seeding of the same plant material used in spring/summer seeded plots.

4.7.9 Revegetation Cover Criterion

A vegetative cover criterion of at least 70% used at other interior Alaska hard rock mines since 1994 would be achieved prior to requesting bond release[5]. Experience in Alaska has shown this goal would likely be reached within the first 5 years. Concurrent reclamation areas also would be required to meet the criteria prior to Donlin Gold requesting bond release.

The reclamation goal of at least 30% vegetative cover over a three-year period is an interim action level criterion, which would indicate whether additional reclamation action would need to be taken to establish a viable vegetative cover and a continuing natural succession of plant species. Further action could include reseeding the area, additional application of soil amendments, and/or incorporation of additional growth media on a particular site or facility. Donlin Gold would be responsible for determining the cause and resolution of substandard revegetation cover.

ADNR, ADF&G, and Donlin Gold would determine performance criteria for vegetation success.

[5] Alaska Reclamation Performance Standard (11 AAC 97.200) also defines successful re-vegetation as re-vegetation that occurs "within 5-years after reclamation is completed without the need for fertilization or re-seeding."

4.8 Area-Specific Reclamation

4.8.1 Roads and Airstrip

Both Donlin Gold's corporate standards and state regulatory standards require most proposed mine site roads be reclaimed. However, the 30-mile (48 km) Jungjuk Port access road to the mine site would be required for annual delivery of bulk reagents for the WTP, replacement parts, and provisions for the crew, and for long-term monitoring of the project site. The road would remain into the foreseeable future following mine closure.

Although many of the mine roads (i.e., access roads, haul roads, construction roads, etc.) differ somewhat in width and construction; essentially, reclamation would be the same for all mine roads. Culverts would be removed, natural drainage areas restored or stabilized, and roadbeds would be graded where necessary to provide adequate drainage. Water bars to divert run-on and run-off, and control erosion and berms to restrict human access, would be incorporated where necessary and as approved by ADNR. Reclamation of these features would include development of a streambank stabilization protocol that would consider the variability of stream crossings, as well as more site-specific options as identified in the State of Alaska publication, Streambank Revegetation and Protection – A Guide for Alaska (Walter et al, 2005).

Onsite roads not required for long-term monitoring would be ripped, as necessary, to eliminate the effects of compaction, recontoured to blend with the original topography, covered with a layer of growth media, and reseeded to meet the general reclamation standards. Berms, side-cast material, and road drainage ditches would be reclaimed in this process. Blacktop road and parking surfaces would be ripped and buried in place in road ditches and depressions prior to regrading.

The airstrip would also remain as a long-term asset; therefore, it is not included in the reclamation cost estimate.

4.8.2 Open Pit(s)

During active mining, reclamation activity in and around the open pit(s) would be limited to controlling erosion on the haul roads to prevent undue degradation to adjacent undisturbed area. Upon final mine closure, haul roads in and around the pit would be smoothed of all berms except those necessary for erosion control and public safety. The safety berms would be far enough from the highwalls to prevent them from damage in the event of highwall failure. Road cuts and fills would be recontoured as much as feasible, and the roadbeds would be ripped and scarified where necessary.

Life of Mine (LOM) Closure

The ACMA Pit advances into the smaller Lewis pit area in the later years of mining, resulting in a single large pit upon closure. Approximately 467 Mst (424 Mt) of backfill (primarily overburden and waste rock from continued development of the Lewis Pit and stockpiled PAG 7 material) would be placed in this pit. Pit highwalls would be stabilized where practicable based on Donlin Gold engineering recommendations. Stable highwalls, which are suitable for raptor nesting, would be left in place. Upon closure, a pit lake would begin to form from groundwater and surface water inflows. It is estimated that it would take

approximately eight years for the void areas in the backfill material to fill prior to a pit lake forming and slowly increasing in size, to a maximum surface area of approximately 1,070 acres (433 ha).

Predictions of water quality in the pit lake, as reported in the pit lake modeling assessment (Lorax 2015), suggest that the overall pit lake water quality will not meet Alaska's most stringent water quality standards, as defined by 18 AAC 70, Water Quality Standards (amended February 2016) and the Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances (as amended through December 2008). Therefore, pit lake water will require water treatment with an HDS process to meet applicable water effluent limits prior to discharge into Crooked Creek. Incidental use by avian and terrestrial species will not be detrimental.

The closure WTP would begin to operate when the water reaches an elevation of approximately 33 ft. (10 m) below invert level of the spillway that would allow free flow into Crooked Creek. It is estimated that this will occur approximately 50 years after the cessation of processing plant operations. Prior to the lake reaching this level the closure HDS WTP would be constructed and seasonal water treatment would commence. An approximate lake level of 328 ft amsl (100 m amsl) would be maintained. This average water level provides sufficient freeboard for the design runoff event (100-year snowmelt plus 100-year, 24-hour rainfall event) and a sequence of years with above-average precipitation.

Premature Closure - End of Year 3 of Operations

The ACMA and Lewis pits at a Year 3 closure would have a much smaller area of disturbance and a smaller pit lake would form in the ACMA pit. Stormwater from the Lewis Pit would drain into the ACMA Pit lake. Prior to the pit lake forming stockpiled PAG 7 material would be backfilled into the deepest portion of the ACMA Pit. The pit lake would cover an area of approximately 400 acres (160 ha).

As with the LOM closure the pit will be allowed to fill to an approximate lake level of 328 ft amsl (100 m amsl) and it would then be maintained at that level through seasonal operation of the WTP. It is estimated that water treatment will commence approximately eleven years after site closure commences. Initial water treatment for pit lake discharge under the premature closure scenario would make use of repurposed process equipment for HDS treatment and the existing operations reverse osmosis (RO) would be retained as a contingency for further water treatment if needed. Long term replacement of the WTP would occur in the same way as under the LOM closure.

4.8.3 Waste Rock Facility

Life of Mine (LOM) Closure

Upon cessation of mining, the WRF, containing approximately 2.46 billion short tons (2.23 billion tonnes) of overburden and waste rock, would require reclamation. However, the WRF has been designed to maximize concurrent reclamation, minimize the effects of any potentially metal leaching or acid generating (ML/ARD) materials, and minimize the cost of closure. Concurrent reclamation of inactive portions of the WRF would improve the quality of the surface water runoff, minimize the overburden material stockpiled for final reclamation,

and establish a vegetative cover that would be monitored and augmented, if needed, during ongoing operations. The WRF would be constructed in lifts and would be reclaimed as soon as practical after each lift or portion of the facility is complete. After active dumping ceases on each lift, the slopes would be regraded to less than or equal to 3H:1V. Large (geochemically inert) boulders uncovered during grading would be left on the surface to provide topographic diversity and microhabitats for wildlife and vegetation, and to break the linear appearance of the final slope. Once the area is recontoured, a minimum of 1 ft (0.3 m) of terrace gravel and/or colluvium will be spread over the surface, and then a layer of growth media consisting of organics and fine grained materials 1.15 ft (0.35 m) thick will be placed on top. Further discussion of the proposed management of these materials is provided in the *Waste Rock Management Plan, Volume IIIB*, SRK 2016b.

When final grading, contouring, and application of growth media have been completed, the WRF would be ripped along contours. Intervals between contour rips would be based on best engineering judgment and length of slope. The distance between drainage breaks would depend on the final slope angle of the WRF, and would be based on best management practices (BMPs) as specified in the stormwater pollution prevention plan (SWPPP) for closure.

The WRF would be seeded and mulched, as necessary, following physical preparation. It is anticipated that broadcast-seeding methods would be utilized for this facility.

WRF reclamation and water management conditions at LOM closure are projected to be as follows:

- Progressive or concurrent reclamation would be conducted during operations, but final cover materials would need to be placed in the remaining incomplete areas such as active haul roads.
- The Lower and Upper CWDs would be breached and the areas re-contoured.
- Surface runoff from the WRF would gravity flow to the ACMA Pit through constructed collection and drainage channels (Figure 4-3).
- The seepage flows from the WRF would be isolated by constructing concrete containment structures at the outlet of the rock drains for American Creek and Rob's Gulch. The seepage water then would be piped to the bottom of ACMA Pit to encourage pit lake stratification (Figure 4-4).

Premature Closure - End of Year 3 of Operations

The portion of the WRF constructed by the end of Year 3 of operations would be regraded and covered in the same manner as the LOM closure. Water from the undisturbed areas of the American Creek Valley would be directed to Crooked Creek, with the remainder of the surface runoff and the WRF seepage water directed to the pit lake. The seepage water would be directed to the bottom of the pit.

4.8.4 Tailings Storage Facility

LOM Closure

Several years before the end of operations, tailings deposition would be modified to direct the operating pond toward the southeast corner of the TSF. This would be done in anticipation of final closure of the TSF, when the tailings surface runoff would be directed to the closure spillway into Crevice Creek. At cessation of process plant operations, the TSF water would be pumped to the ACMA Pit through a reclaim pipeline.

The tailings impoundment will require a closure cover to minimize groundwater interaction and reduce salt mobilization. The cover would include coarse non-acid generating (NAG) waste rock overlain by colluvium/terrace gravel, overlain by a peat/mineral growth media mix. In addition, the soil cover would promote surface runoff and reduce the potential for meteoric waters to infiltrate through the consolidated tailings.

The closure spillway has been sized to pass the peak instantaneous flow associated with the 24-hour probable maximum precipitation (PMP) event, 9,959 cfs (282 m^3/s). The closure spillway will be a 33 ft (10 m) wide, 26 ft (8 m) deep cut-in rock at 1H:1V side slopes, with excavation of the overlying overburden at 2.5H:1V slopes.

During the first year of closure, an estimated 8,190 acre-ft (10.1 Mm^3) of tailings pond water will be pumped to the open pit using the tailings reclaim water pipeline. Pumping of the water to the pit will allow for the subsequent placement of cover material on the western quarter of the TSF. The resulting exposed tailings surface will be allowed to sit for one year to dry providing a suitable working surface for cover placement with low ground-pressure equipment. The operating pond would be controlled during the closure period to minimize dusting issues.

During year two of the closure period, the first quarter of the cover will be constructed along the western end of the facility. The pond will be further lowered to expose the second quarter of the tailings beach for the subsequent construction season. The tailings pore water that is released in response to loading the tailings with the closure cover will report to the remaining operating pond. Pumping to ACMA Pit would continue to prevent a large pond from redeveloping on the TSF.

During year three of closure, the pond will be drained to expose the third quarter of the impoundment and the second quarter of the closure cover will be completed. By year four, the pond will be substantially drained and the third quarter of the closure cover will be completed. The tailings pore water released in response to tailings loading by the closure cover will report to the low point adjacent to the closure spillway and will be pumped to the pit.

During the final (fifth) year of the closure period, the remaining quarter of the tailings closure cover will be completed. A small lined pond will be constructed in this area to allow for monitoring and control of the tailings cover surface runoff to verify that it is suitable for discharge. The pond will store 162 acre-ft (200,000 m^3) and have approximate dimensions of 738 x 984 ft (225 x 300 m) and a depth of 9.8 ft (3.0 m). If this water is not suitable for discharge, it will be pumped to the pit lake.

It is expected that the tailings will consolidate with time over the closure period. Predicted near terminal density will be reached approximately 52 years after the end of operations. An allowance has been made in the quantity of rockfill placed as part of the closure cover to compensate for the expected settlement due to consolidation of the tailings.

The tailings closure cover will be comprised of a minimum 3.3 ft (1.0 m) coarse NAG waste rock overlain by a minimum 1-foot (0.3 m) of colluvium/terrace gravel overlain by an approximately 1.15 ft (0.35 m) of peat/mineral mix. Stripped overburden material temporarily stored in the TSF stockpiles will be used for the closure cover. The resulting runoff from the constructed cover is expected to be suitable for discharge without treatment.

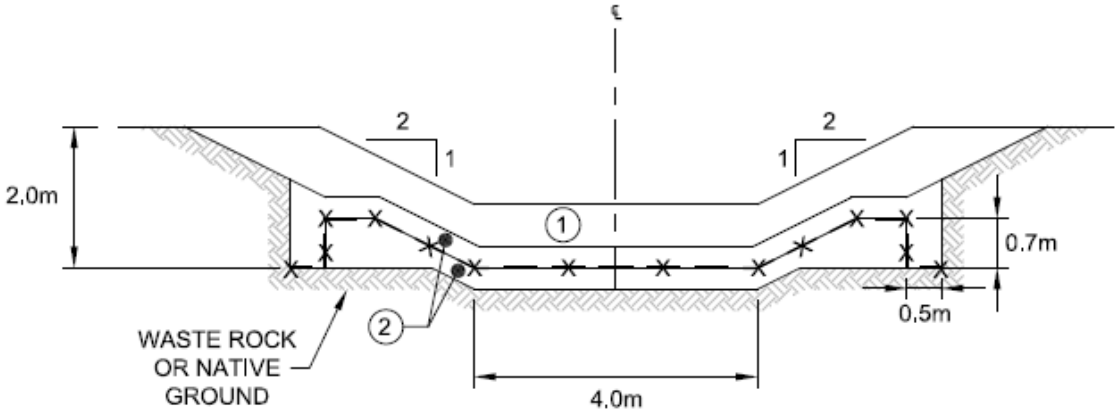
Pumping will occur out of the rockfill layer that provides a capillary break between the tailings and the cover. Pumping will be required out of this layer to capture void water generated by ongoing consolidation of the tailings and water infiltrating the TSF cover. Drain sumps installed in manholes would be used for this purpose. The consolidation water will mix with water that infiltrates the cover. This mixed water is assumed to be unacceptable for direct discharge and would be pumped to the ACMA Pit.

Surface runoff water will be held in the lined pond and tested to verify it meets Alaska Water Quality Standards for discharge through the closure spillway. It is anticipated that this water will be of suitable quality for discharge, and that runoff from the pond will drain to Crevice Creek from year six on.

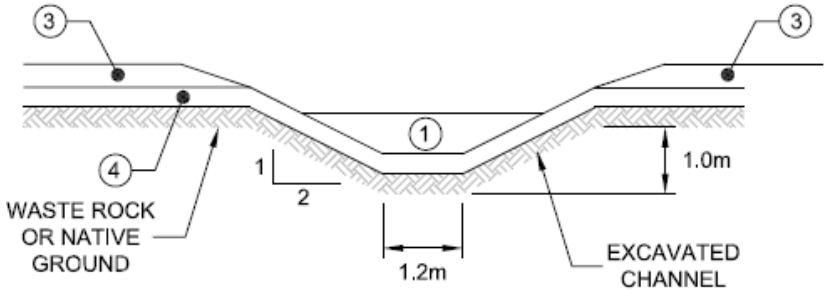
Due to the metal leaching nature of all waste rock from the open pit, all runoff from downstream rockfill dam faces will flow into the seepage collection pond. The downstream face of the tailings dam will remain at an approximate 1.7H:1V slope. Placement of 1-foot (0.3 m) of colluvium beneath 1.15 ft (0.35 m) of organic growth medium on portions of the rockfill face will provide partial vegetative cover and a more diversified habitat for wildlife (e.g., raptors, rodents and burrowing mammals).

The SRS downstream of the TSF main dam, consisting of the collection pond and seepage monitoring/collection wells, would be maintained during closure and into post-closure. Downgradient compliance monitoring wells will be maintained indefinitely.

PRIMARY DRAINAGE CHANNEL



SECONDARY DRAINAGE CHANNEL



LEGEND

✶ ✶ ✶	40MIL LLDPE
①	CHANNEL ARMOR 600mm THICK
②	CUSHION LAYER 300mm THICK
③	PEAT MINERAL MIX 350mm THICK
④	TERRACE GRAVEL + COLLUVIUM 300mm THICK

	SCALE: N/A	DONLIN GOLD	**TYPICAL FACILITY DRAINAGE CHANNELS** DONLIN GOLD PROJECT	FIGURE: **4-3**

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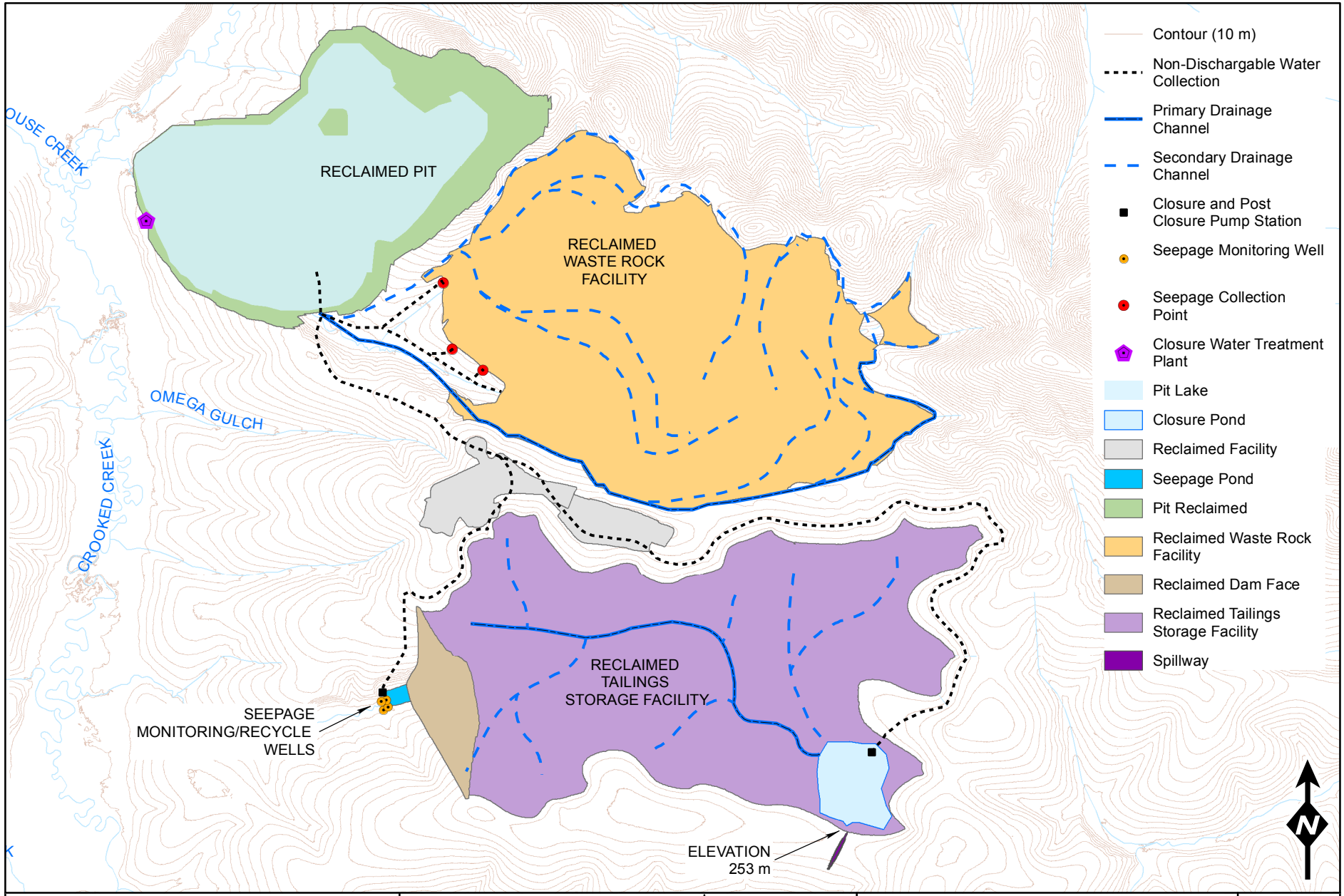


SCALE:

0 0.25 0.5 1 mi

0 0.4 0.8 1.6 km

DONLIN GOLD

SURFACE WATER AND SEEPAGE COLLECTION SCHEMATIC

DONLIN GOLD PROJECT

FIGURE: 4-4

DG: PER0571.mxd, 07/17/17, R00

Premature Closure – End of Year 3 of Operations

At the end of Year 3 Operations, the TSF pond will be located in the middle of the TSF impoundment. A spillway would be constructed in the tailings dam embankment to allow tailings surface runoff to be directed into Anaconda Creek. This differs from the LOM assumption that tailings deposition would be modified to direct the operating pond toward the southeast corner of the TSF with the tailings surface runoff being directed to the closure spillway into Crevice Creek (Figure 4-5).

A dredging operation would redeposit tailings to move the low point in the TSF from the middle of the impoundment to the northwest corner of the TSF near the constructed spillway. The tailings closure cover will be constructed in the same way as the LOM closure cover. The resulting runoff from the constructed cover is also expected to be suitable for discharge without treatment. The runoff water will be held in a lined pond in the northwest corner and tested to verify if it meets Alaska Water Quality Standards before discharge through the closure spillway into Anaconda Creek. After closure, the tailings consolidation water will be pumped to pit. Predicted near terminal density for the tailings will be reached approximately 38 years after the end of operations.

Once physical closure work begins an estimated 6,784 acre-ft (8.4 Mm^3) of tailings pond water plus accumulated precipitation will be pumped over a four-year period to the WTP using the tailings decant reclaim pipeline. Water treatment would utilize repurposed process equipment for initial HDS treatment of the TSF water, followed by RO treatment utilizing the existing operations RO plant. Simultaneously the dredging operation would begin redepositing the tailings to move the remaining tailings water towards the northwest corner of the TSF. As the pond size is reduced the exposed tailings will begin to dry and, after one year, will provide a suitable working surface for cover placement with low ground-pressure equipment. Construction of the cover will proceed over four years as the working surface dries and becomes available for use. The tailings pore water that is released in response to loading the tailings with the closure cover will also report to the operating pond and be pumped to the WTP along with the rest of the water. During the final (fifth) year of the closure period, the tailings closure cover would be completed and the lined pond will be constructed at the low point to allow for the collection and monitoring of surface runoff water. The tailings cover surface runoff would be monitored to verify that it is suitable for discharge. The pond will store 162 acre-ft (200,000 m^3) and have approximate dimensions of 738 x 984 ft (225 x 300 m) and a depth of 9.8 ft (3.0 m).

4.8.5 Buildings and Equipment Sites

Although the buildings are located on private land and the landowners can request the facilities remain, at this time, the land owners have directed that as facility components of the site are decommissioned, materials, equipment, and buildings would be removed. Equipment and piping not needed for the reclamation and post-closure monitoring activities under this plan would not be utilized at another mining site, sold or salvaged, but would be disposed of onsite in an approved manner. Process components (those that are in direct contact with process reagents) would be rinsed with fresh water during decommissioning. This rinsate would be collected and treated at the WTP.

1 inch = 2,500 feet

0 2,000 4,000 Feet

0 600 1,200 Meters

Coordinate System: NAD 1983 UTM Zone 4N
Units: Foot US

ACMA PIT LAKE

RECLAIMED PIT

LEWIS PIT DRAIN CHANNEL

RECLAIMED WASTE ROCK FACILITY

CLOSURE POND

CLOSURE SPILLWAY

RECLAIMED TAILINGS STORAGE FACILITY

Seepage Monitoring/Recycle Wells

SEEPAGE COLLECTION POND

LEGEND:

- Closure Water Treatment Plant
- Seepage Collection Point
- Seepage Monitoring/Recycle Well
- Non-Dischargeable Water Collection
- Primary Drainage Channel
- Secondary Drainage Channel
- Surface Water from Non-Disturbed Area
- Pit Lake
- Reclaimed Dam Face
- Reclaimed Facility
- Reclaimed Tailings Storage Facility
- Closure Pond
- Spillway
- Seepage Collection Pond
- Reclaimed Pit
- Reclaimed Waste Rock Facility

DONLIN GOLD

PREMATURE CLOSURE SURFACE WATER AND SEEPAGE COLLECTION SCHEMATIC

DONLIN GOLD PROJECT

FIGURE: **4-5**

PATH: H:\Donlin Gold\181202.017_Donlin_Gold_LLC_2017\040_Drafting\Task_300.11_Reclamation_&_Closure\4-5_Premature_Closure_Surface_Water.mxd

Remaining structures on the site and foundations would be reduced to rubble and disposed of in a manner approved by ADEC. Once the buildings have been demolished, the foundations would be broken up to prevent them from being an impermeable impediment to natural percolation of meteoric waters. Following equipment and structure removal, sites would be graded slightly for proper drainage, ripped and scarified, seeded, and mulched if necessary. Although it is not likely that growth media would be needed, each site would be evaluated following grading. A thickness of approximately 3.3 ft (1.0 m) of colluvium cover would be established over the debris to ensure it remains subsurface into the foreseeable future.

The primary intake for the primary crusher would be demolished to original grade, and the subsurface portion backfilled with inert construction debris or inert waste rock. During demolition of the rock crusher conveyor berm, approximately 464,300 yd^3 (355,000 m^3) of rock would be removed and placed in adjacent yard areas for final reclamation.

4.8.6 Yard Areas

Considering their large size, the stable yard areas (e.g., platforms created for buildings, laydown areas, and other disturbances) would be reclaimed in a manner similar to the WRF. In keeping with the reclamation plan for the property, each of the disturbed areas would be regraded to acceptable slopes.

Given the topographical relief at Donlin Gold, most of the working areas, including the process plant, crusher, shop, and fuel storage, are on large pads constructed primarily by balanced cut-and-fill techniques. Once internal structures and foundations have been appropriately demolished, removed, or buried, the next step in meeting reclamation criteria for large yard areas is to regrade the cut-and-fill sections to blend with the surrounding topography, where appropriate. The areas would then be ripped to mitigate the compaction effects of traffic and infrastructure, covered with growth media (as necessary) and seeded.

4.8.7 Miscellaneous Closure Items

Wells and Well Closure

Once monitoring of the TSF indicates component stability, the applicable monitoring wells for this facility would be abandoned by plugging the well and removing the surface casing. Pit dewatering wells also would be abandoned, when no longer required, as part of the mining operation.

Water well abandonment would be conducted in accordance with ADEC regulations (18 AAC 80.015) and would be in a manner to prevent the transmission of water from one vertical level within the well to another (e.g., cross-aquifer contamination). Abandonment procedures generally include removal and disposal of pumps and piping, removal of the casing where possible, plugging of the well with an approved sealing material at total depth, removal of the collar, minor grading around the well site, and seeding and mulching to re-vegetate the immediate area of the well and service road.

Bentonite or cement grout would be forced into the perforated screened interval and into the remainder of the well casing to decommission the well in a way that protects the groundwater resources.

After mining ceases, additional wells not needed for post-closure monitoring would require abandonment. This issue would be revisited on a periodic basis as additional operating data becomes available and during development of final process component closure plans. Final process component closure and monitoring plans would require approval from ADEC.

Fence Removal

The use of fences as a post-mining reclamation structures would be minimized in favor of more permanent structures, such as earthen berms, to restrict access to the open pits. The use of fencing during closure would be limited to reagent areas necessary for the security and safety at the WTP facilities. All other reagents and chemicals (including, but not limited to petroleum products) would be removed from the site.

Electrical Power Facilities

When the large electrical power requirements are no longer necessary, substations, overhead power lines, and associated facilities would be removed from the site, unless it is agreed upon by the landowner to keep them.

The main power generating facilities would no longer be necessary at the end of mining and process plant operations, and the generators would be removed from the site or demolished and buried on site, in keeping with regulatory and corporate requirements.

Donlin Gold currently assumes at LOM closure that only a small generator will be required to operate the post-closure WTP and associated pumps needed for the seasonal operations.

Fuel Storage Facility, Natural Gas Metering Station, Pipeline Distribution System

The fifteen 2.5 Mgal (9.5 ML) diesel fuel tanks would be drained, rinsed, dismantled, foundations demolished and materials disposed of in the on-site landfill. Rinsate water would be sent to an oil/water separator for treatment prior to discharge.

The 315-mile (507 km) proposed Donlin Gold natural gas pipeline reclamation and abandonment falls under the jurisdiction of the U.S. Department of Interior, Bureau of Land Management (BLM) and the State of Alaska Pipeline Coordinator's Office and will require Donlin Gold to comply with the applicable federal and state statutes and regulations for pipelines as described in a separate plan.

However, metering station and natural gas distribution systems at the Donlin Gold mine site would be covered by this Reclamation and Closure Plan. The metering facilities and aboveground piping will be removed, and salvaged or disposed of on the onsite inert landfill. Below ground piping will be abandoned in place, and any surface exposure would be cut below ground level and buried.

Waste Disposal

Non-hazardous demolition debris would be placed in the inert solid waste landfills located in the WRF or used to fill subsurface voids exposed during the demolition of surface facilities.

The resulting surface of any voids filled with construction debris would be shaped to reduce ponding, covered with approximately 1-foot (30.5 cm) of cover, and revegetated in the same manner as the WRF.

Hazardous and toxic materials, such as reagents, petroleum products, acids, and solvents, would be transferred off site by licensed transporters and either returned to the vendor or disposed of at licensed treatment, storage and disposal facilities (SRK 2016c). Hydrocarbon-contaminated soils would be treated onsite or removed from the site for offsite treatment and/or disposal.

Port Facilities and Access Road

The Jungjuk Port facilities also would be reclaimed. All mine support facilities would be removed and reclaimed, as described in previous sections. The sheet piles and fill would be removed, and the area recontoured (Wright and Czapla 2010). The 30-mile (48 km) Jungjuk Port access road to the mine site would be required to deliver annual WTP reagents, replacement parts, provisions for the WTP crews, and bulk fuel and support long-term monitoring. The access road would remain into the foreseeable future following mine closure.

Snow Gulch Fresh Water Reservoir

The Snow Gulch Fresh Water Reservoir will be drained, the dam breached, and the footprint recontoured and revegetated. Associated power lines and pipelines will be decommissioned and removed, and the access road reclaimed.

Mobile Equipment

LOM Closure

For the purposes of this Plan, no salvage value would be assigned to the mobile equipment. Therefore, this equipment would be buried in the WRF at closure. To prevent degradation of water resources or contaminant mobilization, all fluids would be drained and batteries removed from all mobile vehicles prior to burial in compliance with the applicable solid waste disposal regulations (18 AAC 60). The inert equipment would then be covered under reclaimed dump faces during regrading activities. The inert equipment burial locations within the WRF would be surveyed and reported to the ADEC in the final closure report for the site.

Premature Closure – End of Year 3 of Operations

For the purpose of this premature closure scenario, no salvage value would be assigned to the mobile equipment, however, the costs of draining fluids, removal of batteries, and burial are not included since the equipment would have residual value and not be disposed of at the site.

4.8.8 Sediment Control

Each of the reclaimed components would be able to withstand design storm events (e.g., 100-year, 24-hour storm event). As discussed previously, it is critical to successful closure of the WRF that runoff is directed away from any potential areas of erosion (e.g., cut banks) and that runoff is quickly conveyed from the facility without posing a risk to the long-term

stability of the cover and the structure itself. Similarly, drainage control from the tailings cover is critical to the long-term establishment of a vegetative cover and drainage channels of the closed TSF. The technical specifications for the management of storm water runoff following closure of the site would be developed as part of the updated SWPPP for closure.

4.8.9 Monitoring and Maintenance

Once physical reclamation has begun, temporary diversions and sedimentation control systems would be monitored on a routine basis (weekly when weather conditions allow) by Donlin Gold personnel. These systems would be cleaned, repaired, and modified as necessary.

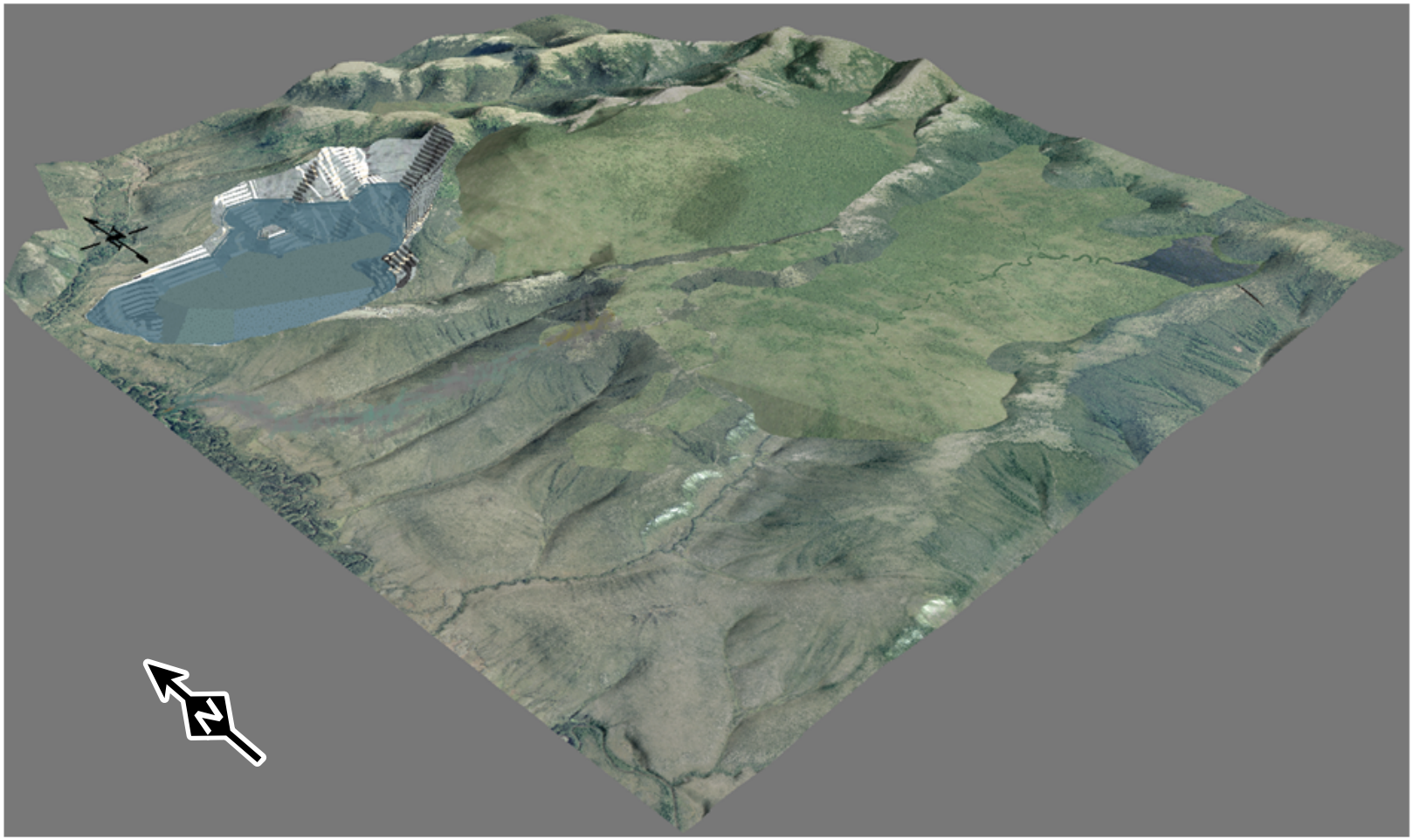
Long-term or permanent diversions and the safety fencing and signage would be monitored and maintained as needed until the reclamation bond has been released.

Success of reclamation (Figure 4-6) would be monitored in two ways:

1. Physical reclamation such as earthwork and growth media application would be checked for excess erosion problems periodically and immediately following major rain storms. Remedial action to correct instability would be taken as soon as feasible following detection of substantial erosion or loss of growth media.
2. Vegetation success would be monitored qualitatively by visual inspection on an ongoing basis by Donlin Gold and ADNR personnel, and quantitatively once per year. A consulting professional would conduct quantitative analysis at the end of the growing season (end of August).

ADNR, ADF&G, and Donlin Gold would determine performance criteria for vegetation success. Presently, revegetation cover criterion is outlined in Section 4.7.9. Donlin Gold would seek release of the reclamation surety on a facility-by-facility basis (as per 11 AAC 97.435) as quantitative data indicate the established criteria have been met.

Site-wide monitoring systems would remain in place until Donlin Gold demonstrates to ADNR and/or ADEC that they are no longer necessary. Details of reclamation and closure monitoring for the open pit, TSF, WRF, surface water, and groundwater are provided in the *Integrated Waste Management Monitoring Plan, Volume VII*, SRK 2016d.



	SCALE:		**CONCEPTUAL FINAL RECLAMATION AND CLOSURE VIEW**	FIGURE:
	NA	DONLIN GOLD	DONLIN GOLD PROJECT	**4-6**

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5.0 ESTIMATE OF RECLAMATION COSTS

The estimated reclamation costs for the various components of the proposed Donlin Gold project as described in the Plan represent proven and conceptual reclamation and closure methods. The Standard Reclamation Cost Estimator (SRCE) Version 1.4.1.16 was used to prepare this cost estimate. Modifications to SRCE Version 1.4.1.16 included the addition of equipment needed for reclamation activities, as well as additional building demolition equipment.

5.1.1 Closure Cost Rates

Costs used to populate the SRCE model were based on the following sources:

- 2016 - 2017 costs from current vendors doing business in Alaska
- Alaska Davis Bacon Labor Rates - September 2016 (State of Alaska 2016)
- Material costs from the RS Means Heavy Construction Cost Data, Western Edition (2004, 2008, 2012)
- Caterpillar Performance Handbook, Edition 35 (2004)
- Cashman Equipment, Reno, Nevada – Equipment Rental Rates (2012)
- NC Machinery Equipment Rental Rates (2017)
- Construction Machinery, Inc. Equipment Rental Rates (2017)
- Backfill, Inc. Equipment Rental Rates (2017)
- Alaska Marine Lines – Tariff Rates (2016)

In determining the prevailing labor rates, the *Alaska Department of Labor and Workforces Development, Division of Labor Standards and Safety's Laborers' & Mechanics' Minimum Rates of Pay* (Pamphlet 600) (Alaska "Little Davis-Bacon") was used and will be updated as the Pamphlet is updated.

Material costs for fuel, concrete, etc., were provided by Alaska vendors. Information provided in 2012 RS Means Heavy Construction Cost Data, 26th Edition, was used where equipment, labor, or material rates were unavailable from other sources.

5.1.2 Closure Cost Productivities

Productivity data and calculations were based on:

- Caterpillar Performance Handbook, Edition 35, for productivity calculations as incorporated into the SRCE.
- RS Means Heavy Construction Cost Data (2004-2009) for productivities/crews for demolition. A large excavator with shears and a medium excavator with grapples were added to the building demolition fleet. Productivity for the shears was estimated based on shear cut depth and opening and closing times as provided by the manufacturer.
- Use of best estimates and available data to populate the SRCE cost model.

5.1.3 Key Cost Assumptions

The following closure cost assumptions were made:

- Mine mobile equipment on site will not be used for reclamation
- All structures and infrastructure will be removed
- Demolition shears are likely to be used to demolish buildings. Costs for building, foundation, and wall demolition were derived from RS Means Heavy Construction Cost Data
- Demolition shears are likely to be used to demolish large storage tanks. Since this is a cutting exercise only, productivity was estimated based on shear cut depth and opening and closing times as provided by the manufacturer
- No salvage value is assumed for scrap, equipment, or mobile fleet
- Waste rock is used for tailings cover.

5.1.4 Conclusions

Acknowledging the social and environmental responsibility associated with modern mining operations, Donlin Gold recognizes and commits to the comprehensive closure and reclamation of the proposed Donlin Gold site and ancillary facilities. All reclamation activities and post-closure maintenance of remaining structures (tailings dam, airstrip, Jungjuk Port barge landing, and access roads) are the responsibility of Donlin Gold, unless and until a subsequent landowner assumes responsibility. A modification to the designated post-mining land use may require further changes to the Plan, along with the timelines for implementing and finalizing closure.

The reclamation cost estimates were developed for both the LOM and for a seven-year premature closure (Appendix B).

Life of Mine (LOM) Closure

The cost for physical closure and reclamation of the site for the LOM closure is estimated at $308 million over five years. Following this five-year period ongoing site monitoring would occur for approximately 45 years before the commencement of water treatment and discharge from the pit lake (SRK 2017). The requirement to treat with HDS and discharge water are predicted to continue indefinitely. Annual costs during the monitoring period average around $1.0 million; while annual costs once water treatment commences in approximately 50 years after final reclamation average around $3.6 million, excluding the replacement costs for the WTP.

Premature Closure - End of Year 3 of Operations

The cost for physical closure and reclamation of the site for the seven-year premature closure is estimated at $241 million over five years including the cost of treating the TSF water. Annual post-closure costs for site monitoring, maintenance, and water treatment average $3.7 million, excluding the replacement costs for the WTP.

6.0 APPLICANT STATEMENT OF RESPONSIBILITY

Donlin Gold recognizes its responsibility in the use of private and public (state) lands, and accepts that responsibility in agreeing to reclaim the proposed Donlin Gold project site. This acknowledgement includes, but is not necessarily limited to conformance with applicable statutes and regulations implemented by ADNR and ADEC (Section 1.1). Donlin Gold would 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. Donlin Gold would meet required local, state, and federal regulations regarding reclamation of any surface area affected by the mining and processing operations. Reclamation activities and post-reclamation maintenance of remaining structures are Donlin Gold's responsibility.

In the event a new operator/landowner assumes control of the proposed Donlin Gold project, at that time, the new operator or landowner would agree to assume responsibility for the reclamation and maintenance of any affected land and structures that are the subject of this Plan or existing permits. The new operator/landowner would request transfer of all applicable state and federal permits. The new operator/landowner would provide evidence that a surety is filed with ADNR that would cover reclamation of disturbed lands, including privately owned and state land, as well as post-reclamation maintenance of remaining structures.

7.0 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 and ADEC 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. Donlin Gold would conduct an environmental closure audit to determine if any previously unknown environmental liabilities exist as a direct or indirect result of the Donlin Gold project.

Donlin Gold has reviewed and agrees to comply with all conditions in the Reclamation and Closure Plan. Donlin Gold understands the bond would not be released until ADNR and ADEC give written approval of the reclamation work.

Donlin Gold LLC

By: _____

Title: _____

Signature: _____

Date: _____

8.0 REFERENCES

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Appendix A
Reclamation Plan Land Status

Reclamation Plan Land Status
Lands Required for Proposed Donlin Gold Project

Calista Corporation, Surface and Subsurface Estates

The following real property is in the Kuskokwim and/or Mt. McKinley Recording Districts, Seward Meridian, Alaska.

LANDS FOR MINING AND MINING RELATED PURPOSES

Township 22 North, Range 48 West
Sections 4, 5, 6, 7, 8, 9, 17, 18, 19, 20

Township 22 North, Range 49 West
Sections 1, 12, 13, 24

Township 23 North, Range 48 West
Sections 3, 4, 5, 6, 9, 10, 15, 16, 21, 22, 27, 28, 32, 33, 34

Township 23 North, Range 49 West
Section 28

Township 23 North, Range 50 West
South 1/2 of Section 33

LANDS FOR ACCESS. ROADWAY. MATERIAL SITES. PORT SITE. AND EQUIPMENT LAYDOWN AREAS

Township 22 North, Range 50 West
20-acre material site within Section 12, exact location to be determined after construction with a survey

20-acre material site within Section 13, exact location to be determined after construction with a survey

20-acre material site within Section 35, exact location to be determined after construction with a survey

Township 21 North, Range 50 West
20-acre material site within Section 2, exact location to be determined after construction with a survey

20-acre material site within Section 4, exact location to be determined after construction with a survey

20-acre material site within Section 9, exact location to be determined after construction with a survey

The Kuskokwim Corporation (TKC), Surface Estate

The following real property is in the Kuskokwim and/or Mt. McKinley Recording Districts, Seward Meridian, Alaska.

LANDS FOR MINING AND MINING RELATED PURPOSES

Township 22 North, Range 49 West

Sections 2, 3, 4, *5,* 6, 7, 8, 9, I0, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

Township 23 North, Range 48 West

Sections *5,* 6, 7, 8, 17, 18, 19, 20, 29, 30, 31

Township 23 North, Range 49 West

Sections 1, 10, 11, 12, 13, 14*, 15, 21, 22, 23•, 24, 25, 26, 27, 33, 34, 35, 36

(*excluding from TKC's surface estate a 13.91- acre parcel located within unsurveyed Sections 14 and 23 as described in the Record of Survey recorded as Plat 96-1 in the Kuskokwim Recording District on January 17, 1996)

Township 22 North, Range 48 West

Sections 31

Township 22 North, Range 50 West

Sections 1, 12, 13

LANDS FOR ACCESS. ROADWAY. MATERIAL SITES. PORT SITE, AND EQUIPMENT LAYDOWN AREAS

Township 20 North, Range 49 West
Port site containing approximately 100 acres within Section 29, exact location to be determined after construction with a survey

Township 20 North, Range 49 West

400 ft wide roadway of approximately 48 acres within Section 29, exact location to be determined after construction with a survey 400 ft wide road way of approximately 48 acres within Section 30, exact location to be determined after construction with a survey.

Township 21 North, Range 50 West

400 ft wide roadway of approximately 48 acres within Section 2, exact location to be determined after construction with a survey
400 ft wide roadway of approximately 48 acres within Section 3, exact location to be determined after construction with a survey
400 ft wide roadway of approximately 48 acres within Section 4, exact location to be determined after construction with a survey
400 ft wide roadway of approximately 48 acres within Section 9, exact location to be determined after construction with a survey

Township 21 North, Range 50 West

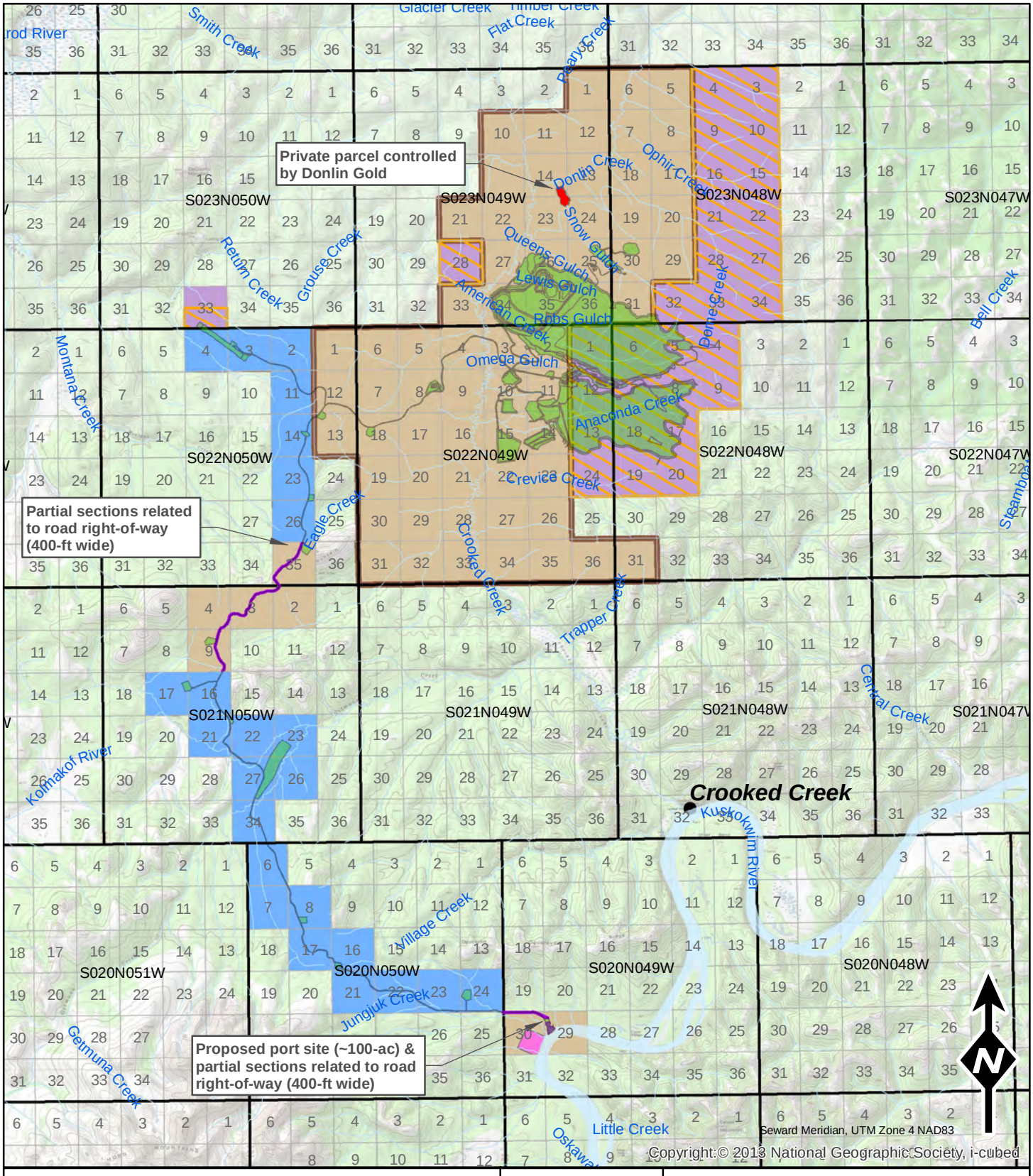
20-acre material site within Section 2, exact location to be determined after construction with a survey
20- acre material site within Section 4, exact location to be determined after construction with a survey
20- acre material site within Section 9, exact location to be determined after construction with a survey

Township 22 North, Range 50 West

400 ft wide roadway of approximately 48 acres within Section 34, exact location to be determined after construction with a survey
400 ft wide roadway of approximately 48 acres within Section 35, exact location to be determined after construction with a survey
400 ft wide roadway of approximately 48 acres within Section 36, exact location to be determined after construction with a survey

Township 22 North, Range 50 West

20- acre material site within Section 35, exact location to be determined after construction with a survey
20- acre material site within Section 36, exact location to be determined after construction with a survey



Proposed Infrastructure Layout

Land Status Details

- ANCSA Selections and Conveyances
- Native Allotments
- State Land
- The Kuskokwim Corp Village Selection Boundaries

Lands Convered Under Donlin Gold Agreements

- The Kuskokwim Corporation (TKC)
- Calista Corporation (Calista)
- Road Corridors and Port Site
- Private Land Controlled by Donlin Gold, LLC

DONLIN GOLD

RECLAMATION PLAN LAND STATUS

DONLIN GOLD PROJECT

SCALE:
0 1 2 4 mi
0 1.5 3 6 km

FIGURE:
A-1

DG: PER0481.mxd, 05/24/16, R04

Appendix B
Estimate Basis of Cost

Phased and Life of Mine Bond Cost Estimate - Basis of Costs

Report Prepared for

Donlin Gold LLC

Report Prepared by

181202.017
July 2017 (revised November 2017)

Phased and Life of Mine Bond Cost Estimate Basis of Costs

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SRK Project Number 181202.017

July 2017 (revised November 2017)

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Attachments

Attachment A: Cost Data File

Attachment B: Documents in Support of SRCE Inputs

Attachment C: Premature Closure SRCE Cost Summary

Attachment D: Life-of-Mine SRCE Cost Summary

Attachment E: SRCE Figures

Figures

Figure E-1: Premature Closure Disturbance Footprint

Figure E-2: Premature Closure WRF Mid-Bench Lengths

Figure E-3: Premature Closure Road Disturbance ID and Lengths

Figure E-4: LOM Closure Disturbance Footprint

Figure E-5: LOM WRF Mid-Bench Lengths

Figure E-6: LOM Road Disturbance ID and Lengths

Disclaimer

The opinions expressed in this Report have been based on the information supplied to SRK Consulting (U.S.), Inc. (SRK) by Donlin Gold LLC (DGLLC). These opinions are provided in response to a specific request from DGLLC to do so, and are subject to the contractual terms between SRK and DGLLC.

SRK has exercised all due care in reviewing the supplied information. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the site conditions and features, as they existed at the time of SRK's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this Report.

List of Abbreviations

ADEC	Alaska Department of Environmental Conservation
ADNR	Alaska Department of Natural Resources
DOLWD	Alaska Department of Labor and Workforce Development
BLM	Bureau of Land Management
BMRR	Bureau of Mining Regulation and Reclamation
CAT	Caterpillar Inc.
cm	Centimeter(s)
CMI	Construction Machinery Inc.
CWD	Contact water dam
DGLLC	Donlin Gold LLC
DOI	Department of the Interior
ED&C	Engineering, Design and Construction
ha	Hectare(s)
HDPE	High-density polyethylene
HDS	High density separation
km	Kilometer(s)
LCWD	Lower contact water dam
LLDPE	Linear low-density polyethylene
LOM	Life of mine
m	Meter(s)
m^3/ha	Cubic meters per hectare
NDEP	Nevada Division of Environmental Protection
NMA	Nevada Mining Association
RO	Reverse Osmosis
SRCE	Standardized Reclamation Cost Estimator
SRS	Seepage recovery system
TCLP	Toxicity Characteristic Leaching Procedure
TSF	Tailings Storage Facility
UCWD	Upper contact water dam
WRF	Waste Rock Facility
WTP	Water Treatment Plant

1 Introduction and Scope of Report

SRK Consulting (U.S.), Inc. (SRK) has been retained by Donlin Gold LLC (DGLLC) to estimate the financial surety required to close the proposed Donlin Gold Project (Project) under two potential scenarios, a premature closure at Year 7 of the project that includes four years of construction and 3 years of operations (Premature Closure) and closure at Year 27 the end of life-of-mine (LOM). These closure estimates assume a default by the operator at the mine life identified above and that closure would be executed by the State of Alaska under direction of the Alaska Department of Natural Resources (ADNR).

The closure cost estimates have been prepared using the Standardized Reclamation Cost Estimator (SRCE) model. The basis for these costs are provided below and supporting documentation is provided in the attachments.

2 Reclamation Cost Estimate Methodology

2.1 General

The proposed Project consists of open pit surface mining and dumping of waste rock in multiple-bench lifts in the Waste Rock Facility (WRF). Ore is processed at the plant and tailings is disposed of in a tailings storage facility (TSF). For this estimate, the closure scenarios are for the Premature Closure consisting of the four-year construction period and the first three years of operations, as well as the LOM. No concurrent reclamation is assumed for this cost estimate and although concurrent reclamation will occur, the State of Alaska does not allow it to be included until completed and accepted by the agencies.

The following attachments accompany this report:

- Attachment A: Cost Data File
- Attachment B: Documents in Support of SRCE Inputs
- Attachment C: Premature Closure SRCE Cost Summary
- Attachment D: Life-of-Mine SRCE Cost Summary
- Attachment E: SRCE Figures

2.2 Choice of Reclamation Cost Estimating Model

Closure costs associated with the project were calculated using the SRCE version 1.4. The SRCE is a spreadsheet software that was developed as part of a cooperative effort between the Nevada Division of Environmental Protection, Bureau of Mining Regulation and Reclamation (NDEP), the U.S. Department of Interior (DOI), Bureau of Land Management (BLM) and the Nevada Mining Association (NMA) to facilitate accuracy, completeness and consistency in the calculation of costs for mine site reclamation. The model is available in the public domain and hosted on the web site: http://www.nvbond.com.

The SRCE combines first principle geometric and volume calculations with crew and equipment productivity to calculate time required for common mine closure tasks. Crew productivities have been collected for common closure tasks from the Heavy Construction Cost Data published by RS Means. Equipment productivities have been collected from the Caterpillar Performance Handbook edition 35. Productivity calculations are combined with the user geometric and/or volume inputs to calculate a time requirement for tasks. The time is combined with user defined unit costs to derive a cost for each closure task.

Closure tasks not included in the default worksheets in the SRCE are calculated in custom tables placed in the User worksheets provided in the SRCE. Unit costs (labor, equipment and materials) used for the reclamation cost estimate were collected and loaded into the SRCE.

The SRCE model was used to prepare the reclamation cost estimate for the following reasons:

- SRCE provides a standardized and systematic methodology for mine closure cost estimates
- The routines provided in the model cover common reclamation tasks required at most mining projects
- SRCE bases its estimates on accepted first principle calculations, i.e., facility measurements are used to derive areas, volumes or weights related to closure tasks. The measurements are then combined with fleet and crew productivities and unit costs to derive costs for specific tasks
- Equipment and crew productivities for common tasks are established through widely accepted published statistics. For instance, equipment productivities are taken from Caterpillar Performance Handbook (2004). Crew productivities are taken from RS Means Heavy Construction Cost Data (2004-2009)
- For specific tasks such as well plugging, which are not directly available in any publication, realistic values derived from field experiences in Nevada mine closure studies are utilized in the model
- SRCE is flexible in cost estimation, allowing utilization of local rates.

2.3 Assumptions used to Guide Preparation of the Reclamation Cost Estimate

Below are the basic assumptions used to guide the preparation of this reclamation cost estimate:

- Closure and reclamation activities will be performed by a third-party contractor hired by the State of Alaska
- Premature Closure (end of operating Year 3) represents the maximum closure and reclamation liabilities for the initial 5-year permitting case
- Equipment costs are based on rental equipment rates for new or nearly new equipment
- Equipment is mobilized to the site and Donlin Gold owned equipment is assumed to be unavailable
- Labor costs are assumed to be subject to prevailing wage laws
- The reclamation crew will work 12-hour daily shifts all year in 2-week rotations
- Reclamation and closure activities will commence after a 2-year holding period.

3 Cost Estimate

The cost estimate is based on 1) the SRCE file into which dimensions, quantities, and costs are input and 2) the cost data file (Attachment A) which provides labor, equipment, and material rates and/or unit costs, as applicable. An overview of the relationships as well as the contents of both the SRCE file and the cost data file is provided below.

3.1 SRCE File

3.1.1 Inputs

Dimensions

SRCE inputs were measured from AutoCAD drawings of the facilities for the Premature Closure scenario and the LOM scenario. Figures E-1 through E-3 present the mine facility footprints for Premature Closure and Figures E-4 through E-6 present the mine facility footprints for the LOM Closure.

List of Sources Referenced

Most inputs into the SRCE file are measurements from figures as discussed above. Some inputs are from other sources such as quotes or calculations performed by others. The sources for various SRCE inputs are compiled into a table included in Attachment B. The table identifies the SRCE worksheet, the reference to the input source and a filename. Copies of the referenced documents are also included in the attachments.

3.1.2 Crews and Fleets

Relevant files/sheets:

- *SRCE "Fleets (Crews)" sheet*
- *SRCE "Productivity"*

Fleet Productivities

The SRCE determines earthmoving activities' productivities through the user inputs (such as distance, haul road grade, choice of fleets, etc.) and published Caterpillar Inc. (CAT) equipment productivity data from the Caterpillar Performance Handbook Edition 35.

The SRCE file was set up to assume average equipment and operator job efficiencies. SRCE also provides the option to downgrade or upgrade job efficiencies to consider equipment condition. Given this estimate is for a default scenario where contractor/rental equipment will be mobilized, the equipment condition is considered average to new.

RS Means

Relevant files/sheets:

- *SRCE "Fleets (Crews)" sheet*
- *SRCE "Misc. Unit Costs" sheet*

SRCE utilizes fleet and crew composition and crew productivities data from the RS Means Heavy Construction Cost Data, 2005. These data are combined with the unit costs for labor, equipment, and materials that have been input in the cost data file described in Section 3.2 to calculate site-specific costs for select activities (for example, pipe installation, pipe removal, fence removal, etc.).

3.2 Cost Data File

Relevant files/sheets:

- *Cost data file "Labor Rates" sheet*

- *SRCE "Labor Rates" sheet*
- *Cost data file "Equipment Costs" sheet*
- *SRCE "Equipment Costs" sheet*
- *Cost data file "Reclamation Material Costs" sheet*
- *SRCE "Material Costs" sheet*
- *Cost data file "Misc. Unit Costs" sheet*
- *SRCE "Misc. Unit Costs" sheet*
- *SRCE "Fleets (Crews)" sheet.*

The cost data file is where the site-specific costs for labor, equipment, and material unit rates and unit costs are entered (Attachment A). The cost data file is then imported into the SRCE to populate the "Labor Rates", "Equipment Costs", "Material Costs", and "Misc. Unit Costs" sheets.

3.3 Indirects

Relevant files/sheets:

- *Cost data file "Indirect Costs" sheet*
- *SRCE "Cost Summary" sheet*

Indirect costs are those that are defined percentages of the direct cost or the subtotal labor, equipment, or materials components thereof.

The indirects used in this estimate are based on the "Draft Mine Closure and Reclamation Cost Estimation Guidelines: Indirect Cost Categories" (DOWL 2015) and are outlined below:

1. Engineering, Design and Construction (ED&C) Plan (4% of direct costs)
2. Contingency (4% of direct costs)
3. Insurance (1.5% of labor costs)
4. Performance Bond (3% of direct costs)
5. Contractor Profit (10% of direct costs)
6. Contract Administration (6% of direct costs).

4 Labor, Equipment, and Materials Rates and/or Costs

The labor rates are consistent with those reviewed by DGLLC, the Alaska Department of Environmental Conservation (ADEC), and ADNR in January 2016 but have been updated using the Alaska Division Labor Standards and Safety Pamphlet 600 dated September 2017. For labor categories not included in Pamphlet 600 (management and technical), costs were estimated from Salary.com.

Equipment costs were updated with new quotes from equipment rental companies. Material unit costs were updated using the consumer price index for Alaska available from www.laborstats.alaska.gov. The final revision of this Phased Bond Estimate Basis of Cost and closure cost estimates for Premature Closure (Attachment C) and LOM (Attachment D) will utilize rates and unit costs updated for the year when the permits and authorizations are finalized.

4.1 Labor

Relevant files/sheets:

- *Cost data file "Labor Rates" sheet*
- *SRCE "Labor Rates" sheet*
- *SRCE "User 10" sheet - Long Term Monitoring Costs*
- *SRCE "User 17" sheet – RS Means Crews*
- *SRCE "User 5" sheet – Equipment Mobilization*

The cost estimate assumes default and the management of reclamation and closure by the State which is required to use prevailing wage employees. A prevailing wage is a rate of pay determined by government authorities to be the norm in a particular geographic area for a given class of labor and type of project. Prevailing wage determinations are made using local data and are equivalent to union rates in most areas.

Labor costs for laborers and equipment operators were obtained from the Laborers' & Mechanics' Minimum Rates of Pay in Pamphlet 600, September 2017 from the Alaska Department of Labor and Workforce Development Division of Labor Standards and Safety. Salaried personnel rates have been obtained from other public-domain publications, including, InfoMine USA, Inc. (InfoMine) and Salary.com web published surveys. The sources and buildup of labor costs are presented in Attachment B.

Given the site's remoteness, laborers will work rotating shifts to accomplish reclamation project targets. Equipment operators and laborers will work two-week rotations with 12-hour shifts. Overtime compensation will follow State and Federal overtime laws which states any work over 8 hours in a day and 40 hours in a week is paid at 1.5 times the normal rate of pay.

Weighted average hourly rates were built up by calculating a straight time rate including taxes and benefits plus an overtime rate with only applicable taxes and benefits included and multiplying these rates by the applicable hours for each rotation divided by the total hours per rotation.

The total hourly rate is comprised of the base hourly rate plus health and welfare, pension, training, labor/management fund, Legal and Safety and/or the industry advancement fund (benefits). The total hourly rate for straight time is the sum of the total hourly rate and the sum of benefits.

The total hourly rate for overtime work is the base hourly rate multiplied by 1.5 plus the sum of only the benefits that are applied to the overtime rate (Labor/Management Fund, Legal Fund and Safety Fund). Because of this calculation the total hourly rate for overtime work is less than the total hourly rate for straight time work.

To calculate the average hourly rate, the straight time calculated rate (hourly plus applicable fringe) is multiplied by the straight hours per shift and the overtime calculated rate (hourly plus applicable fringe) is multiplied by the overtime hours per shift. The sum of these is then divided by the total hours per shift.

The calculations for each labor category are shown in Donlin_LaborBuildup_181202_017_pl_rev01 (Attachment A).

The reclamation cost estimate also requires some salaried positions for management and technical staff for conduct of specialized tasks (engineering, sampling etc.). SRK assumed salaried staff will work 2080 hours per year. The salaried staff hourly costs were collected from Salary.com for

Anchorage, Alaska locations. Benefit amounts were collected from the 2016 InfoMine salary survey and applied to the Salary.com salaries. The results of the calculations and screenshots of data collected from Salary.com are provided in Attachment A.

4.2 Equipment

Relevant files/sheets:

- *Cost data file "Equipment Rates" sheet*
- *SRCE "Equipment Rates" sheet*

4.2.1 Monthly Rental Rates

Equipment monthly rental rates were obtained from 2017 quotes from Backfill Inc. and CMI Rental. The worksheet used to develop these rates is included in Attachment B. Where rental quotes were not available data was used from NDEP published quotes from CAT equipment in 2016. Nevada costs were adjusted to Anchorage Alaska using the location factors from RS Means 2017.

When the cost data file is loaded into the SRCE file, the program uses the monthly rental basis (operating hours per period), rental rate, fuel burn rates, maintenance costs, tire costs and Ground Engaging Tool (G.E.T) costs to derive an hourly rental cost for each piece of equipment ("Equipment Costs" sheet).

4.2.2 Preventative Maintenance Costs

Hourly preventative maintenance costs are input into the cost data file and the SRCE reflects these in the "PM Cost per Hour" column of the "Fuel, Lube and Wear Calculations" table in the "Equipment Costs" sheet. From there, it is included in the "Fuel/Lube/Wear" column of the "Equipment Rental Rate Table" (Attachment B).

Public domain data (Cashman Rental equipment rates from the standard cost data file published by the NDEP) are used for preventative maintenance costs. These costs were adjusted for Anchorage using the locations factors from RS Means 2017.

4.2.3 Ground Engaging Tools Consumption

Hourly ground engaging tools consumption costs are input into the cost data file and the SRCE reflects these in the "G.E.T. Consumption" column of the "Fuel, Lube and Wear Calculations" table in the "Equipment Costs" sheet. From there, it is included in the "Fuel/Lube/Wear" column of the "Equipment Rental Rate Table" (Attachment B).

Public domain data (Cashman Rental equipment rates from the standard cost data file published by the NDEP) are used for ground engaging tools consumption costs. These costs were adjusted for Anchorage using the locations factors from RS Means 2017.

4.2.4 Tire Costs

Costs per tire for each type of equipment are input in the cost data file. When the cost data file is loaded to the SRCE, these costs are reflected in the "Tire Cost" column of the "Tire Cost Table" in the "Equipment Costs" sheet. Each tire has a life expectancy (see "Life Expectancy Hours" column) per the Caterpillar Handbook Edition 35. When loaded into the SRCE from the cost data file, Tire cost per hour is calculated and carried over to the "Undercarriage or Tires" column of the "Fuel, Lube and Wear

Calculations" table in the "Equipment Costs" sheet. This is rolled into the "Fuel/Lube/Wear" column of the "Equipment Rental Rate Table" (Attachment B).

Public domain data (Cashman Rental equipment rates from the standard cost data file published by the NDEP) are used for tire costs. It is assumed tires will be purchased in Seattle. These costs were adjusted for Seattle using the location factors from RS Means 2017.

4.2.5 Fuel Consumption

The "Fuel, Lube and Wear Calculations" table in the SRCE includes fuel use rates per type of equipment as obtained from the CAT Handbook Edition 35. These utilize the fuel costs entered into the model to estimate the cost of fuel consumed per hour for each piece of equipment. These are then rolled into the "Fuel/Lube/Wear" column of the "Equipment Rental Rate Table" (Attachment B).

4.2.6 Total Equipment Hourly Rate

The total equipment hourly rate is a sum of monthly rental rates, preventative maintenance costs, ground engaging tools consumption costs, tire costs, and fuel consumption costs.

4.3 Materials

Relevant files/sheets:

- *Cost data file "Reclamation Material Costs" sheet*
- *SRCE "Material Costs" sheet*
- *Cost data file "Misc. Unit Costs" sheet*
- *SRCE "Misc. Unit Costs" sheet.*

4.3.1 Seed Mix

Separate seed mix quotes have been obtained for hydric and mesic. The seed mix used for most the site is mesic, while hydric is used on the TSF.

4.3.2 Fertilizer

DGLLC does not currently anticipate that fertilizer will be required or desirable for establishing a permanent perennial cover. However, for reclamation cost estimating purposes, DGLLC has assumed some level of soil amendment will be required during reclamation. A cost for chemical amendment is included in all seeding activities. The cost is based on the NDEP approved costs for chemical amendment used for reclamation bonding cost estimate purposes. This cost is adjusted for Anchorage using the location factors from RS Means 2017.

4.3.3 Fuel

Fuel costs are for off-road diesel delivered to site. Fuel costs are input in the "Reclamation Material Costs" sheet in the cost data file. Fuel costs were obtained by DGLLC in 2011 and were inflated to 2016 costs using Anchorage Consumer Price Indexes available on www.laborstats.alaska.gov. These calculations are provided in Attachment A.

4.3.4 Lab Analysis Costs

Alaska laboratory analysis rates were taken from Alpha Labs and SGS North America quotes collected in 2017.

5 Premature Closure (Mine Year 3) Reclamation and Closure Activities

Premature Closure assumes the mine has been operating for four years of construction and three years of mining/processing and all operations are halted. Following the cessation of mining there will be a 2-year holding period followed by physical reclamation activities. The closure estimate assumes a default by the operator at the mine and that closure will be executed by the State of Alaska under direction of ADNR.

5.1 Exploration Disturbance

Exploration disturbance is considered under separate cover.

5.2 Waste Rock Facility

Basis:

- *Reclamation Plan Section 4.8.3*

Relevant files/sheets:

- *SRCE "Waste Rock Dumps" sheet*

Waste rock will be dumped in multiple-bench lifts with sufficient setback on each bench to allow for regrading of each lift. The WRF will have an average angle of repose of 1.4H:1V at closure and will be regraded to an overall 3H:1V slope.

For this phase of the project, owing to material balances, cover and growth media will be sourced from the stockpiles near the TSF.

5.3 Ore Stockpile(s)

Relevant files/sheets:

- *SRCE "Waste Rock Dumps" sheet*

For this scenario, it is assumed that unprocessed ore will be present. Therefore, any ore stockpiles will be reclaimed using the methods as described in Section 5.2 for the WRF.

5.4 Tailings Storage Facility

Basis:

- *Reclamation Plan Section 4.8.4*

Relevant files/sheets:

- *SRCE "Tailings" sheet*
- *SRCE "Solution Mgmt" sheet*

- *SRCE "Other User" sheet*
- *SRCE "User 11" sheet – Tailings Geotextile*
- *SRCE "User 18" sheet – List of References*
- *SRCE "Haul Material" sheet*
- *SRCE "Misc. Costs" sheet.*

By Operational Year 3, the TSF pond (supernatant water collected on the tailings surface) will be located in the north-middle of the TSF. TSF closure activities will comprise the following activities:

- TSF ponded water will be pumped to the Water Treatment Plant (WTP).
- Over a period of two seasons, a dredging operation will create a channel from the low point of the TSF surface to the spillway location on the north end of the tailings embankment.
- Tailings surface will be covered coincident with pumping as exposed surface areas become available and consolidated.
- A spillway will be constructed by blasting through native rock adjacent to the north end of the embankment to direct non-contact tailings surface run-off to Anaconda Creek once the TSF cover is complete.

The TSF closure under the default Premature Closure scenario differs from the LOM assumption that tailings deposition will be modified late in the mine operating life to direct the operating pond toward the southeast corner of the TSF with the tailings surface runoff being directed to the closure spillway into Crevice Creek.

Dredging costs are included ("*Other User*" sheet) and detailed in "*User 11*" sheet. The costs include capital expenditures (Capex) and operational expenditures (Opex) of dredging equipment, piping, floats, and boosters.

After removal of the TSF pond, the following activities will be undertaken to complete the TSF cover:

1. Geogrid/geotextile will be placed on the TSF to create a series of "causeways" to facilitate construction of the closure cover" ("*Other User*" and "*User 11*" sheets).
2. One meter of Non-acid generating (NAG) rock will be placed as a trafficability later ("Haul Material" sheet).
3. One meter of NAG rock will be placed as a capillary break layer ("*Haul Material" sheet*).
4. One third meter of terrace gravel will be placed ("Tailings." Sheet).
5. One third meter of growth media to facilitate revegetation ("Tailings." sheet).

The Tailings Line and TSF Reclaim Water Line will be removed ("*Misc. Costs" sheet*). For further discussion on solution management related to the TSF, Section 5.5.

5.5 Solution Management

Basis:

- *Reclamation Plan Section 4.8.3*
- *Reclamation Plan Section 4.8.4*

Relevant files/sheets:

- *SRCE "Solution Mgmt" sheet*

- *SRCE "Other User" sheet*
- *SRCE "User 18" sheet – References.*
- *SRCE "Human Resources" sheet.*

For this phase of the project, the following are the two streams of water management:

- TSF pond water pumped to the WTP. Treatment is high density sludge (HDS) pretreatment using re-configured clarifiers in the process plant combined with the existing reverse osmosis (RO) plant. Brine is sent back to the TSF pond and sludge is sent to the bottom of the pit. Water treatment will be year-around during the physical closure phase.
- Water from the SRS and the part of the American Creek drainage is sent to the pit. It is assumed that approximately 75% of the runoff from un-impacted areas of the American Creek drainage can be diverted around the pit and discharged into Crooked Creek.

After physical closure is complete the pit will continue to act as a groundwater sink, collect surface water from impacted areas and approximately 25% of the un-impacted areas of the American Creek drainage, and water pumped from the SRS. Consolidation water that is collected in the TSF overdrain is also pumped to the pit. It is assumed surface water runoff from the TSF cover will meet water quality standards and can be discharged without treatment. No water treatment takes place while the pit lake is filling.

After the pit lake fills to the managed level, predicted to be the fourth year after physical closure is complete, the water from the pit will be pumped to the WTP plant during summer months. The pit lake will continue to act as a groundwater sink while maintained at the managed level. The pit lake is stratified and relatively clean near-surface water will be meet water quality standards using HDS treatment. The sludge from the water treatment plant will be sent to the bottom of the pit.

A solution management crew is provided for in the "*Human Resources" sheet*. Crews consist of three laborers and a supervisor. Four crews will work 12-hour shifts, one on night and one on day. The crew will provide 24/7 coverage 365 days per year by working for 2-weeks on and 2-weeks off rotating with the other two crews

5.6 Roads

Basis:

- *Reclamation Plan Section 4.8.1*

Relevant files/sheets:

- *SRCE "Roads" sheet*

Most of the proposed mine site roads will be reclaimed. The 30-mile (48 km) Jungjuk Port access road to the mine site will be required for annual WTP reagent deliveries, bulk fuel, provisions for the WTP crew, and long-term monitoring of the project site. The access road will remain into the foreseeable future following mine closure.

On-site roads not required for long-term monitoring will be ripped, as necessary, to eliminate the effects of compaction, recontoured to blend with the original topography, covered with a layer of growth media, and reseeded to meet the general reclamation standards. Berms, side-cast material, and road drainage ditches will be reclaimed in this process. Compacted road and parking surfaces will be ripped prior to regrading.

5.7 Pits

Basis:

- *Reclamation Plan Section 4.8.1*

Relevant files/sheets:

- *SRCE "Pits"*
- *SRCE "Solution Mgmt"*

Berms will be constructed around the pits. They will be located far enough from the highwalls to prevent damage in the event of highwall failure. Berms will be constructed by dozing nearby materials into a berm that will be 2 m high.

5.8 Building Demolition

Basis:

- *Reclamation Plan Section 4.8.5*
- *Reclamation Plan Section 4.8.7*

Relevant files/sheets:

- *SRCE "Foundations and Buildings" sheet*
- *SRCE "Solution Mgmt" sheet*

All surface facilities and structures will be removed, including all buildings and ancillary facilities that will no longer be used after operations cease. Any facilities or corridors that could serve a beneficial future use as identified in the designated post-mining land use may remain in place following mining, upon approval by the land owner.

For the purposes of this bond cost estimate, these facilities are assumed to be dismantled and removed. The foundations will be broken and buried. Non-hazardous demolition debris will be placed in the inert solid waste landfill located in the WRF or used to fill subsurface voids exposed during the demolition of surface facilities. The resulting surface of any voids filled with construction debris will be shaped to reduce ponding, covered with approximately 1 foot (30.5 cm) of cover, and revegetated in the same manner as the WRF.

5.9 Other Demolition and Equipment Removal

Relevant files/sheets:

- *SRCE "Other Demolition and Equipment Removal" sheet*
- *SRCE "Other User" sheet*
- *SRCE "User 2" sheet – Bulk Fuel Tank Demolition*
- *SRCE "User 4" sheet – Misc. Tank Demolition*
- *SRCE "User 7" sheet – Sheet Piling Demolition*

The estimate includes costs to demolish the bulk fuel storage tanks. Tanks will be rinsed prior to demolition and a shear used to cut them into manageable sized pieces. The cleaned and cut pieces will be hauled to the WRF for disposal and covered.

Vendor owned reagent tanks will be removed by the vendors. Other miscellaneous reagent storage tanks will be prepared and disposed in the same process described above for bulk fuel tanks.

Sheet piling used to construct the Jung Port facility will be removed with a crane and hauled to the WRF for burial.

The mining equipment fleet at the end of the first three years of operation will be nearly new and have significant value. No credit is taken for selling this equipment but it is assumed that there is sufficient remaining value to offset the cost to haul the equipment offsite. No additional costs associated with equipment removal are included in the SRCE.

5.10 Sediment and Drainage Control

Basis:

- *Reclamation Plan Section 4.8.8*

Relevant files/sheets:

- *SRCE "Sediment & Drainage Control" sheet*
- *SRCE "Other User" sheet*
- *SRCE "Haul Materials" sheet*

Diversion channels are required during the closure and post closure periods to collect and convey runoff from the surface of the reclaimed WRF to the LCWD or pit lake that will be developed in the open pit, and to collect and convey runoff from the reclaimed TSF cover to a central collection point (BGC 2011).

Costs to construct the channels are located in the Sediment and Drainage Control sheet. Liner and rip-rap haulage and installation costs are located in the Other User sheet and the Haul Materials sheet.

5.11 Ponds and Dams

Basis:

- *Reclamation Plan Section 4.8.7*

Relevant files/sheets:

- *SRCE "Process Ponds" sheet*
- *SRCE "Haul Materials" sheet*

The costs for breaching and backfilling the UCWD Pond and the Snow Gulch Fresh Water Dam are included in "*Haul Materials*."

The LCWD will remain during the post-closure period (Years 15-213) to collect WRF underdrain seepage water prior to being directed to the pit.

5.12 Yards

Basis:

- *Reclamation Plan Section 4.8.6*
- *Reclamation Plan Section 4.8.1*

Relevant files/sheets:

- *SRCE "Yards" sheet*

Most yard areas (plant site, administrative area, etc.) will be scarified (if required), covered with growth media, and revegetated.

Given the material in the growth media stockpiles will be spent, only their footprint will require reclamation.

This estimate assumes that some regrading of the building pads and flat yard areas will be required. It is assumed that 5,000 m^3/ha, or moving volumes of earth at an average thickness of 0.5 m over an area of one hectare will be required.

The airstrip and Jungjuk port will remain as long-term assets; therefore, reclamation costs are not estimated.

5.13 Waste Disposal

Basis:

- *Reclamation Plan Section 4.8.7*

Relevant files/sheets:

- *SRCE "Waste Disposal" sheet*
- *SRCE "Other User" sheet*

Hazardous and toxic materials, such as reagents, petroleum products, acids, and solvents, will be transferred off site by licensed transporters and either returned to the vendor or disposed of at licensed treatment, storage and disposal facilities.

Hydrocarbon-contaminated soils will be treated onsite and disposed in the WRF.A depth of one meter is assumed for excavation of hydrocarbon-contaminated soils. For the purposes of this cost estimate, the areas of contamination are calculated as length of the facility with a width and a depth of up to one meter for area of potential contamination.

The areas with potential contamination include:

- Ready line
- Truck Shop
- Power Plant
- Fuel Storage
- Port Fuel Storage.

"*User 3*" includes the estimate for disposal of miscellaneous hazardous wastes such as mercury contaminated carbon, autoclave lead waste – bricks, mortar, safety gear, etc. – backing, and assay lab lead waste. It is assumed they will be transported from the mine to Jungjuk port, loaded on a barge and transported to Seattle, where it will be handled for disposal.

The "*Other User*" sheet includes an estimate of bag house dust disposal. The cost is estimated to be a one-time lump sum of $20,000.

Removal of non-hazardous demolition debris is discussed in Section 5.8.

5.14 Well Abandonment

Basis:

- *Reclamation Plan Section 4.8.7*

Relevant files/sheets:

- *SRCE "Well Abandonment" sheet*

Production and monitoring well construction details are entered into the "Well Abandonment" sheet. The details of these wells are estimated/assumed at this time because they have not been installed yet. In summary, the SRCE contains cost provision for 20 production wells and 50 monitoring wells with an assumed average depth around 200 feet.

5.15 Other Linear Facilities

5.15.1 Surface Pipe Removal

Relevant files/sheets:

- *SRCE "Misc. Costs" sheet*
- *SRCE "Misc. Unit Costs" sheet*

At closure, the Tailings Line and TSF Reclaim Water Line will be removed.

5.15.2 Powerlines and Substations/Transformers

Basis:

- *Reclamation Plan Section 4.8.7*

Relevant files/sheets:

- *SRCE "Misc. Costs" sheet*
- *SRCE "Misc. Unit Costs" sheet*

For the purposes of this cost estimate, all powerlines are assumed removed.

5.16 Monitoring

Relevant files/sheets:

- *SRCE "Monitoring" sheet*
- SRCE "User 10" – Long Term Monitoring

Monitoring will include petroleum hydrocarbons in soils and full toxicity characteristic leaching procedure (TCLP) analysis on fifty samples each during closure. These will be used to characterize soils and verify cleanup of areas impacted by hydrocarbons.

Additionally, water samples will be collected and analyzed quarterly for the active closure period of 5 years. Following that water samples will be collected annually for the post closure period up to 200 years. The number of samples per event are estimated to be 7-10. The sampling schedule is shown in "User 10" and the "Monitoring" sheet.

5.17 Construction Management

Relevant files/sheets:

- *SRCE "Construction Management" sheet*
- *SRCE "Human Resources" sheet*

Construction management will consist of supervision of reclamation and road maintenance during active reclamation. It is estimated that active reclamation will be completed over five years. Supervisors will be present full-time to oversee activities and road maintenance will be carried out with a water truck and graders.

Also involved in the management of the reclamation and closure activities will be an environmental engineer and environmental technicians ("*Human Resources*" *sheet*).

Post-closure maintenance will include annual work on the main access road and the airport. Costs and assumptions for this activity are included in "User 1" sheet.

5.18 Mobilization-Demobilization

Relevant files/sheets:

- *SRCE "Other User" sheet*
- *SRCE "User 5" sheet*

"*User 5*" provides a summary of the types of equipment that will be used in reclamation activities and estimates the cost of assembly and disassembly, barging costs as well as equipment rental time during barging, and unloading and mobilization to site.

5.19 Human Resources, General and Administration

Relevant files/sheets:

- *SRCE "Human Resources" sheet*
- *SRCE "Other User" sheet*
- *SRCE "User 8" sheet – Camp Costs*
- *SRCE "User 9" sheet – Manpower Estimate*

Costs for an environmental engineer and environmental technicians are included in the "Human Resources" sheet. The work schedule is outlined in the referenced sheet.

A solution management crew is also included in the "Human Resources" sheet. This crew is responsible for maintaining the pumping and water treatment plans over the holding, closure and post-closure periods.

The closure crew size is estimated in "User 9" This sheet provides a summary of hours worked for all fleets in the earthmoving sheets of the SRCE (waste rock dumps, tailings, roads, pits, material haulage, buildings, yards, etc.) and estimates the total man-hours required to close the site. The total man-hours are then used to estimate the number of operators on site as well as other crews that would require camp and transportation services.

Costs related to camp and transportation for the crews are calculated in “User 8” and summarized in the “Other User”.

6 Life of Mine Closure Cost Estimate

The LOM closure cost estimate provides the estimated cost to close and reclaim the mine at the end of the planned mine life. This assumes all mine facilities are built out to their planned limits. The unit rates (equipment, labor and materials) are the same as those used for the Premature Closure described above.

The below headings address the differences between the two estimates.

6.1 Solution Management – Pumping Rates

Relevant files/sheets:

- *SRCE “Solution Management” sheet*
- *SRCE “Human Resources”*
- *SRCE “User 12” – Water Treatment Schedule*

The LOM pumping cost estimates are based on assumptions outlined in the “*User 12*” sheet and the “Solution Management” sheet. The basic assumptions for pumping include;

- Closure years 1-51, TSF and TSF-SRS are directed to the ACMA Pit.
- Closure years 52 to 220, ACMA Pit water is directed to the water treatment plant.

6.2 Solution Management – Treatment

Relevant files/sheets:

- *SRCE “Other User” sheet*
- *SRCE “Solution Management” sheet*
- *SRCE “Human Resources”*

At the end of operations in the LOM, long-term treatment will not be required until approximately 50 years after closure. The solution management crews required will be those to manage the various pumping activities on site during the physical closure period. Subsequently, water from the Pit will be directed to the water treatment plant where it will be treated for the long-term closure period to 220 years. Treatment costs are entered in the “Other User” sheet.

6.3 *Other User – User 1* and *User 6*

Relevant files/sheets:

- *LOM SRCE “User 1” sheet*
- *LOM SRCE “User 6” sheet*

The mining fleet at LOM will have little useful life left and probably not retain enough value to offset the cost to transport to Anchorage for sale. The fleet will have all fluids drained and be disposed in the WRF. All fluids will be transported to Seattle for proper disposal. Costs to carry out this work are estimated in the *“User 1*” and “*User 6*” sheets.

6.4 *Other User* – Spillway

Relevant files/sheets:

- *SRCE "Other User" sheet*
- *SRCE "Sediment & Drainage Control" sheet*

A spillway will be constructed to the southeast of the covered TSF to allow for post-closure (non-contact) water flow from the TSF into the nearby Crevice Creek drainage. Costs to carry out this work are calculated in the sheets referenced above.

6.5 *Other User* – TSF Causeway Liner (Heavy biaxial geogrid)

Relevant files/sheets:

- *SRCE "Other User" sheet*
- *SRCE "User 11" sheet – Geotextile Assumptions*

Trafficking on the TSF surface with haul trucks to place cover will likely require the use of causeways constructed over a geotextile liner. Causeways will be constructed at intervals across the TSF surface and cover will be pushed between them with dozers. Areas between the causeways will not require liner. The assumptions and costs for this work are outlined in "User 11" and summarized costs are entered in the "Other User" sheet.

6.6 *Other User* – Closure Crew Camp and Transportation Costs

Relevant files/sheets:

- *SRCE "User 8" sheet*
- *SRCE "User 9" sheet*
- *SRCE "Other User" sheet*

The closure crew size is estimated in "User 9" This sheet provides a summary of hours worked for all fleets in the earthmoving sheets of the SRCE (waste rock dumps, tailings, roads, pits, material haulage, buildings, yards, etc.) and estimates the total man-hours required to close the site. The total man-hours are then used to estimate the number of operators on site as well as other crews that would require camp and transportation services.

Costs related to camp and transportation for the crews are calculated in "User 8" and summarized in the "Other User".

6.7 Wells

Relevant files/sheets:

- *SRCE "Well Abandonment" sheet*

Production and monitoring well construction details are entered into the "Well Abandonment" sheet. The details of these wells are estimated/assumed at this time because they have not been installed yet. In summary, the SRCE contains cost provision for 20 production wells and 50 monitoring wells with an assumed average depth around 200 feet.

6.8 Monitoring

6.8.1 Revegetation Maintenance

Relevant files/sheets:

- *SRCE "Monitoring" sheet*

The Revegetation Maintenance entry in the sheet is a cost provision for re-applying the reclamation seed mix to disturbed areas where the initial seeding was not successful. The entry is a percentage. An assumed value of 10% was selected. The SRCE calculates the total area requiring seeding and calculates a cost to seed 10% of that a second time.

6.8.2 Erosion Maintenance

Relevant files/sheets:

- *SRCE "Monitoring" sheet*

The Erosion Maintenance entry in the sheet is a cost provision for re-applying growth media to disturbed areas where the initial cover may have been eroded away or otherwise need to be placed again. The entry is a percentage. An assumed value of 5% was selected. The SRCE calculates the total volume of growth media applied in the model and calculates a cost to place 5% of that a second time.

All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

7 References

Alaska Department of Labor and Workforce Development (DOLWD). 2017. Laborers' & Mechanics' Minimum Rates of Pay Title 36. Public Contracts AS 36.05 & AS 36.10 Wage & Hour Administration Pamphlet No. 600 Effective September 1, 2017 Issue 29 Department of Labor and Workforce. http://labor.alaska.gov/lss/forms/pamp600-090117.pdf

BGC Engineering, Inc. 2011. Donlin Creek Gold Project, Feasibility Study Update 2, Waste Rock Facility Design-Final Report

DOWL. 2015. Mine Closure and Reclamation Cost Estimation Guidelines: Indirect Cost Categories http://dnr.alaska.gov/mlw/mining/largemine/rcindirects_dowlreport20150407.pdf

Attachments

Attachment A: Cost Data File

Format Version:	***SRCE Data File v1.12***
File Name:	***Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm***
Date:	***May 10, 2017***
Cost Type:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_181202_017_pl_rev04.xlsx***

Units of Measure:	**Metric**

No. of Bases/Regions:	1

Basis/Region	Basis/Region Name	Basis/Region Description
Basis 1	***Alaska Davis Bacon 2016***	Pamphlet 600 Sept. 2016, 2017 Equip. Rental Quotes
Basis 2		
Basis 3		
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:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				

MONTHLY EQUIPMENT RATE TABLE [Cost Per Month] (1)

EQUIPMENT TYPE (2)	Basis 1	Basis 2	Basis 3	Basis 4	Basis 5
	Alaska Davis Bacon 2016				
Bulldozers					
D6R	$20,300				
D6R w/ Winch	$20,300				
D7R	$20,300				
D8R					
D9R	$52,500				
D10R	$52,500				
D11R	$70,000				
Wheeled Dozers					
824G					
834G					
844					
854G					
Motor Graders					
120H					
14G/H					
16G/H	$31,500				
24M					
Track Excavators					
312C					

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				
320C					
325C	$12,530				
330C					
345B	$22,540				
365BL					
385BL	$43,680				
Scrapers					
631G					
637G PP					
Wheeled Loaders					
924G					
928G	$5,810				
950G					
966G	$23,310				
972G					
980G	$23,310				
988G					
990					
992G	$80,500				
994D	$183,606				
L-2350					
Shovels					
KOM PC2000					
KOM PC3000					
KOM PC4000					
KOM PC5500					

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				

KOM PC8000					
Hydraulic Hammers					
H-120 (fits 325)					
H-160 (fits 345)	$22,540				
H-180 (fits 365/385)	$27,048				
Demolition Shears					
S340 (fits 322/325/330)					
S365 (fits 330/345)	$22,500				
S390 (fits 365/385)					
Demolition Grapples					
G315 (fits 322/325)					
G320 (fits 325/330)					
G330 (fits 345/365)					
Other Equipment					
420D 4WD Backhoe	$4,900				
428D 4WD Backhoe	$4,900				
CS533E Vibratory Roller	$14,844				
CS663E Vibratory Roller					
CP533E Sheepsfoot Compactor	$14,844				
CP663E Sheepsfoot Compactor	$14,844				
Light Truck - 1.5 Ton	$3,290				
Supervisor's Truck	$3,290				
Flatbed Truck	$3,290				
Air Compressor + tools	$2,250				
Welding Equipment	$5,951				

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				

Heavy Duty Drill Rig	$116,038				

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				

Pump (plugging) Drill Rig	$116,038				
Concrete Pump	$29,563				
Gas Engine Vibrator	$1,279				
Generator 5KW	$1,871				
HDEP Welder (pipe or liner)	$15,280				
5 Ton Crane	$11,349				
20 Ton Crane	$13,300				
50 Ton Crane	$20,440				
120 Ton Crane	$39,340				
Trucks					
725 (articulated)	$28,510				
730 (articulated)					
735 (articulated)					
740 (articulated)					
769D					
773E					
777D	$58,100				
785C					
793C					
797B					
613E (5,000 gal) Water Wagon	$5,523				
621E (8,000 gal) Water Wagon	$20,907				
777D Water Truck	$58,100				
785C Water Truck					
Dump Truck (10-12 yd^3) (5)	$6,300				

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				

NOTES:

(1) Power Equipment Source:	Various quotes. See Donlin_equipment Materials Cost Buildup_181202017_pl_REV01.xlsx				
(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	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels
(3) Drilliing Equipment Source:	Nevada Costs				
(4) Other Equipment Source:	Various quotes. See Donlin_equipment Materials Cost Buildup_181202017_pl_REV01.xlsx				

PREVENTATIVE MAINTENANCE COST [Cost Per Hour] (1)

EQUIPMENT TYPE	Basis 1	Basis 2	Basis 3	Basis 4	Basis 5
	Bacon 2016				
Bulldozers					
D6R	$6.00				
D6R w/ Winch	$6.00				
D7R	$6.00				
D8R	$6.00				
D9R	$8.00				
D10R	$11.00				

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				

D11R	$14.00				
Wheeled Dozers					
824G					
834G					
844					
854G					
Motor Graders					
120H	$7.00				
14G/H	$8.00				
16G/H	$6.00				
24M					
Track Excavators					
312C	$4.00				
320C	$5.00				
325C	$5.00				
330C	$6.00				
345B	$6.00				
365BL					
385BL	$7.00				

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				
Scrapers					
631G					
637G PP					
Wheeled Loaders					
924G	$4.00				
928G	$5.00				
950G	$5.00				
966G	$7.00				
972G	$6.00				
980G	$6.00				
988G	$11.00				
990					
992G	$13.00				
994D					
L-2350					
Shovels					
KOM PC2000					
KOM PC3000					
KOM PC4000					
KOM PC5500					
KOM PC8000					
Hydraulic Hammers					
H-120 (fits 325)	N/A	N/A	N/A	N/A	N/A
H-160 (fits 345)	N/A	N/A	N/A	N/A	N/A
H-180 (fits 365/385)	N/A	N/A	N/A	N/A	N/A

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				
Demolition Shears					
S340 (fits 322/325/330)	N/A	N/A	N/A	N/A	N/A
S365 (fits 330/345)	N/A	N/A	N/A	N/A	N/A
S390 (fits 365/385)	N/A	N/A	N/A	N/A	N/A
Demolition Grapples					
G315 (fits 322/325)	N/A	N/A	N/A	N/A	N/A
G320 (fits 325/330)	N/A	N/A	N/A	N/A	N/A
G330 (fits 345/365)	N/A	N/A	N/A	N/A	N/A
Other Equipment					
420D 4WD Backhoe	$4.00				
428D 4WD Backhoe	$4.00				
CS533E Vibratory Roller					
CS663E Vibratory Roller					
CP533E Sheepsfoot Compactor					
CP663E Sheepsfoot Compactor					
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)					

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				
5 Ton Crane					
20 Ton Crane					
50 Ton Crane					
120 Ton Crane					
Trucks					
725 (articulated)	$8.00				
730 (articulated)	$8.00				
735 (articulated)	$8.00				
740 (articulated)	$8.00				
769D	$9.00				
773E	$8.00				
777D	$11.00				
785C					

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				

793C					
797B					
613E (5,000 gal) Water Wagon	$7.00				
621E (8,000 gal) Water Wagon	$8.00				
777D Water Truck	$11.00				
785C Water Truck					
Dump Truck (10-12 yd3) (5)	$8.00				

(1) PM Source:	July 2012 Cashman Equipment Rental Rate, Elko, NV (except as noted)				

G.E.T CONSUMPTION [Cost Per Hour] (1) (Wear Items)

EQUIPMENT TYPE	Basis 1	Basis 2	Basis 3	Basis 4	Basis 5
	Alaska Davis				
Bulldozers					
D6R	$6.00				
D6R w/ Winch	$6.00				
D7R	$6.00				
D8R	$11.00				
D9R	$17.00				
D10R	$23.00				
D11R	$35.00				
Wheeled Dozers					

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				
824G					
834G					
844					
854G					
Motor Graders					
120H	$12.00				
14G/H	$17.00				
16G/H	$23.00				
24M					
Track Excavators					
312C	$4.00				
320C	$5.00				
325C	$6.00				
330C	$7.00				
345B	$7.00				
365BL					
385BL	$15.00				
Scrapers					
631G					
637G PP					
Wheeled Loaders					
924G	$5.00				
928G	$5.00				
950G	$9.00				
966G	$12.00				

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				

972G	$15.00				
980G	$15.00				
988G	$16.00				
990					
992G	$36.00				
994D					
L-2350					
Shovels					
KOM PC2000					
KOM PC3000					
KOM PC4000					
KOM PC5500					
KOM PC8000					
Hydraulic Hammers					
H-120 (fits 325)	$6.00				
H-160 (fits 345)	$12.00				
H-180 (fits 365/385)	$14.00				
Demolition Shears					
S340 (fits 322/325/330)					
S365 (fits 330/345)	$12.00				
S390 (fits 365/385)					
Demolition Grapples					
G315 (fits 322/325)					
G320 (fits 325/330)					
G330 (fits 345/365)	$30.00				

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				

Other Equipment					
420D 4WD Backhoe	$4.00				
428D 4WD Backhoe	$4.00				
CS533E Vibratory Roller					
CS663E Vibratory Roller					
CP533E Sheepsfoot Compactor					
CP663E Sheepsfoot Compactor					
Light Truck - 1.5 Ton					
Supervisor's Truck					
Flatbed Truck					
Air Compressor + tools	N/A	N/A	N/A	N/A	N/A
Welding Equipment	N/A	N/A	N/A	N/A	N/A
Heavy Duty Drill Rig					
Pump (plugging) Drill Rig					
Concrete Pump	N/A	N/A	N/A	N/A	N/A
Gas Engine Vibrator	N/A	N/A	N/A	N/A	N/A
Generator 5KW	N/A	N/A	N/A	N/A	N/A
HDEP Welder (pipe or liner)	N/A	N/A	N/A	N/A	N/A
5 Ton Crane					
20 Ton Crane					
50 Ton Crane					
120 Ton Crane					
Trucks					
725 (articulated)	$3.00				
730 (articulated)	$3.00				
735 (articulated)	$3.00				

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				
740 (articulated)	$3.00				
769D	$4.00				
773E	$4.00				
777D	$5.00				
785C					
793C					
797B					
613E (5,000 gal) Water Wagon					
621E (8,000 gal) Water Wagon					
777D Water Truck	$5.00				
785C Water Truck					
Dump Truck (10-12 yd3) (5)	$3.00				
Notes: (1) G.E.T. Source:	CAT Historical Data	CAT Historical Data	CAT Historical Data	CAT Historical Data	QLD rates

TIRE COST TABLE [Cost Per Tire(1,2,3)]

EQUIPMENT TYPE	Basis 1	Basis 2	Basis 3	Basis 4	Basis 5
	Alaska Davis				
Bulldozers					
D6R	N/A	N/A	N/A	N/A	N/A
D6R w/ Winch	N/A	N/A	N/A	N/A	N/A
D7R	N/A	N/A	N/A	N/A	N/A
D8R	N/A	N/A	N/A	N/A	N/A
D9R	N/A	N/A	N/A	N/A	N/A
D10R	N/A	N/A	N/A	N/A	N/A

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				
D11R	N/A	N/A	N/A	N/A	N/A
Wheeled Dozers					
824G					
834G					
844					
854G					
Motor Graders					
120H	$1,884.00				
14G/H	$2,959.00				
16G/H	$4,003.00				
24M					
Track Excavators					
312C	N/A	N/A	N/A	N/A	N/A
320C	N/A	N/A	N/A	N/A	N/A
325C	N/A	N/A	N/A	N/A	N/A
330C	N/A	N/A	N/A	N/A	N/A
345B	N/A	N/A	N/A	N/A	N/A
365BL	N/A	N/A	N/A	N/A	N/A
385BL	N/A	N/A	N/A	N/A	N/A
Scrapers					
631G	$8,793.00				
637G PP	$8,793.00				
Wheeled Loaders					
924G	$2,982.00				
928G	$2,982.00				

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				
950G	$4,493.00				
966G	$7,153.00				
972G	$7,153.00				
980G	$7,531.00				
988G	$11,827.00				
990					
992G	$26,371.00				
994D					
L-2350					
Shovels					
KOM PC2000	N/A	N/A	N/A	N/A	N/A
KOM PC3000	N/A	N/A	N/A	N/A	N/A
KOM PC4000	N/A	N/A	N/A	N/A	N/A
KOM PC5500	N/A	N/A	N/A	N/A	N/A
KOM PC8000	N/A	N/A	N/A	N/A	N/A
Hydraulic Hammers					
H-120 (fits 325)	N/A	N/A	N/A	N/A	N/A
H-160 (fits 345)	N/A	N/A	N/A	N/A	N/A
H-180 (fits 365/385)	N/A	N/A	N/A	N/A	N/A
Demolition Shears					
S340 (fits 322/325/330)	N/A	N/A	N/A	N/A	N/A
S365 (fits 330/345)	N/A	N/A	N/A	N/A	N/A
S390 (fits 365/385)	N/A	N/A	N/A	N/A	N/A
Demolition Grapples					
G315 (fits 322/325)	N/A	N/A	N/A	N/A	N/A

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				
G320 (fits 325/330)	N/A	N/A	N/A	N/A	N/A
G330 (fits 345/365)	N/A	N/A	N/A	N/A	N/A
Other Equipment					
420D 4WD Backhoe	$1,023.00				
428D 4WD Backhoe	$1,023.00				
CS533E Vibratory Roller	N/A	N/A	N/A	N/A	N/A
CS663E Vibratory Roller	N/A	N/A	N/A	N/A	N/A
CP533E Sheepsfoot Compactor	N/A	N/A	N/A	N/A	N/A
CP663E Sheepsfoot Compactor	N/A	N/A	N/A	N/A	N/A
Light Truck - 1.5 Ton	$138.00				
Supervisor's Truck	$138.00				
Flatbed Truck	$138.00				
Air Compressor + tools	N/A	N/A	N/A	N/A	N/A
Welding Equipment	N/A	N/A	N/A	N/A	N/A
Heavy Duty Drill Rig					
Pump (plugging) Drill Rig					
Concrete Pump	N/A	N/A	N/A	N/A	N/A
Gas Engine Vibrator	N/A	N/A	N/A	N/A	N/A
Generator 5KW	N/A	N/A	N/A	N/A	N/A
HDEP Welder (pipe or liner)	N/A	N/A	N/A	N/A	N/A
5 Ton Crane					
20 Ton Crane					
50 Ton Crane					
120 Ton Crane					
Trucks					
725 (articulated)	$4,493.00				

Equipment Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_1812***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_1***

Monthly Rental Basis (operating hrs/ period)	***360***				
730 (articulated)	$4,493.00				
735 (articulated)	$7,153.00				
740 (articulated)	$7,531.00				
769D	$4,117.00				
773E	$7,221.00				
777D	$12,821.00				
785C					
793C					
797B					
613E (5,000 gal) Water Wagon	$3,556.00				
621E (8,000 gal) Water Wagon	$9,157.00				
777D Water Truck	$12,821.00				
785C Water Truck					
Dump Truck (10-12 yd3) (5)	$487.00				
Notes:					
(1) Unit Cost Basis:	Cost per tyre each	Cost per tyre each	Cost per tyre each	Cost per tyre each	Cost per tyre each
(2) Cost Basis:	Cashman Equipment Reno Nevada 2012				
(3) Tire Cost Source:	Cashman Equipment Reno Nevada 2012, 50% added for shipping and handling				
(4) Tire Wear Source (defined in model):	Caterpillar Handbook, Edition 37	Caterpillar Handbook, Edition 37	Caterpillar Handbook, Edition 37	Caterpillar Handbook, Edition 37	Caterpillar Handbook, Edition 37

Labor Rates

File Name:	*Donlin_RecBond_Cost_data_v1_12_1812(*
Date:	*May 10, 2017*
Cost Basis:	*User Data*
Author/Source:	*plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_181202_017_pl_rev04.xlsx*

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE [1] OR JOB DESCRIPTION	Basis 1		Basis 2		Basis 3		Basis 4		Basis 5		Basis 6	
	Alaska Davis Bacon 2016											
EQUIPMENT OPERATORS - Labor Groups and Base Pay Rate ($/hr) [2]												
Bulldozers												
D6R	A1601	$60.81										
D6R w/ Winch	A1601	$60.81										
D7R	A1601	$60.81										
D8R	A1601	$60.81										
D9R	A1601	$60.81										
D10R	A1601	$60.81										
D11R	A1601	$60.81										
Wheeled Dozers												
824G	A1601	$60.81										
834G	A1601	$60.81										
844	A1601	$60.81										
854G	A1601	$60.81										
Motor Graders												
120H	A1601	$60.81										
14G/H	A1601	$60.81										
16G/H	A1601	$60.81										
24M	A1601	$60.81										
Track Excavators												
312C	A1601	$60.81										
320C	A1601	$60.81										
325C	A1601	$60.81										
330C	A1601	$60.81										
345B	A1601	$60.81										
365BL	A1601	$60.81										
385BL	A1601	$60.81										
Scrapers												
631G	A1601	$60.81										
637G PP	A1601	$60.81										
Wheeled Loaders												
924G	A1601	$60.81										
928G	A1601	$60.81										
950G	A1601	$60.81										
966G	A1601	$60.81										
972G	A1601	$60.81										
980G	A1601	$60.81										
988G	A1601	$60.81										
990	A1601	$60.81										
992G	A1601	$60.81										
994D	A1602	$63.15										
L-2350	A1602	$63.15										
Shovels												
KOM PC2000												
KOM PC3000												
KOM PC4000												
KOM PC5500												
KOM PC8000												
Hydrauilc Hammers												
H-120 (fits 325)												
H-160 (fits 345)												
H-180 (fits 365/385)												
Demolition Shears												
S340 (fits 322/325/330)												
S365 (fits 330/345)												
S390 (fits 365/385)												
Demolition Grapples												
G315 (fits 322/325)												
G320 (fits 325/330)												
G330 (fits 345/365)												
Other Equipment												
420D 4WD Backhoe	A1601	$60.81										
428D 4WD Backhoe	A1601	$60.81										
CS533E Vibratory Roller	A1601	$60.81										
CS663E Vibratory Roller	A1601	$60.81										
CP533E Sheepsfoot Compactor	A1601	$60.81										

Labor Rates

File Name:	*Donlin_RecBond_Cost_data_v1_12_1812(*
Date:	*May 10, 2017*
Cost Basis:	*User Data*
Author/Source:	*plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_181202_017_pl_rev04.xlsx*

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE [1] OR JOB DESCRIPTION	Basis 1		Basis 2		Basis 3		Basis 4		Basis 5		Basis 6	
	Alaska Davis Bacon 2016											
CP663E Sheepsfoot Compactor	A1601	$60.81										
Light Truck - 1.5 Ton	A1604	$58.82										
Supervisor's Truck	A1604	$58.82										
Flatbed Truck	A1604	$58.82										
Air Compressor + tools	A1601	$60.81										
Welding Equipment	AO601	$59.58										
Heavy Duty Drill Rig	S1204	$55.96										
Pump (plugging) Drill Rig	S1204	$55.96										
Concrete Pump												
Gas Engine Vibrator	A1601	$60.81										
Generator 5KW												
HDEP Welder (pipe or liner)												
5 Ton Crane	A1601	$60.81										
20 Ton Crane	A1601	$60.81										
50 Ton Crane	A1602	$63.15										
120 Ton Crane	A1602	$63.15										
Fringe Benefits												
Equip Op Fringe Benefits ($/hr)		$0.00		$0.00		$0.00		$0.00		$0.00		
Zone and Area Adjustments - Miles and Rates ($/hr) [3]												
Equipment Zone 1	none	$0.00	none	$0.00	none	$0.00	none	$0.00	none	$0.00		
Equipment Zone 2												
Equipment Zone 3												
Equipment Zone 4												
Equipment Zone 5												
Equipment Zone 6												
Equipment Zone 7												
NOTES:												
(1) Equipment Type:	Catepillar model or equivalent		Catepillar model or equivalent		Catepillar model or equivalent		Catepillar model or equivalent		Catepillar model or equivalent		Catepillar model or equivalent	
(2) Equipment Operator Source:	Alaska Pamphlet 600											
(3) Zone Basis:												
TRUCK DRIVERS - Labor Groups and Base Pay Rate ($/hr) [4]												
725 (articulated)	A2102	$62.02										
730 (articulated)	A2102	$62.02										
735 (articulated)	A2102	$62.02										
740 (articulated)	A2102	$62.02										
769D	A2102	$62.02										
773E	A2102	$62.02										
777D	A2102	$62.02										
785C	A2102	$62.02										
793C	A2102	$62.02										
797B	A2102	$62.02										
613E (5,000 gal) Water Wagon	A2102	$62.02										
621E (8,000 gal) Water Wagon	A2102	$62.02										
777D Water Truck	A2102	$62.02										
785C Water Truck	A2102	$62.02										
Dump Truck (10-12 yd3)	A2105	$56.78										
Fringe Benefits												
Truck Driver Fringe Benefits ($/hr)		$0.00		$0.00		$0.00		$0.00		$0.00		
Zone and Area Adjustments [5]												
Truck Zone 1	none	$0.00	none	$0.00	none	$0.00	none	$0.00	none	$0.00		
Truck Zone 2												
Truck Zone 3												
Truck Zone 4												
Truck Zone 5												
Truck Zone 6												
Truck Zone 7												
NOTES:												
(4) Truck Driver Source:												
(5) Zone Basis:												
LABORERS - Labor Groups and Base Pay Rate ($/hr) [6,7]												
General Laborer	S1205	$35.15										
Skilled Laborer	S1202	$50.39										
Driller's Helper	A1605	$50.54										
Rodmen (reinforcing concrete)	SO401	$56.57										

Labor Rates

File Name:	*Donlin_RecBond_Cost_data_v1_12_1812(*
Date:	*May 10, 2017*
Cost Basis:	*User Data*
Author/Source:	*plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_181202_017_pl_rev04.xlsx*

HOURLY LABOR RATE TABLE

EQUIPMENT TYPE (1) OR JOB DESCRIPTION	Basis 1		Basis 2		Basis 3		Basis 4		Basis 5		Basis 6	
	Alaska Davis Bacon 2016											
Cement finisher	SO401	$56.57										
Carpenter	AO301	$59.72										
Fringe Benefits												
Laborer Fringe Benefits ($/hr)		$0.00										
Carpenter Fringe Benefits ($/hr)		$0.00										
Zone and Area Adjustments (8)												
Laborer Zone 1	none	$0.00	none	$0.00	none	$0.00	none	$0.00	none	$0.00		
Laborer Zone 2												
Laborer Zone 3												
Laborer Zone 4												
Laborer Zone 5												
Laborer Zone 6												
Laborer Zone 7												
NOTES:												
(6) Laborer Source:	Alaska Pamphlet 600											
(7) Carpenter Source:	Alaska Pamphlet 600,											
(8) Zone Basis:												
PROJECT MANAGEMENT AND TECHNICAL LABOR - Base Pay Rate ($/hr) (9)												
Project Manager		$95.03										
Foreman		$51.00										
Field Geologist/Engineer		$48.83										
Field Tech/Sampler		$41.84										
Range Scientist		$48.42										
Senior Planning Engineer		$88.63										
Project Engineer		$79.30										
Mechanic/Fitter (A2103)		$60.75										
Electrician (A0702)		$66.23										
Bricklayer (A0201)		$60.03										
Pipelayer Helper (S2201)		$59.37										
Piperfitter (S1501)		$62.13										
NOTES:												
(9) Project Manager:	Salary.com 3/2017											
(9) Foreman Source:	Salary.com 3/2017											
(9) Techical Labor Source:	Salary.com 3/2017											
INDIRECT COSTS												
SOCIAL SECURITY, WORKMAN'S COMP, INSURANCE, ETC.												
Unemployment (%)		0.00%				0.00%						
Retirement/SS/Medicare (%)		0.00%				0.00%						
Workman's Compensation (%)		0.00%				0.00%						
State Payroll Tax (13),(15),(17),(18)						0.00%						
NOTES:												
(10) Workman's Comp Source:	Included in DB wages											
(11) Social Security/Medicare	Included in DB wages											
(12) Workmans Compensation	Included in DB wages											
(13), (14) & (15) State Payol taxes	Included in DB wages											

File Name:	***Donlin_RecBond_Cost_data_v1***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_181202_017_pl_rev04.***

RECLAMATION MATERIAL COST TABLE

MATERIAL TYPE		Basis 1	Basis 2	Basis 3	Basis 4	Basis 5	Basis 6
		Alaska Davis Bacon 2016					
Revegetation Materials							
Seed Mixes							
Seed Mix	Units						
None							
Mix 1	Cost/Ha	$388.85					
Mix 2	Cost/Ha	$238.80					
Mix 3	Cost/Ha						
Mix 4	Cost/Ha						
User Mix 1	Cost/Ha						
User Mix 2	Cost/Ha						
User Mix 3	Cost/Ha						
User Mix 4	Cost/Ha						
User Mix 5 (see Seed Mix sheet)	Cost/Ha						
	Notes:	Donlin Gold Seed Information.docx" October 15, 2013, inflated to 2016					
Mulch							
Item	Units						
None							
Straw Mulch	Cost/kg						
Hydro Mulch	Cost/kg						
Timber Mulch	Cost/kg						
	Cost/kg						
	Cost/kg						
	Notes:						
Amendments							
Item	Units						
None							
Organic Matter	Cost/kg						
Treated Sludge	Cost/kg						
Chemical	Cost/kg	$1.46					
	Cost/kg						
	Cost/kg						
	Cost/kg						
	Notes:	NDEP 2016 costs converted to metric units and adjusted for location.					
Well Abandonment Materials							
Description	Units						
Cement	20kg bag	$6.79					
Grout (Low Grade Bentonite)	20kg bag	$7.76					
Inert Material/Cuttings	m3						
	Notes:	NDEP 2016 costs converted to metric units and adjusted for location.					
Monitoring Costs							
Description	Units	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit
Monitor Well Pump	ea.	$2,459.66					
Sampling Supplies	ea.	$5.75					
Water Analysis (Complete) (1)	ea.	$1,055.00					
ABA + S speciation	ea.						
Cyanide - WAD	ea.						

Cyanide - Free	ea.						
Cyanide - Total soils	ea.						
Cyanide - Total water	ea.						
TPH in soils	ea.	$80.00					
Humidty Cell (20 wk) (2)	ea.						
Humidty Cell (40 wk)	ea.						
NAG	ea.						
TCLP w/ full analysis	ea.	$185.00					
SPLP w/ full analysis	ea.	$150.00					
AS4439 Leach test w/ full analysis	ea.						
Methy Hg	ea.						
	ea.						
	Notes:	Pump and consumable costs from Drillers World					
		AK Lab Rates from SRK Consulting based on similar projects					

Fuel, Etc.

Description	Units	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit	Cost/unit
Off-road Diesel - delivered [1]	$/litre	$0.84					
Pickup Truck Travel	$km	$0.35					
Electical Power	$/kWh	$0.1287					
	Notes:	Donlin feasibility 2011 inflated to 2016					
		IRS allowance converted to metric					
		Donlin feasibility 2011 inflated to 2016					

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin***

MISCELLANEOUS COST TABLE

JOB DESCRIPTION		Basis 1		Basis 2		Basis 3	
		Alaska Davis Bacon 2016					
REVEGETATION							
Item	**Units**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**
Seeding - Broadcast Manual [1]	$/Ha	$389.34	$144.20				
Seeding - Broadcast Mechanical [1]	$/Ha	$269.16	$77.87				
Seeding - Drill [1]	$/Ha	$403.76	$288.40				
Seeding - Hydroseeding [1]	$/Ha	$721.00	$360.50				
Item	**Units**	**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:		Nevada 2016, NDEP costs converted to metric					
(2) Shrub Source:							
(3) Tree Source:							
(4) Cactus Source:							
BUILDING and WALL DEMOLITION							
Item	**Units**		**Premium**		**Premium**		**Premium**
Building Demolition							
Lg. steel	m3						
Lg. concrete	m3						
Lg. masonry	m3						
Lg. mixed	m3						
Sm. steel	m3						
Sm. concrete	m3						
Sm. masonry	m3						
Sm. wood	m3						
Wall Demolition							
Block 100 mm thick	m2		20%		20%		20%
Block 150 mm thick	m2		20%		20%		20%
Block 200 mm thick	m2		20%		20%		20%
Block 300 mm thick	m2		20%		20%		20%
Conc 150 mm thick	m2		10%		10%		10%
Conc 200 mm thick	m2		10%		10%		10%
Conc 250 mm thick	m2		10%		10%		10%
Conc 300 mm thick	m2		10%		10%		10%
WASTE DISPOSAL							
Item	**Units**	**Materials**		**Materials**		**Materials**	
Rubbish and Waste Handling							
Dumpster delivery (average for all sizes)	ea.	$64.44					
Haul (average for all sizes)	ea.	$201.83					
Rent per month (average for all sizes)	ea.	$68.70					
Disposal fee per ton (tonne) (average for all sizes)	tonne	$83.11					

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin***

MISCELLANEOUS COST TABLE

JOB DESCRIPTION		Basis 1		Basis 2		Basis 3	
		Alaska Davis Bacon 2016					
NOTES:							
Dumpster Cost Source		2016 Means Heavy Construction					
Disposal Fee Source:		2016 Means Heavy Construction					
Hazardous Material Handling - Solids							
Pickup fees 55 gal. drums	ea.	$299.10					
Bulk material (average)	tonne	$539.56					
Transport - truck load (80 drums, 25 cy (m3), 18 tons)	km	$4.15					
Dump site disposal fee	tonne	$381.38					
NOTES:							
Solid Handling Cost Source		2016 Means Heavy Construction					
Solid Disposal Fee Source:		Construction, ave. 02 81 0300-6000, 6020					
Hazardous Material Handling - Liquids							
Vacuum Truck Pickup (2200 gal or 9,700 litres)	hr.	$168.20					
Vacuum Truck Pickup (5000 gal or 2,000 litres)	hr.	$244.12					
Dump site disposal fee	tonne	$381.38					
NOTES:							
Liquid Handling Cost Source		2012 Means Heavy Construction					
Liquid Disposal Fee Source:		Construction, ave. 02 11 0300-6000, 6020					
Hydrocarbon Contaminated Soils (HCS)							
Insitu Biotreatment	m3	$29.29					
HCS disposal fee	m3	$73.47					
NOTES:							
Insitu Treatement Cost Source		Construction, ave. 02 65 1030-2020, 2021					
HCS Disposal Fee Source:		Construction, ave. 02 65 1030-2050, 2055 plus					

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin***

MISCELLANEOUS COST TABLE

JOB DESCRIPTION		Basis 1		Basis 2		Basis 3	
		Alaska Davis Bacon 2016					
UNDERGROUND OPENING CLOSURE							
Item	**Units**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**
Reinforced Concrete Bulkheads and Shaft Covers							
Grade walls - 400 mm thick, 2.5 m high	m3	$217.74					
Grade walls - 400 mm thick, 4.5 m high	m3	$217.74					
Elevated conc, 1-way beam & slab - 4.5m span	m3	$359.20					
Elevated conc, 1-way beam & slab - 7.5m span	m3	$346.48					
Item	**Units**	**Materials**		**Materials**		**Materials**	
Small Adit Plugging							
Bat Gate [5]	ea.						
Culvert Gate [5]	m3						
Adit Foam Plug [6]	m3						
Production Opening Foam Plug [6]	m3						
NOTES:							
(5) Bat Gate Source:		Not used					
(6) Foam Plug Source:		Not used					
MISC. LINEAR PROJECTS							
Item	**Units**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**
Fencing Installation							
Barbed 3-strand	m	$0.18					
Barbed 4-strand	m	$0.24					
Barbed 5-strand	m	$0.30					
Chain link 2.5 m - 3.0 m Install	m	$14.28					
Wood stockade fence 2 m high - Install	m	$5.93					
	m						
	m						
Fencing Removal							
Barbed 3-strand Removal	m						
Barbed 4-strand Removal	m						
Barbed 5-strand Removal	m						
Chain link 2.5 m - 3.0 m Removal	m						
Wood, all types 1.5 m - 2.0 m Removal	m						
	m						
	m						
Culvert Removal							
12 in (300 mm) Diameter	m						
18 in (450 mm) Diameter	m						

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin***

MISCELLANEOUS COST TABLE

JOB DESCRIPTION		Basis 1		Basis 2		Basis 3	
		Alaska Davis Bacon 2016					
24 in (600 mm) Diameter	m						
36 in (1m) Diameter	m						
Pipeline Removal							
Plastic Pipe 3/4 in (mm) - 4 in (100 mm) diameter	m						
6 in (150 mm) - 8 in (200 mm)	m						
10 in (250 mm) - 18 in (450 mm)	m						
20 in (500 mm) - 36 in (1 m)	m						
Pipe and Drainpipe Installation							
Water 4in (100mm) 40ft (12m) length, welded HDPE	m	$0.84					
Water 6in (150mm) 40ft (12m) length, welded HDPE	m	$2.34					
Water 12in (300mm) 40ft (12m) length, welded HDPE	m						
Drain 4in (100mm) perforated PVC	m	$0.48					
Drain 6in (150mm) perforated PVC	m	$1.05					
Drain 4in (100mm) corrugated, perf or plain	m	$0.22					
Drain 6in (150mm) corrugated., perf or plain	m	$0.51					
Drain Rock Preparation							
Item	**Units**		**Total**		**Total**		**Total**
Crushing	m3		$0.79				
Screening	m3		$0.79				
Misc.							
Item	**Units**		**Premium**		**Premium**		**Premium**
Backhoe work	m3						
Powerline and Transformer Removal			**Total**		**Total**		**Total**
Single Pole Powerlines [7]	km		$30,630				
Double Pole Powerlines [8]	km		$35,006				
Substation [9]	unit		$35,342				
NOTES:							
(7) Single Pole Source:		NVEnergy estimate (2009) Adjusted to 2016					
(8) Double Pole Source:		NVEnergy estimate (2009) Adjusted to 2016					
(9) Transformer Source:		Sierra Pacific Power Company estimate (2004)					

Nevada Standardized Bond Calculation
Misc. Unit Costs

File Name:	***Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm***
Date:	***May 10, 2017***
Cost Basis:	***User Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin***

MISCELLANEOUS COST TABLE

JOB DESCRIPTION		Basis 1		Basis 2		Basis 3	
		Alaska Davis Bacon 2016					
EROSION, EVAPORATION and SEDIMENTATION CONTROL							
Item	**Units**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**
Rip-Rap & Rock Lining							
Rip-Rap 3/8 to 1/4 m3 pieces, grouted	m2	$39.27					
Rip-Rap 450 mm min thick, no grout	m2						
Gabions, 150 mm deep	m2	$11.20					
Gabions, 230 mm deep	m2	$14.03					
Gabions, 300 mm deep	m2	$18.62					
Gabions, 450 mm deep	m2	$26.18					
Gabions, 1 m deep	m2	$44.36					
Liner Installation							
Item	**Units**	**Materials**	**Premium**	**Materials**	**Premium**	**Materials**	**Premium**
Site grading	m2						
Compaction	m2						
Item	**Units**		**Materials**		**Materials**		**Materials**
1.5mm HDEP Liner	m2		$0.80				
Construction Management Support							
Item	**Units**		**Materials**		**Materials**		**Materials**
Office Trailer, Furnished, no hook-ups	month		$235.88				
Toilet Portable, chemical	month		$251.44				
PRODUCTION OR DEWATERING WELL PUMP REMOVAL							
Item	**Units**	**Labor**	**Equip**	**Labor**	**Equip**	**Labor**	**Equip**
Pump Type							
Submersible [10]	m to pump	$10.17	$22.08				
Line Shaft [10]	m to pump	$23.72	$51.58				
NOTES:							
(10) Pump Removal Source:		Nevada 2016, NDEP costs converted to metric					

Nevada Standardized Bond Calculation
Misc. Unit Costs

_LaborBuildup_181202_017_pl_rev04.xlsx

Basis 4		Basis 5		Basis 6	
Labor	Equip	Labor	Equip	Labor	Equip
Materials		Materials		Materials	
	Premium		Premium		Premium
	20%		20%		
	20%		20%		
	20%		20%		
	20%		20%		
	10%		10%		
	10%		10%		
	10%		10%		
	10%		10%		
Materials		Materials		Materials	

Nevada Standardized Bond Calculation
Misc. Unit Costs

_LaborBuildup_181202_017_pl_rev04.xlsx

Basis 4	Basis 5	Basis 6

Nevada Standardized Bond Calculation
Misc. Unit Costs

_LaborBuildup_181202_017_pl_rev04.xlsx

Basis 4		Basis 5		Basis 6	
Materials	Premium	Materials	Premium	Materials	Premium
Materials		Materials		Materials	
Materials	Premium	Materials	Premium	Materials	Premium

Nevada Standardized Bond Calculation
Misc. Unit Costs

_LaborBuildup_181202_017_pl_rev04.xlsx

Basis 4		Basis 5		Basis 6	
	Total		Total		Total
	Premium		Premium		Premium
	Total		Total		Total

Nevada Standardized Bond Calculation
Misc. Unit Costs

_LaborBuildup_181202_017_pl_rev04.xlsx

Basis 4		Basis 5		Basis 6	
Materials	Premium	Materials	Premium	Materials	Premium
Materials	Premium	Materials	Premium	Materials	Premium
	Materials		Materials		Materials
	Materials		Materials		Materials
Labor	Equip	Labor	Equip	Labor	Equip

File Name:	***CostData STD 3.xls***
Date:	***December 1, 2005***
Cost Basis:	***Standardized Data***
Author/Source:	***plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV04.xlsx, Donlin_LaborBuildup_181202_017_pl_rev04.xlsx***

Administrative Cost Rates (%)					
	Cost Ranges for Indirect Cost Percentages				
	<=	**<=**	**<=**	**>**	
1. Engineering, Design and Construction (ED&C) Plan (7)	$500,000	$2,500,000	$25,000,000	$25,000,000	Small Plan
Variable Rate	8%	6%		3%	
	<=	**<=**	**<=**	**>**	
2. Contingency (8)	$500,000	$5,000,000	$50,000,000	$50,000,000	Small Plan
Variable Rate	10%	8%	6%	9%	
3. Insurance (9)	1.5%	of labor costs			
4. Bond (10)	2.0%	of the O&M costs if O&M costs are >$100,000			
5. Contractor Profit (11)	10.0%	of the O&M costs			
	<=	**<=**	**<=**	**>**	
6. Contract Administration (12)	$1,000,000	$25,000,000		$25,000,000	
Variable Rate	10%	8%		5%	
		of contract administration			

RECLAMATION COST ESTIMATION SUMMARY SHEET FOOTNOTES

NOTE :

Attachment B: Documents in Support of SRCE Inputs

(Provided Electronically)

Backfill Inc. 2017 Equipment Rental Rates

	Monthly Rate	OT Rate per hour	Standard Rate	Addl OT Charge	Total Monthly Charge for 360 Hours
Monthly Hours	200			360	
D7	$ 14,500.00	36.25	$ 14,500.00	$ 5,800.00	$ 20,300.00
D10	$ 37,500.00	93.75	$ 37,500.00	$ 15,000.00	$ 52,500.00
D11	$ 50,000.00	125	$ 50,000.00	$ 20,000.00	$ 70,000.00
16 Grader	$ 22,500.00	56.25	$ 22,500.00	$ 9,000.00	$ 31,500.00
345 Excavator	$ 16,100.00	40.25	$ 16,100.00	$ 6,440.00	$ 22,540.00
385 Excavator	$ 31,200.00	78	$ 31,200.00	$ 12,480.00	$ 43,680.00
928 Loader	$ 4,150.00	10.375	$ 4,150.00	$ 1,660.00	$ 5,810.00
980 Loader	$ 16,650.00	41.625	$ 16,650.00	$ 6,660.00	$ 23,310.00
992 Loader	$ 57,500.00	143.75	$ 57,500.00	$ 23,000.00	$ 80,500.00
777 Haul Truck	$ 41,500.00	103.75	$ 41,500.00	$ 16,600.00	$ 58,100.00
420 Backhoe	$ 3,500.00	8.75	$ 3,500.00	$ 1,400.00	$ 4,900.00
H-160 Hammer attachment for 345	$ 16,100.00	40.25	$ 16,100.00	$ 6,440.00	$ 22,540.00
20 ton crane	$ 9,500.00	23.75	$ 9,500.00	$ 3,800.00	$ 13,300.00
50 ton crane	$ 14,600.00	36.5	$ 14,600.00	$ 5,840.00	$ 20,440.00
120 ton crane	$ 28,100.00	70.25	$ 28,100.00	$ 11,240.00	$ 39,340.00
10 yd dump truck	$ 4,500.00	11.25	$ 4,500.00	$ 1,800.00	$ 6,300.00
Flatbed truck – 2-1/2 ton or so	$ 2,350.00	5.875	$ 2,350.00	$ 940.00	$ 3,290.00
	200 hour month				

CRANES

MAKE	DESCRIPTION	DAY	WEEK	MONTH
LINKBELT	30 TON ROUGH TERRAIN	1390	4170	12500
LINKBELT	50 TON ROUGH TERRAIN	2625	4870	14600
LINKBELT	65 TON ROUGH TERRAIN	1945	5830	17500
LINKBELT	80 TON ROUGH TERRAIN	2435	7300	21900
LINKBELT	100 TON ROUGH TERRAIN	2900	8700	26000
LINKBELT	110 TON ROUGH TERRAIN	3125	9370	28100
LINKBELT	TCC1100 TELESCOPIC CRAWLER	3900	11700	35000

GENSETS

MAKE	MODEL	PRIME POWER	DAY	WEEK	MONTH
DOOSAN	G25	20KW@480V	130	385	1150
DOOSAN	G40	28KW@480V	185	550	1650
ATLAS	QAS45	35KW@480V	185	550	1650
DOOSAN	G70	62KW@480V	300	900	2700
DOOSAN	G85	78KW@480V	335	1000	3000
ATLAS	QAS120	95KW@480V	355	1070	3200
DOOSAN	G150	120KW@480V	380	1135	3400
DOOSAN	G190	155KW@480V	430	1285	3850
DOOSAN	G240	190KW@480V	485	1450	4350
ATLAS	QAS330	264KW@480V	545	1635	4900
DOOSAN	G450	365KW@480V	730	2185	6550
DOOSAN	G570	456KW@480V	910	2735	8200
ATLAS	QAS600	457KW@480V	910	2735	8200

TRACK DRILLS W / COMPRESSOR

MAKE	MODEL	HOLE DIAMETER	DAY	WEEK	MONTH
I-R	LM100W/P375	1" to 2 1/2"	810	2435	7300

SELF CONTAINED TRACK DRILLS

MAKE	MODEL	HOLE DIAMETER	DAY	WEEK	MONTH
ATLAS	T35E	2 1/2" to 4 1/2"	1850	5550	16650

Rental Terms:

1. All prices are F.O.B. CMI's yard, freight charges to job site are customers responsibility.

2. Customers must have proof of insurance meeting CMI requirements for any equipment rented before delivery.

3. Rental rates included in this rate sheet are based on single shift hours. 10 hours per day, 50 hours per week and 200 hours per month.

MACK TRUCKS

MAKE	DESCRIPTION	DAY	WEEK	MONTH
MACK	4000 GALLON WATER TANKER	625	1870	5600
MACK	TRACTOR W/DAY CAB	680	2035	6100

2/32nds of tire wear allowed per month per tire. Additional tire wear to be billed at $34 per 32nd per tire.

CRUSHING/SCREEN PLANTS

MAKE	MODEL	DESCRIPTION	DAY	WEEK	MONTH
CEC	STACKER ELEC.	CONVEYOR	N/A	520	1550
CEC	STACKER HYD.	RADIAL	N/A	935	2800
METSO	CV100D	2 DECK	N/A	3085	9250
METSO	ST3.8 TRK	2 DECK 5x12	N/A	4750	14250
METSO	LT300HP	TRACK-CONE	N/A	13100	39300
METSO	LT106	TRACK-JAW	N/A	10750	32250
ATLAS	PC3	HORIZ. IMPACT	N/A	12135	36400
ATLAS	PC HS1 ADD-ON	SCREEN BOX	N/A	1735	5200

Wear parts billed at prorated amount based on percentage of life used upon return.

LIGHT TOWERS

MAKE	MODEL	DAY	WEEK	MONTH
ALLMAND	NITE LITE PRO 8KW	85	250	750
MAGNUM	MLT4080KV 8KW	85	250	750

DIESEL POWERED PUMPS

			DAY	WEEK	MONTH
G-R	PA4A60C	4" PRIME AIRE	330	980	2950
G-R	PA6C60	6" PRIME AIRE	360	1070	3200
4"x 25' Suction & 4"x50' discharge hoses			20	50	150
6"x 25' Suction & 6"x50' discharge hoses			45	130	390

TELESCOPING BOOM LIFTS & SCISSOR LIFTS

MAKE	MODEL	DESCRIPTION	DAY	WEEK	MONTH
SKYJACK	SJ45T	45' BOOM	350	1050	3150
SKYJACK	SJ66T	66' BOOM	510	1535	4600
GENIE	S65	65' BOOM	510	1535	4600
GENIE	S85	85' BOOM	960	2885	8650
SKYJACK	SJ46AJ	46' Z BOOM	350	1050	3150
GENIE	GS1930	19' SCISSOR	110	335	1000
SKYJACK	SJ6826RT	26' SCISSOR	230	685	2050
SKYJACK	SJ6832RT	32' SCISSOR	250	750	2250
SKYJACK	SJ6832RTE	32' SCISSOR	250	750	2250

Construction Machinery Industrial, LLC

5400 HOMER DR.
ANCHORAGE, AK 99518
(907) 563-3822 PH / (907) 563-1381 FAX
FAIRBANKS
2615 20TH AVE.
FAIRBANKS , AK. 99709
(907) 455-9600 PH / (907) 455-9700 FAX
JUNEAU
5302 COMMERCIAL BLVD.
JUNEAU, AK. 99801
(907) 780-4030 PH / (907) 780-4800 FAX
KETCHIKAN
7332 NORTH TONGASS AVE.
KETCHIKAN, AK. 99901
(907) 247-2228 PH / (907) 247-2229 FAX

2017 RENTAL RATES

ANCHORAGE
Ph. (907) 563-3822
Fax (907) 563-1381

FAIRBANKS
Ph. (907) 455-9600
Fax (907) 455-9700

JUNEAU
Ph. (907) 780-4030
Fax (907) 780-4800

KETCHIKAN
Ph. (907) 247-2228
Fax (907) 247-2229

COMPRESSORS

MODEL	DESCRIPTION	DAY	WEEK	MONTH
P185/XAS185	185CFM / 100PSI	110	320	950
P185/XAS185	With 90lb Breaker or Rotary Drill & 50' Hose	140	420	1249.5
HP375/XATS375	375CFM / 150PSI	250	750	2250
XAVS650	650CFM / 225PSI	600	1800	5400
XRVS476	975CFM / 365PSI	1210	3635	10900
XP1000	1000CFM / 125PSI	600	1800	5400
XAMS1150	1150CFM / 125PSI	625	1870	5600
HP1300	1300CFM / 150PSI	870	2600	7800
HP1600	1600CFM / 150PSI	1160	3470	10400
HP1600	With Instrument Quality Air	1290	3870	11600
XAS1800	1600CFM / 150PSI or 1800CFM / 100PSI W/IQ Air	1290	3870	11600

COMPACTION EQUIPMENT

MAKE	MODEL	DESCRPT	DRUM-WGT	DAY	WEEK	MONTH
VOLVO	SD25	SOIL	41.5" - 2.5 TON	270	800	2400
VOLVO	DD25	ASPHALT	47" - 2.5 TON	270	800	2400
VOLVO	SD45	SOIL	54" - 5 TON	370	1100	3300
VOLVO	SD75	SOIL	66" - 8 TON	460	1385	4150
VOLVO	SD105	SOIL	84" - 10 TON	580	1735	5200
VOLVO	SD115DX	SOIL	84" - 11.5 TON	695	2085	6250
VOLVO	SD160DX	SOIL	84" - 18 TON	870	2600	7800
VOLVO	SD200	SOIL	84" - 20 TON	920	2770	8300

HYDRAULIC EXCAVATOR ATTACHMENTS

MODEL	DESCRIPTION		DAY	WEEK	MONTH
MS30	SHEAR	JAW SET W/ROTATION	N/A	4170	12500
	BREAKER	IMPACT CLASS 2000 ft lbs	N/A	2370	7100
	BREAKER	IMPACT CLASS 4500 ft lbs	N/A	2670	8000
	BREAKER	IMPACT CLASS 10000 ft lbs	N/A	4500	13500
	BREAKER	IMPACT CLASS 15000 ft lbs	N/A	5370	16100
	HOE PACK	FORCE 11425 - 24300 lbs	N/A	920	2750

Breaker steel will be measured before and after rental.
There will be a charge of $150 per inch of use on breaker bits
below 10,000 ft lb class and $450 per inch of use over 10,000 ft lbs.

FOR LONGER TERM OR MULTIPLE PIECE RENTAL,
PLEASE CALL FOR RATE QUOTE
RENTAL RATES EFFECTIVE JANUARY 2017

WHEEL LOADERS

MAKE	MODEL	BKT CAP	WEIGHT	DAY	WEEK	MONTH	FORKS
VOLVO	L20	1.0 Cu Yd	9950#	325	970	2900	POR
VOLVO	L30	1.4 Cu Yd	12000#	360	1070	3200	POR
VOLVO	L35	1.4 Cu Yd	13700#	370	1100	3300	POR
VOLVO	L45	2.2 Cu Yd	19000#	410	1220	3650	POR
VOLVO	L60	2.5 Cu Yd	26000#	460	1385	4150	POR
VOLVO	L70	3.0 Cu Yd	29500#	480	1735	5200	POR
VOLVO	L90	3.5 Cu Yd	33550#	750	2250	6750	POR
VOLVO	L110	4.1 Cu Yd	40880#	895	2685	8050	POR
VOLVO	L120	4.5 Cu Yd	43000#	1125	3370	10100	POR
VOLVO	L150	5.2 Cu Yd	53000#	1270	3800	11400	POR
VOLVO	L180	6 Cu Yd	60000#	1500	4500	13500	POR
VOLVO	L220	7 Cu Yd	70000#	1850	5550	16650	POR
VOLVO	L250	8 Cu Yd	75000#	2080	6235	18700	POR
VOLVO	L350	9-10 Cu Yd	111000#	2900	8700	26000	POR

HYDRAULIC EXCAVATORS

MAKE	MODEL	BKT CAP	WEIGHT	DAY	WEEK	MONTH	Extra Att Spec bkts/th
HITACHI	ZX27	1/10 YD3	6485 #	290	870	2600	POR
HITACHI	ZX35	1/5 YD3	7675 #	310	930	2800	POR
HITACHI	ZX50	1/4 YD3	10450 #	335	1000	3000	POR
HITACHI	ZX60	1/3 YD3	13500 #	380	1135	3400	POR
HITACHI	ZX85	1/2 YD3	15900 #	410	1220	3650	POR
HITACHI	ZX120/ZX135	3/4 YD3	28000#	610	1835	5500	POR
HITACHI	ZX160/ZX180	1.0 YD3	35500 #	730	2185	6550	POR
HITACHI	ZX210/ZX245	1 1/8 YD3	45/54000#	860	2570	7700	POR
HITACHI	ZX350LC	2 1/8 YD3	80000 #	1360	4070	12200	POR
HITACHI	ZX470LC	3.0 YD3	115000#	1790	5370	16100	POR
HITACHI	ZX670LC	4 1/2 YD3	152000 #	2670	8000	24000	POR
HITACHI	ZX870LC	6.0 YD3	186000 #	3470	10400	31200	POR
VOLVO	ECR38	1/5 YD3	7650 #	310	935	2800	POR
VOLVO	ECR58	1/4 YD3	12100#	335	1000	3000	POR
VOLVO	ECR88	1/2 YD3	18200 #	410	1220	3650	POR
VOLVO	EC140/ECR145	7/8 YD3	29/33450#	635	1900	5700	POR
VOLVO	EC160	1.0 YD3	36000#	730	2185	6550	POR
VOLVO	EC220/ECR235	1 1/8 YD3	48/54000#	860	2570	7700	POR
VOLVO	EC380	2 1/8 YD3	85800 #	1360	4070	12200	POR
VOLVO	EC480	3.0 YD3	115000 #	1790	5370	16100	POR
VOLVO	EC750	4 1/2 YD3	154980 #	2900	8700	26000	POR

AUTOMATICS AVAILABLE UPON REQUEST

SKID STEER LOADERS

MAKE	MODEL	WGT / BKT SIZE & CAP	DAY	WEEK	MONTH	NOTES
VOLVO	MC85/MC95	7000# / 72" 15.2 cu ft	290	870	2600	
VOLVO	MC110	7900# / 78" 16.5 cu ft	310	935	2800	
VOLVO	MCT125C	10800# / 84" 22.4 cu ft	370	1100	3300	TRACK
VOLVO	MCT135C	11800# / 84" 22.4 cu ft	410	1220	3650	TRACK

SKID STEER ATTACHMENTS

MAKE	MODEL	DESCRIPTION	DAY	WEEK	MONTH	
		AUGER	80	235	700	
		BREAKER 300 ft lbs	185	550	1650	$75/in wear
		BREAKER 500 ft lbs	245	735	2200	$75/in wear
		BROOM	120	350	1050	$75/in wear
		BROOM- PICK-UP	150	450	1350	$75/in wear
		BRUSH HOG	225	670	2000	
		FORKS	60	185	550	48"
		SNOW BLADE	160	485	1450	
		DOZER BLADE	160	485	1450	
		SNOW BLOWER	90	270	800	
		TILLER	80	235	700	
		PLANER	345	1035	3100	
		TRENCHER	225	670	2000	
		GRAPPLE BUCKET	120	350	1050	

TELESCOPING FORKLIFTS

MAKE	MODEL	DESCRIPTION	DAY	WEEK	MONTH
SKYJACK	VR843	8000# Cap/ 43' Reach	395	1185	3550
SKYJACK	VR1056	10000# Cap/ 56' Reach	450	1350	4050
GENIE	GTH1056	10000# Cap/ 56' Reach	450	1350	4050

HEATERS

MAKE	MODEL	DAY	WEEK	MONTH
ALLMAND	MAXI HEAT 1 MILLION BTU	395	1185	3550
TIOGA	IDF-3 SCO 750K BTU	500	1500	4500

OFF HIGHWAY DUMP/ HAULERS

MAKE	MODEL	DESCRIPTION	DAY	WEEK	MONTH
VOLVO	A30	30 TON / 23yd3 Artic	1625	4870	14600
VOLVO	A35	35 TON / 28yd3 Artic	1910	5735	16500
VOLVO	A40	40 TON / 31yd3 Artic	2080	6235	17600
VOLVO	A45	45 TON / 33yd3 Artic	2200	6500	19500
VOLVO	A60	60 TON / 44yd3 Artic			POR

Allowed 2/32nds of tire wear per month on trucks.
Additional wear will be charged at $250 per 32nd on 29.5R25 and
$200 per 32nd on 26.5R25. Tire surveys required on all truck rentals.

Hourly Source and Buildup Calculations

Shift	M	T	W	Th	Fr	S	S	M	T	W	Th	F	S	S	Total
Straight Time	8	8	8	4				8	8	8	4				56
Overtime	4	4	4	8	12	12	12	4	4	4	8	12	12	12	112
															168

Straight Time Shift Hours	**56**
Overtime Shift Hours	**112**
Total Hrs per shift	**168**

Average hourly rate is calculated by a weighted average of the straight and overtime rates.
Shift work: 12 hours/shift, 2 weeks on 2 weeks off.

Group	Base Rate	Taxes and Fringes	Formula	Result
A0301	36.19	21.46	=((36.19+21.46)×96×1+36.19×58×1.5+21.46×58×1)/154	64.47
A1601	37.43	19.1	=((37.43+19.1)×96×1+37.43×58×1.5+19.1×58×1)/154	63.58
A1602	39.19	19.1	=((39.19+19.1)×96×1+39.19×58×1.5+19.1×58×1)/154	65.67
A1604	35.94	19.1	=((35.94+19.1)×96×1+35.94×58×1.5+19.1×58×1)/154	61.81
A2101	38.27	17.66	=((38.27+17.66)×96×1+38.27×58×1.5+17.66×58×1)/154	63.14
A2102	39.54	17.66	=((39.54+17.66)×96×1+39.54×58×1.5+17.66×58×1)/154	64.65
A2105	35.61	17.66	=((35.61+17.66)×96×1+35.61×58×1.5+17.66×58×1)/154	59.98
S0401	33.43	19.17	=((33.43+19.17)×96×1+33.43×58×1.5+19.17×58×1)/154	58.9
S1201	29	21.62	=((29+21.62)×96×1+29×58×1.5+21.62×58×1)/154	56.08
S1203	30.9	21.62	=((30.9+21.62)×96×1+30.9×58×1.5+21.62×58×1)/154	58.34
S2204	37.6	21.62	=((37.6+21.62)×96×1+37.6×58×1.5+21.62×58×1)/154	66.3

Group		BHR	H&W	PEN	TRN	L&M	IAF	THR	Straight Hourly Fringe	Straight Hourly Rate	Overtime Hourly Fringe	Overtime Hourly Rate	Total Straight Time Hourly Rate	Total Overtime Hourly Rate	Total Average Hourly Rate
A0301	Carpenter	38.34	9.78	14.56	0.70	0.10	0.15	$63.63	$25.29	$38.34	$0.25	$57.51	$63.63	$57.76	$59.72
A0601	Craneman/welder etc.	39.26	9.35	11.05	1.00	0.10	0.00	$60.76	$21.50	$39.26	$0.10	$58.89	$60.76	$58.99	$59.58
A1601	Group I (operator - Med Equipment)	40.03	9.95	11.05	1.00	0.10	0.00	$62.13	$22.10	$40.03	$0.10	$60.05	$62.13	$60.15	$60.81
A1602	Group IA (operator - large equipment, mechanic)	41.79	9.95	11.05	1.00	0.10	0.00	$63.89	$22.10	$41.79	$0.10	$62.69	$63.89	$62.79	$63.15
A1604	Group III (operator- Trucks)	38.54	9.95	11.05	1.00	0.10	0.00	$60.64	$22.10	$38.54	$0.10	$57.81	$60.64	$57.91	$58.82
A1605	Drillers Helper	32.33	9.95	11.05	1.00	0.10	0.00	$54.43	$22.10	$32.33	$0.10	$48.50	$54.43	$48.60	$50.54
A2101	Group I, Water Wagon	39.59	10.58	10.39	1.35	0.10	0.00	$62.01	$22.42	$39.59	$0.10	$59.39	$62.01	$59.49	$60.33
A2102	Group 1A (Dump trucks)	40.86	10.58	10.39	1.35	0.10	0.00	$63.28	$22.42	$40.86	$0.10	$61.29	$63.28	$61.39	$62.02
A2103	Mechanic	38.33	10.58	10.39	1.35	0.10	0.00	$60.75	$22.42	$38.33	$0.10	$57.50	$60.75	$57.60	$58.65
A2105	Group IV	36.93	10.58	10.39	1.35	0.10	0.00	$59.35	$22.42	$36.93	$0.10	$55.40	$59.35	$55.50	$56.78
A0702	Electrician	39.49	12.19	13.25	0.95	0.20	0.15	$66.23	$26.74	$39.49	$0.35	$59.24	$66.23	$59.59	$61.80
S0401	Group I (concrete)	37.25	7.43	11.80	1.18	0.10	0.00	$57.76	$20.51	$37.25	$0.10	$55.88	$57.76	$55.98	$56.57
S1201	Group I (labor)	30.00	7.71	17.06	1.20	0.20	0.20	$56.37	$26.37	$30.00	$0.40	$45.00	$56.37	$45.40	$49.06
S1202	Skilled laborer	31.00	7.71	17.06	1.20	0.20	0.20	$57.37	$26.37	$31.00	$0.40	$46.50	$57.37	$46.90	$50.39
S1203	Group III (skilled labor)	31.90	7.71	17.06	1.20	0.20	0.20	$58.27	$26.37	$31.90	$0.40	$47.85	$58.27	$48.25	$51.59
S1204	Driller	35.18	7.71	17.06	1.20	0.20	0.20	$61.55	$26.37	$35.18	$0.40	$52.77	$61.55	$53.17	$55.96
S1205	Laborer	19.57	7.71	17.06	1.20	0.20	0.20	$45.94	$26.37	$19.57	$0.40	$29.36	$45.94	$29.76	$35.15
S2204	Group IIA (Driller)	38.70	7.71	17.06	1.20	0.20	0.20	$65.07	$26.37	$38.70	$0.40	$58.05	$65.07	$58.45	$60.66
A0201	Bricklayer	40.81	9.53	8.50	0.55	0.15	0.49	$60.03	$19.22	$40.81	$0.64	$61.22	$60.03	$61.86	$61.25
S2202	Pipelayer helper	34.10	7.71	17.06	1.20	0.20	0.20	$60.47	$26.37	$34.10	$0.40	$51.15	$60.47	$51.55	$54.52
S1501	Pipefitter	40.81	8.25	14.60	1.25	1.10	0.00	$66.01	$25.20	$40.81	$1.10	$61.22	$66.01	$62.32	$63.55

Notes:

Pamphlet 600, September 2016 - Updated 3/20/2017

BHR	Basic hourly Rate	
H&W	Health and Welfare	Not applied to overtime
PEN	Pension	Not applied to overtime
TRN	Training	Not applied to overtime
L&M	Labor/Management Fund	
IAF	Industry Advancement Fund	
THR	Total Hourly Rate	

Total Average Hourly Rage = (((Straight Time+Straight Fringe) x 56 hours) + (Overtime + Overtime Fringe) x 112 hours))/168 hours per shift

Cost Buildup for Salary Professional Labor - Salary.com													
Salary Category from Salary.com	SRCE Destination labor Category	Yearly Base Salary	Bonuses	401k	Healthcare	Pension	UN	SS	MED	WC	Total Annual Burden	Total Burdened Annual Salary ($)	Hourly Rate for Shift Work
Project Manager Sr. - Construction	Project Manager	$ 154,124.00	6.70%	2.70%	2.90%	4.70%	2.03%	6.20%	1.45%	4.52%	$ 43,534.89	$ 197,658.89	$ 95.03
Mine Foreman	Forman	$ 84,316.00	0.00%	2.60%	5.60%	4.50%	2.03%	6.20%	1.45%	4.52%	$ 21,755.00	$ 106,071.00	$ 51.00
Geologist III	Field Geologist Engineer	$ 78,993.00	2.50%	2.60%	5.80%	4.50%	2.03%	6.20%	1.45%	4.52%	$ 22,563.98	$ 101,556.98	$ 48.83
Environmental Engineer I	Field Tech Sampler	$ 67,607.00	1.50%	2.60%	6.80%	4.50%	2.03%	6.20%	1.45%	4.52%	$ 19,424.86	$ 87,031.86	$ 41.84
Biologist III	Range Scientist	$ 79,326.00	0.80%	2.60%	5.90%	4.50%	2.03%	6.20%	1.45%	4.52%	$ 21,386.57	$ 100,712.57	$ 48.42
Engineer V	Senior Planning Engineer	$ 144,478.00	5.40%	2.70%	3.20%	4.70%	2.03%	6.20%	1.45%	4.52%	$ 39,874.43	$ 184,352.43	$ 88.63
Project Engineer IV	Project Engineer	$ 129,519.00	4.10%	2.70%	3.60%	4.70%	2.03%	6.20%	1.45%	4.52%	$ 35,422.26	$ 164,941.26	$ 79.30
Annual Hours Worked	2080												

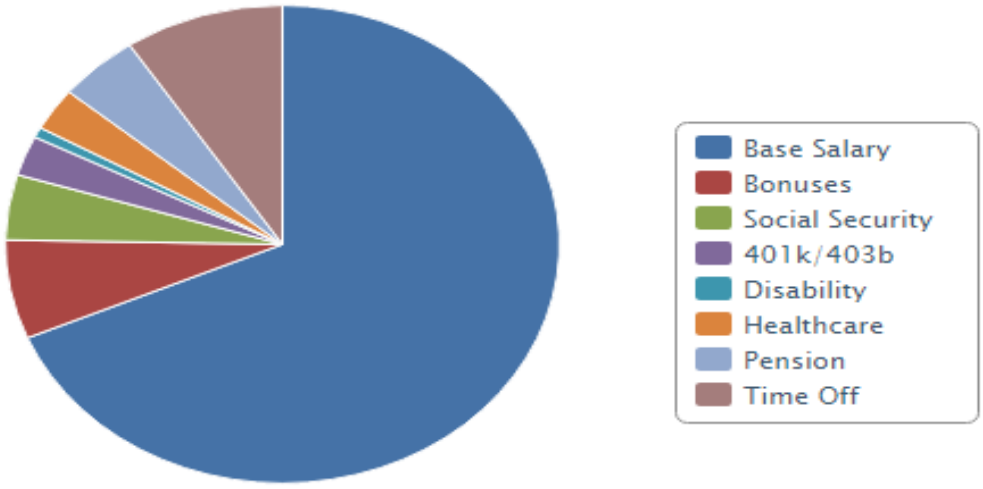
Notes:

Salary and Benefits data from:	Salary.com, accessed on 3/21/2017	
WC	Workers Compensation	InfoMine 2016 Surface non-coal Mine
UN	Unemployment Insurance	InfoMine 2016 New Mine, applicable to first 38700 in wages
SS	Social Security	InfoMine 2016, 6.2 percent on first 118,500
MED	Medicare	InfoMine 2016 1.45 percent plus additional 0.9 percent for salary above $250,000

Salary | Salary + Bonus | **Benefits** | Similar Jobs | Statistics | Job Openings

Averages for Anchorage, AK

Project Manager Sr. - Construction



Core Compensation	Median	% of Total
Base Salary	$154,124	68.6%
Bonuses	$15,012	6.7%
Value of Benefits		
Social Security	$9,799	4.4%
401K/403B	$6,089	2.7%
Disability	$1,522	0.7%
Healthcare	$6,592	2.9%
Pension	$10,656	4.7%
Time Off	$20,817	9.3%
Total Compensation	**$224,612**	**100%**

Core Compensation is based on averages for this job and does not reflect personal factors used to determine your projected salary range.

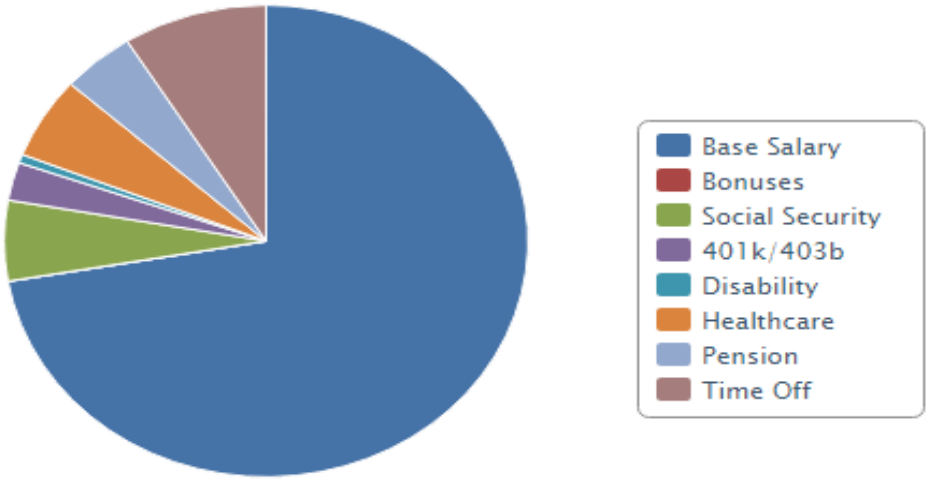
Value of Benefits indicates the employer's expected contribution and paid time off.

$ Use the Benefits Calculator to compare your benefits with the industry average.

Salary | Salary + Bonus | **Benefits** | Similar Jobs | Statistics | Job Openings

Averages for Anchorage, AK

Mine Foreman



Core Compensation	Median	% of Total
Base Salary	$84,316	72.2%
Bonuses	$0	0.0%
Value of Benefits		
Social Security	$6,450	5.5%
401K/403B	$3,035	2.6%
Disability	$759	0.6%
Healthcare	$6,592	5.6%
Pension	$5,312	4.5%
Time Off	$10,377	8.9%
Total Compensation	**$116,841**	**100%**

Core Compensation is based on averages for this job and does not reflect personal factors used to determine your projected salary range.

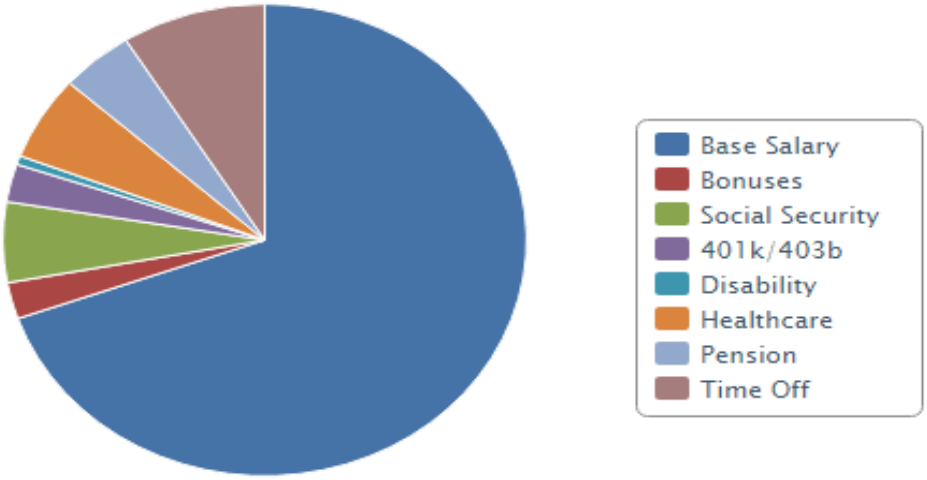
Value of Benefits indicates the employer's expected contribution and paid time off.

$ Use the Benefits Calculator to compare your benefits with the industry average.

Salary | Salary + Bonus | **Benefits** | Similar Jobs | Statistics | Job Openings

Averages for Anchorage, AK

Geologist III



Core Compensation	Median	% of Total
Base Salary	$78,993	69.6%
Bonuses	$2,796	2.5%
Value of Benefits		
Social Security	$6,257	5.5%
401K/403B	$2,944	2.6%
Disability	$736	0.6%
Healthcare	$6,592	5.8%
Pension	$5,153	4.5%
Time Off	$10,066	8.9%
Total Compensation	$113,538	100%

Core Compensation is based on averages for this job and does not reflect personal factors used to determine your projected salary range.

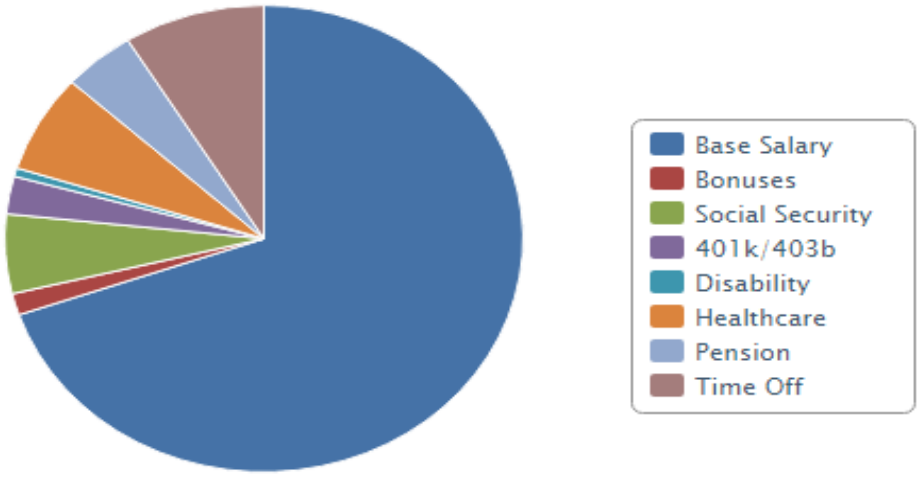
Value of Benefits indicates the employer's expected contribution and paid time off.

$ Use the Benefits Calculator to compare your benefits with the industry average.

Salary | Salary + Bonus | **Benefits** | Similar Jobs | Statistics | Job Openings

Averages for Anchorage, AK

Environmental Engineer I



Core Compensation	Median	% of Total
Base Salary	$67,607	69.7%
Bonuses	$1,480	1.5%
Value of Benefits		
Social Security	$5,285	5.5%
401K/403B	$2,487	2.6%
Disability	$622	0.6%
Healthcare	$6,592	6.8%
Pension	$4,352	4.5%
Time Off	$8,503	8.8%
Total Compensation	**$96,928**	**100%**

Core Compensation is based on averages for this job and does not reflect personal factors used to determine your projected salary range.

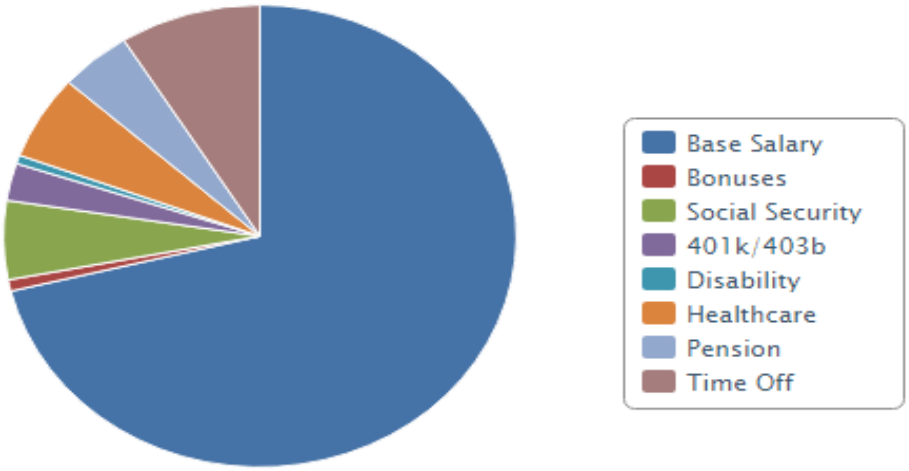
Value of Benefits indicates the employer's expected contribution and paid time off.

$ Use the Benefits Calculator to compare your benefits with the industry average.

Salary | Salary + Bonus | **Benefits** | Similar Jobs | Statistics | Job Openings

Averages for Anchorage, AK

Biologist III



Core Compensation	Median	% of Total
Base Salary	$79,326	71.1%
Bonuses	$929	0.8%

Core Compensation is based on averages for this job and does not reflect personal factors used to determine your projected salary range.

Value of Benefits		
Social Security	$6,140	5.5%
401K/403B	$2,889	2.6%
Disability	$722	0.6%
Healthcare	$6,592	5.9%
Pension	$5,056	4.5%
Time Off	$9,878	8.9%
Total Compensation	**$111,531**	**100%**

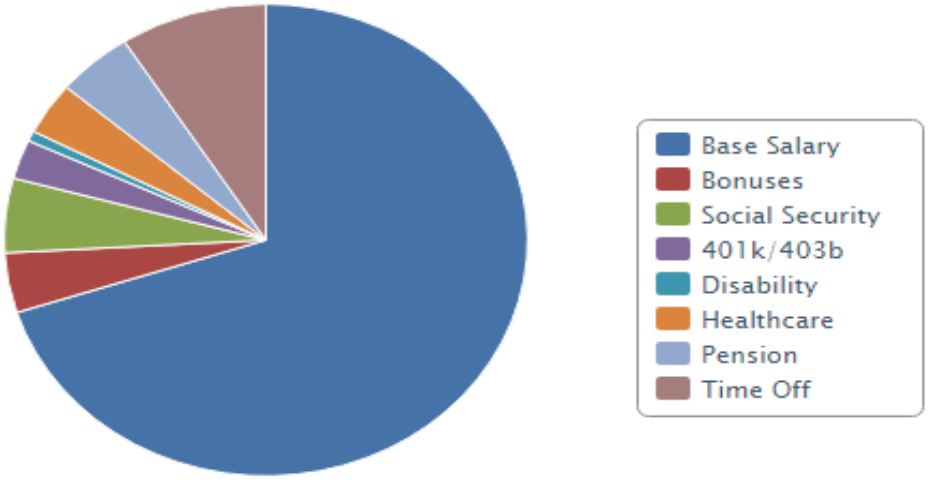
Value of Benefits indicates the employer's expected contribution and paid time off.

$ Use the Benefits Calculator to compare your benefits with the industry average.

Salary | Salary + Bonus | **Benefits** | Similar Jobs | Statistics | Job Openings

Averages for Anchorage, AK

Project Engineer IV



Core Compensation	Median	% of Total
Base Salary	$129,519	70.1%
Bonuses	$7,597	4.1%
Value of Benefits		
Social Security	$9,335	5.1%
401K/403B	$4,936	2.7%
Disability	$1,234	0.7%
Healthcare	$6,592	3.6%
Pension	$8,638	4.7%
Time Off	$16,876	9.1%
Total Compensation	$184,727	100%

Core Compensation is based on averages for this job and does not reflect personal factors used to determine your projected salary range.

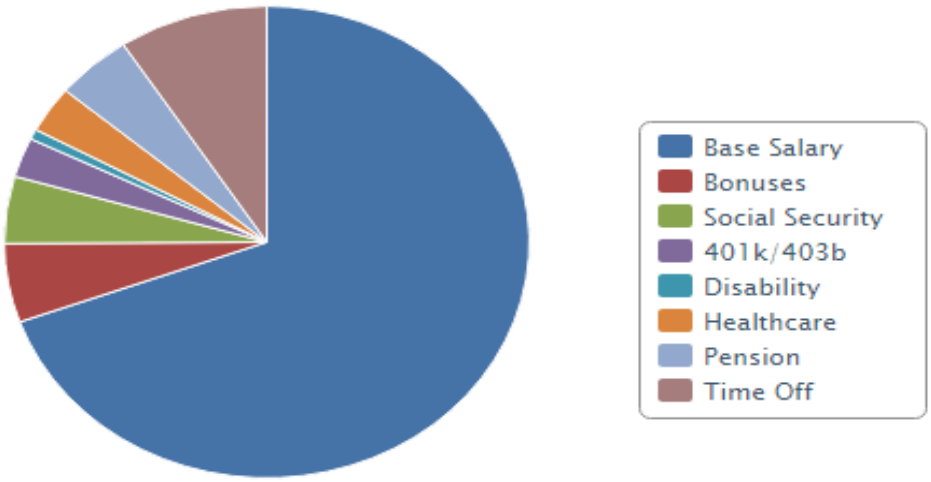
Value of Benefits indicates the employer's expected contribution and paid time off.

$ Use the Benefits Calculator to compare your benefits with the industry average.

Salary | Salary + Bonus | **Benefits** | Similar Jobs | Statistics | Job Openings

Averages for Anchorage, AK

Engineer V



Core Compensation	Median	% of Total
Base Salary	$144,478	69.5%
Bonuses	$11,234	5.4%
Value of Benefits		
Social Security	$9,605	4.6%
401K/403B	$5,606	2.7%
Disability	$1,401	0.7%
Healthcare	$6,592	3.2%
Pension	$9,810	4.7%
Time Off	$19,165	9.2%
Total Compensation	**$207,890**	**100%**

Core Compensation is based on averages for this job and does not reflect personal factors used to determine your projected salary range.

Value of Benefits indicates the employer's expected contribution and paid time off.

$ Use the Benefits Calculator to compare your benefits with the industry average.

WESTERN REGION – 2016 U.S. Mine Salary Survey

The Western region includes California, Nevada, Oregon, Washington, and Alaska. The table below summarizes the salary data by selected job title. Salary tables for each mine in the region are shown on the following pages.

Twenty-three surface mines and eight underground mines responded to the salary survey in this region, ranging in size from under 1,000,000 to over 5,000,000 tons ore mined annually. All of the mines in this region are metal, industrial mineral or aggregate operations.

TABLE 24. Summary of Annual Base Salaries for Selected Job Titles: Surface and Underground Mines: Western Region (U.S. dollars per year)

	Surface		Underground		Total
Number of Mines	23		8		31
Job Title:	**Range**	**Average**	**Range**	**Average**	**Average**
General Manager	154,400 - 270,000	198,800	195,000 - 270,000	223,200	207,400
Mine Manager	93,900 - 168,900	130,200	114,800 - 189,500	149,800	137,000
Plant Manager	118,500 - 178,800	145,200	165,600*	165,600	146,900
Mine Superintendent	97,900 - 145,800	123,000	83,400 - 145,800	127,800	125,000
Mill Superintendent	103,200 - 148,200	128,100	126,200 - 145,800	139,700	132,900
Mech/Elect Superintendent	90,100 - 146,300	123,100	90,000 - 147,200	133,500	126,200
Mine Foreman	60,600 - 135,000	100,300	86,400 - 129,000	103,400	100,500
Mill Foreman	70,700 - 116,000	99,300	86,700 - 128,800	103,600	101,000
Chief Engineer	92,500 - 145,800	114,800	98,600 - 140,900	117,700	116,000
Mine Engineer	69,300 - 121,200	90,200	69,300 - 111,900	90,500	90,300
Chemist	42,900 - 105,600	72,200	41,800 - 135,500	76,900	74,400
Metallurgist	69,300 - 145,800	102,500	41,800 - 145,800	93,900	98,300
Chief Geologist	85,000 - 186,900	128,000	96,600 - 145,800	125,400	127,300
Mine Geologist	60,000 - 170,000	86,500	65,900 - 105,900	84,900	85,900
Environmental Coordinator	71,000 - 168,400	107,600	66,000 - 152,100	101,800	105,200
Environmental Technician	39,500 - 98,600	69,900	41,800 - 98,600	70,700	70,300
Health/Safety Coordinator	55,300 - 141,700	96,000	66,000 - 152,100	102,200	98,600
Purchasing Agent	77,300 - 120,000	93,600	65,000 - 114,800	88,600	90,400
Buyer	62,000 - 88,200	75,600	41,800 - 88,200	66,500	70,600
Personnel Manager	45,900 - 178,800	111,700	77,500 - 161,700	113,500	112,400
Accountant	55,000 - 176,800	98,300	50,000 - 133,700	86,600	94,100
Accounting Clerk	50,200 - 58,600	54,300	35,000 - 67,500	53,600	53,800
Administrative Assistant	38,500 - 60,800	49,400	41,800 - 60,600	50,600	49,800
Secretary	45,500 - 75,000	60,300	---	---	60,300
Warehouse Clerk	41,400 - 92,700	56,800	37,000 - 64,600	52,000	54,300

** limited data*

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TABLE 41. STATE UNEMPLOYMENT INSURANCE RATES - 2016

State	New Mine Tax Rate	Wage Base	New Mine Time Period	Experienced Rate Range
Alabama	2.7%	$8,000	1 yr.	0.20% - 6.8%
Alaska	2.60%	38,700	1 yr.	1.0% - 5.4%
	0.57%	*Amount that can be passed on to employee*		
Arizona	2.0%	7,000	2 yr.	0.03% - 8.91%

TABLE 42. STATE WORKERS' COMPENSATION RATES - 2016 (Dollars per $100 payroll)

State	Underground Coal Mine	Surface Coal Mine	Underground NonCoal Mine	Surface NonCoal Mine	Ore Mill Operation
Alabama	$34.48	$15.91	$11.19	$9.07	$7.49 – 8.25
Alaska	18.28	6.63	7.29	4.52	2.73 – 5.62
Arizona	20.44	8.51	10.57	4.85	4.31 – 9.27
Arkansas	13.86	5.49	5.36	2.62	3.30 – 3.32

APPENDIX D

Federal Employment Taxes
State Unemployment Insurance and Workers' Compensation Rates

FEDERAL EMPLOYMENT TAXES

The United States' federal employment taxes comprise Federal Withholding (Income) Tax, Social Security (FICA) Tax, and Federal Unemployment (FUTA) Tax.

Federal Withholding Tax

Withholding (income) taxes are deducted from the employee's wages and paid to the federal government by the employer. They are fully paid by the employee, so need not be considered in cost estimating.

Federal Unemployment Tax

The Federal Unemployment Tax (FUTA) provides funding for federal support of state unemployment programs. The tax rate for 2016 is 6.0% of wages paid, up to a maximum wage of $7,000 per year for each employee. A credit up to a maximum of 5.4% of taxable wages can be taken against this tax for state unemployment taxes paid. The FUTA tax rate after taking the state tax credit is 0.6%. This tax is fully paid by the employer.

Social Security Tax and Medicare Tax

The Social Security Tax (FICA) and Medicare Tax provide federal funding for retirement, disability, medical and other benefits to workers. Employer and employee share in payment of these taxes. Since 1994, the Medicare Tax has been calculated and applied separately from Social Security Tax.

The wage base for 2016 is $118,500, for Social Security Tax (old age, survivors, and disability insurance); the tax rate is 6.2% each for employers and employees.

For Medicare, the rate is 1.45% each for employers and employees, with all wages subject to tax. Effective in 2013, earnings over $250,000 (married filing jointly) are taxed at an additional 0.9%.

STATE EMPLOYMENT TAXES

State Unemployment Insurance Tax

Unemployment insurance taxes are collected from all employers to provide state funding for payment of benefits to unemployed workers. Normally the employer pays the entire amount of this tax. Exceptions are Alaska, New Jersey, and Pennsylvania, where employees may be required to contribute a share.

Tax rates are established yearly for each employer. Several methods are used by the states for calculating the rates, but in most cases rates depend upon two variables: the employer's experience record and the status of the state's unemployment fund. An employer pays a higher rate if many claims for benefits have been filed against his account by laid-off workers. All employers pay higher rates if the state fund is low.

A new employer with no experience record is usually charged a standard rate for a period of time ranging from one to four years until he qualifies for a calculated rate based on his experience record. This standard rate may be fixed by state law, it may be an average for the state, or it may be an average for that industry in the state.

The tax is calculated by multiplying *the rate* times *wages paid*. Most states have a maximum annual wage, called the "wage base," taxable by this formula. Wages paid to each employee in excess of the wage base are not taxable. The wage base is usually established for each year, often as a fixed percentage of the average wage for the state. Table 41 lists the new mining employer tax rate, wage base, new employer time period, and the rate range for experienced employers in each state.

Workers' Compensation Insurance

All states require employers to carry insurance to pay medical and other expenses for employees injured on the job. Until recently, state governments acted as exclusive carriers for this insurance. Now many states allow employers to contract with private carriers. Most of these states maintain a program for residual employers unwilling or unable to find a private carrier.

Rates are established for each industry based on the claim record for that industry. Tax rates (insurance premiums) are usually quoted as dollars per hundred dollars of wages paid and are chargeable against the full amount of wages. Table 42 lists current rates for surface and underground metal and industrial mineral miners.

State occupational disease coverage as applied to metal and industrial mineral mines is included in the rates. In some instances, federal occupational disease premiums must be paid in addition to the rates stated.

Where no compensation insurance rate is listed, either none has been established for the state, or none was identified by our survey.

Attachment C: Premature Closure SRCE Cost Summary

(Full File Provided Electronically)

Closure Cost Estimate
Cost Summary

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure
Project Date: May 2017
Model Version: Version 1.4.1
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm

A. Earthwork/Recontouring	Labor (1)	Equipment (2)	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$519,480	$1,820,631	$0	$2,340,111
Well Abandonment	$721,996	$1,606,040	$95,715	$2,423,751
Pits	$25,794	$113,226	N/A	$139,020
Quarries & Borrow Areas	$0	$0	$0	$0
Underground Openings	$0	$0	$0	$0
Process Ponds	$25,019	$98,463	$0	$123,482
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$1,679,010	$6,998,641	$0	$8,677,651
Landfills	$0	$0	$0	$0
Tailings	$869,703	$3,642,708	$0	$4,512,411
Foundation & Buildings Areas	$44,822	$203,019	$0	$247,841
Yards, Etc.	$980,461	$4,030,624	$0	$5,011,085
Drainage & Sediment Control	$12,357,912	$3,956,668	$12,173,126	$28,487,706
Generic Material Hauling	$5,159,053	$22,080,471	$0	$27,239,524
Other User Costs (from Other User sheet)	$108,001	$0	$980,012	$1,088,014
Other**				$0
Subtotal	**$22,491,252**	**$44,550,491**	**$13,248,853**	**$80,290,596**
Mob/Demob if included in Other User sheet	$1,404,320	$2,808,640	$0	$4,212,960
Mob/Demob				$0
Subtotal "A"	**$23,895,572**	**$47,359,131**	**$13,248,853**	**$84,503,556**

B. Revegetation/Stabilization	Labor (1)	Equipment (2)	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$20,022	$5,793	$93,690	$119,505
Well Abandonment				N/A
Pits	$1,399	$404	$2,781	$4,584
Quarries & Borrow Areas	$0	$0	$0	$0
Underground Openings				N/A
Process Ponds	$338	$98	$486	$922
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$102,204	$29,565	$203,082	$334,851
Landfills	$0	$0	$0	$0
Tailings	$74,126	$21,443	$105,970	$201,539
Foundation & Buildings Areas	$7,843	$2,269	$1,584	$11,696
Yards, Etc.	$181,543	$52,517	$360,547	$594,607
Drainage & Sediment Control	$11,840	$3,424	$17,110	$32,374
Generic Material Hauling	$6,048	$1,750	$12,019	$19,817
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "B"	**$405,363**	**$117,262**	**$797,269**	**$1,319,895**

C. Detoxification/Water Treatment/Disposal of Wastes**	Labor (1)	Equipment (2)	Materials	Total
Process Ponds/Sludge				$0
Heaps				$0
Dumps (Waste & Landfill)				$0
Tailings				$0
Surplus Water Disposal				$0
Monitoring				$0
Miscellaneous				$0
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
Pumping (from Solution Mgmt sheet)	$0	$50,722,404	N/A	$50,722,404
Evaporation (from Solution Mgmt sheet)	$0	$0	$0	$0
Treatment (from Solution Mgmt sheet)	$0	$704,386,004	$19,008,405	$723,394,409
Decontamination (from Solution Mgmt sheet)	$118,389	$13,771	$0	$132,160
Other User Costs (from Other User sheet)	$115,954	$16,002,336	$1,805,472	$17,923,761
Other**				$0
Subtotal "C"	**$284,869**	**$771,170,582**	**$21,013,977**	**$792,469,428**

D. Structure, Equipment and Facility Removal, and Misc.	Labor (1)	Equipment (2)	Materials	Total
Foundation & Buildings Areas	$8,092,625	$3,610,720	$0	$11,703,345
Other Demolition	$0	$0	$0	$0
Equipment Removal	$90,283	$195,081	$0	$285,364
Fence Removal	$0	$0		$0
Fence Installation	$0	$0	$0	$0
Culvert Removal	$0	$0	N/A	$0
Pipe Removal	$158,323	$11,433	N/A	$169,756
Powerline Removal	$856,945			$856,945
Transformer Removal	$106,026			$106,026
Rip-rap, rock lining, gabions	$1,585,163	$446,597	$0	$2,031,760
Other Misc. Costs	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$2,019,185	$1,478,142	$684,000	$4,181,327
Other**				$0
Subtotal "D"	**$12,908,550**	**$5,741,972**	**$684,000**	**$19,334,523**

E. Monitoring	Labor (1)	Equipment (2)	Materials	Total
Reclamation Monitoring and Maintenance	$270,044	$428,440	$64,434	$762,918
Ground and Surface Water Monitoring	$15,846	$1,202	$23,363	$40,411
Other User Costs (from Other User sheet)	$1,750,000	$178,345	$2,263,962	$4,192,307
Subtotal "E"	**$2,035,890**	**$607,987**	**$2,351,759**	**$4,995,636**

F. Construction Management & Support	Labor	Equipment (2)	Materials	Total
Construction Management	$4,160,033	$548,076	N/A	$4,708,109
Construction Support	$0	$0	$0	$0
Road Maintenance	$1,983,312	$2,239,164	$0	$4,222,476
Other User Costs (from Other User sheet)	$14,026,364	$17,093,016	$0	$31,119,380
Other**				$0
Subtotal "F"	**$20,169,709**	**$19,880,256**	**$0**	**$40,049,965**

G. Closure Planning, G&A, Human Resources			Include?	Total

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Closure Cost Estimate
Cost Summary

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure
Project Date: May 2017
Model Version: Version 1.4.1
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm

Closure Planning				$0
General & Administration				$0
Human Resources				$128,770,832
Other User Costs (from Other User sheet)	$70,976,381	$14,197,040	$0	$85,173,421
Other**				$0
Subtotal "G"	**$70,976,381**	**$14,197,040**	**$0**	**$213,944,253**

Subtotal Operational & Maintenance Costs	**Labor (1)**	**Equipment (2)**	**Materials (3)**	**Total**
Subtotal A through G	**$130,676,334**	**$859,074,230**	**$38,095,858**	**$1,156,617,256**

** Other Operator supplied costs - additional documentation required.

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Closure Cost Estimate
Cost Summary

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure
Project Date: May 2017
Model Version: Version 1.4.1
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm

Indirect Costs				Include?	Total
1. Engineering, Design and Construction (ED&C) Plan (7)					$34,698,518
2. Contingency (8)					$104,095,553
3. Insurance (9)	$1,960,145				$1,960,145
4. Performance Bond (10)					$23,132,345
5. Contractor Profit (11)					$115,661,726
6. Contract Administration (12)					$57,830,863
7. Government Indirect Cost (13)					$0
Subtotal Add-On Costs					**$337,379,150**
Total Indirect Costs as % of Direct Cost					29%
GRAND TOTAL					**$1,493,996,406**

Administrative Cost Rates (%)					
	Cost Ranges for Indirect Cost Percentages				
	<=	<=	<=	>	
1. Engineering, Design and Construction (ED&C) Plan (7)	$500,000	$2,500,000	$25,000,000	$25,000,000	Small Plan
Variable Rate	8%	6%		3%	0%
	<=	<=	<=	>	
2. Contingency (8)	$500,000	$5,000,000	$50,000,000	$50,000,000	Small Plan
Variable Rate	10%	8%	6%	9%	0%
3. Insurance (9)	1.5%	of labor costs			
4. Bond (10)	2.0%	of the O&M costs if O&M costs are >$100,000			
5. Contractor Profit (11)	10%	of the O&M costs			
	<=	<=	<=	>	
6. Contract Administration (12)	$1,000,000	$25,000,000		$25,000,000	
Variable Rate	10%	8%		5%	
0	0%	of contract administration			

RECLAMATION COST ESTIMATION SUMMARY SHEET FOOTNOTES
NOTE :

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsı Clear Schedule
Cost Estimate Type: Surety **Cost Basis: Alaska Davis Bacon 2016**

Cost Schedule and Financial Analysis

Budget Year:	1	
First Year of Operation	5	
Operating Period	5	years
Closure Year 1:	10	
Closure Period:	5	years
Post Closure Period	100	years

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

Engineering, Design and Construction Plan (%)	3%
Contingency (%)	9.0%
Contractor OH and Profit (CP)(%):	10%
Contract Administration (%)	5%

Show how many years in schedule (10 to 100) 100 Set Years <<< Set years and click "Set Years" butt

	Term (t)(years):	Total From Cost Summary	0	1	2	3	4	5	6	7	8	9	10
	Schedule Variance		1	2	3	4	5	6	7	8	9	10	11
A. Earthwork/Recontouring													
Exploration	$ -	$ -											
Exploration Roads & Drill Pads	$ -	$ -											
Roads	$ -	$ 2,340,111											
Well Abandonment	$ -	$ 2,423,751											
Pits	$ -	$ 139,020										$ 139,020	
Quarries & Borrow Areas	$ -	$ -											
Underground Openings	$ -	$ -											
Process Ponds	$ -	$ 123,482											
Heaps	$ -	$ -											
Waste Rock Dumps	$ -	$ 8,677,651										$ 8,500,269	$ 177,382
Landfills	$ -	$ -											
Tailings	$ -	$ 4,512,411										$ 30,110	$ -
Foundation & Buildings Areas	$ -	$ 247,841											
Yards, Etc.	$ -	$ 5,011,085										$ -	$ -
Drainage & Sediment Control	$ -	$ 28,487,706										$ 8,184,713	$ 7,119,451
Generic Material Hauling	$ -	$ 27,239,524										$ 8,264,487	$ 8,264,487
Other User Costs (from Other User sheet)	$ -	$ 1,088,014										$ 544,007	$ 544,007
Other**	$ -	$ -											
Mob/Demob if included in Other User sheet	$ -	$ 4,212,960										$ 2,106,480	
Mob/Demob	$ -	$ -											
Subtotal "A"	$ -	$ 84,503,556	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,769,086	$ 16,105,327
B. Revegetation/Stabilization													
Exploration	$ -	$ -											
Exploration Roads & Drill Pads	$ -	$ -											
Roads	$ -	$ 119,505											
Well Abandonment		N/A											
Pits	$ -	$ 4,584										$ 4,584	
Quarries & Borrow Areas	$ -	$ -											
Underground Openings		N/A											
Process Ponds	$ -	$ 922											
Heaps	$ -	$ -											
Waste Rock Dumps	$ -	$ 334,851				$ -	$ -	$ -	$ -	$ -	$ -	$ 328,006	$ 6,845
Landfills	$ -	$ -											
Tailings	$ -	$ 201,539				$ -	$ -	$ -	$ -	$ -	$ -	$ 1,345	$ -
Foundation & Buildings Areas	$ -	$ 11,696											
Yards, Etc.	$ -	$ 594,607											
Drainage & Sediment Control	$ -	$ 32,374											
Generic Material Hauling	$ -	$ 19,817											
Other User Costs (from Other User sheet)	$ -	$ -											
Other**	$ -	$ -											
Subtotal "B"	$ -	$ 1,319,895	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 333,935	$ 6,845
C. Detoxification/Water Treatment/Disposal of Wastes**													
Process Ponds/Sludge	$ -	$ -											
Heaps	$ -	$ -											

Dumps (Waste & Landfill)	$ -	$ -											
Tailings	$ -	$ -											
Surplus Water Disposal	$ -	$ -											
Monitoring	$ -	$ -											
Miscellaneous	$ -	$ -											
Solid Waste - On Site	$ -	$ 78,057										$ 19,514	$ 19,514
Solid Waste - Off Site	$ -	$ -											
Hazardous Materials	$ -	$ -											
Hydrocarbon Contaminated Soils	$ -	$ 218,637										$ 54,659	$ 54,659
Pumping (from Solution Mgmt sheet)	$ -	$ 50,722,404								$ 63,696	$ 63,696	$ 158,700	$ 158,700
Evaporation (from Solution Mgmt sheet)	$ -	$ -											
Treatment (from Solution Mgmt sheet)	$ -	$ 723,394,409										$ 11,510,474	$ 6,487,501
Decontamination (from Solution Mgmt sheet)	$ -	$ 132,160										$ 44,053	$ 44,053
Other User Costs (from Other User sheet)	$ -	$ 17,923,761										$ 6,845,328	$ 1,573,565
Other**	$ -	$ -											
Subtotal "C"	$ -	$ 792,469,428	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 63,696	$ 63,696	$ 18,632,729	$ 8,337,993
D. Structure, Equipment and Facility Removal, and Misc.													
Foundation & Buildings Areas	$ -	$ 11,703,345										$4,478,103	$4,478,103
Other Demolition	$ -	$ -											
Equipment Removal	$ -	$ 285,364										$285,364	
Fence Removal	$ -	$ -											
Fence Installation	$ -	$ -											
Culvert Removal	$ -	$ -											
Pipe Removal	$ -	$ 169,756											
Powerline Removal	$ -	$ 856,945											
Transformer Removal	$ -	$ 106,026											
Rip-rap, rock lining, gabions	$ -	$ 2,031,760										$1,410,672	$621,088
Other Misc. Costs	$ -	$ -											
Other User Costs (from Other User sheet)	$ -	$ 4,181,327										$1,954,724	
Other**	$ -	$ -											
Subtotal "D"	$ -	$ 19,334,523	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,128,863	$ 5,099,190
E. Monitoring													
Reclamation Monitoring and Maintenance	$ -	$ 762,918										$190,730	$190,730
Ground and Surface Water Monitoring (calculated from user input in Monitoring Sheet)	$ -	$ 40,411										$ 40,411	$ -
Other User Costs (from Other User sheet)	$ -	$ 4,192,307										$416,263	$416,263
Subtotal "E"	$ -	$ 4,995,636	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 647,403	$ 606,992
F. Construction Management & Support													
Construction Management	$ -	$ 4,708,109										$1,177,027	$1,177,027
Construction Support	$ -	$ -											
Road Maintenance	$ -	$ 4,222,476										$1,055,619	$1,055,619
Other User Costs (from Other User sheet)	$ -	$ 31,119,380											
Other**	$ -	$ -											
Subtotal "F"	$ -	$ 40,049,965	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,232,646	$ 2,232,646
G. Closure Planning, G&A, Human Resources													
Closure Planning	$ -	$ -											
General & Administration	$ -	$ -											
Human Resources	$ -	$ 128,770,832								$413,150	$413,150	$1,386,686	$1,386,686
Other User Costs (from Other User sheet)	$ -	$ 85,173,421								$367,640	$367,640	$1,575,600	$1,575,600
Other**	$ -	$ -											
Subtotal "G"	$ -	$ 213,944,253	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 780,790	$ 780,790	$ 2,962,286	$ 2,962,286
Subtotal Operational & Maintenance Costs													
Subtotal A through G	$ -	$ 1,156,617,256	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 844,486	$ 844,486	$ 60,706,948	$ 35,351,279
Indirect Costs													
1. Engineering, Design and Construction (ED&C) Plan (7)	$ -	$ 34,698,518									$25,335	$1,821,208	$1,060,538
2. Contingency (8)		$ 104,095,553	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 76,004	$ 76,004	$ 5,463,625	$ 3,181,615
3. Insurance (9)	$ -	$ 1,960,145									$1,431	$102,881	$59,911
4. Performance Bond (10)	$ -	$ 23,132,345									$16,890	$1,214,139	$707,026
5. Contractor Profit (11)		$ 115,661,726	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 84,449	$ 84,449	$ 6,070,695	$ 3,535,128
6. Contract Administration (12)		$ 57,830,863	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 42,224	$ 42,224	$ 3,035,347	$ 1,767,564
7. Government Indirect Cost (13)	$ -	$ -											
Subtotal Add-On Costs	$ -	$ 337,379,150	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 202,677	$ 246,332	$ 17,707,896	$ 10,311,782

Grand Total (Undiscounted)	$ -	**$ 1,493,996,406**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,047,163**	**$ 1,090,819**	**$ 78,414,844**	**$ 45,663,061**

Inflation Adjustment (Future Value = FV)	**$FV = Se^{(rt)}$**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,047,163**	**$ 1,090,819**	**$ 78,414,844**	**$ 45,663,061**
Market Risk Adjustment	**(MR x FV)**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Future Value (Fv_{adj})	**$Fv_{adj} = (FV + MR)$**		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,047,163**	**$ 1,090,819**	**$ 78,414,844**	**$ 45,663,061**
Net Present Value (PV)	**$PV = FV_{adj}/(1+i)^t$**	**$ 1,493,996,406**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,047,163**	**$ 1,090,819**	**$ 78,414,844**	**$ 45,663,061**

Grand Total (Undiscounted)		**$ 1,493,996,406**
Grand Total (Inflation Adjusted) (FV)		**$ 1,493,996,406**
Grand Total Market Risk Adjusted (Fv_{adj})		**$ 1,493,996,406**
Grand Total Net Present Value (NPV)		**$ 1,493,996,406**

Source: This worksheet was prepared and contributed by Patric Lassiter, SRK Consulting

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11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	$ 2,340,111																	
	$ 2,423,751																	
$ -	$ -																	
$ 4,482,301	$ -																	
	$ 247,841																	
$ 1,068,464	$ 3,942,622																	
$ 5,642,438	$ 7,541,104																	
$ 5,919,628	$ 4,790,922																	
	$ 2,106,480																	
$ 17,112,831	$ 23,392,830	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

	$ 119,505																	
$ -	$ -																	
$ 200,194	$ -																	
	$ 11,696																	
	$ 594,607																	
	$ 32,374																	
	$ 19,817																	
$ 200,194	$ 777,999	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

$ 19,514	$ 19,514																	
$ 54,659	$ 54,659																	
$ 158,700	$ 158,700	$ 158,700	$ 95,544	$ 95,544	$ 98,340	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256
$ 6,487,501	$ 6,487,501	$ 6,487,501			$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699
$ 44,053																		
$ 9,504,868																		
$ 16,269,296	$ 6,720,374	$ 6,646,201	$ 95,544	$ 95,544	$ 1,763,039	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955

$2,747,140																		
$169,756																		
$856,945																		
$106,026																		
$226,602																		
$ 4,106,469	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

$190,730	$190,730																	
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$416,263	$416,263	$416,263	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036
$ 606,992	$ 606,992	$ 416,263	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036

$1,177,027	$1,177,027																	
$1,055,619	$1,055,619																	
			$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100
$ 2,232,646	$ 2,232,646	$ -	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100

$1,386,686	$1,386,686	$1,386,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686
$1,575,600	$1,575,600	$1,575,600	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640
$ 2,962,286	$ 2,962,286	$ 2,962,286	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326

$ 43,490,714	$ 36,693,128	$ 10,024,749	$ 1,179,006	$ 1,179,006	$ 2,846,501	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417

$1,304,721	$1,100,794	$300,742	$35,370	$35,370	$85,395	$87,793	$87,793	$87,793	$87,793	$87,793	$87,793	$87,793	$87,793	$87,793	$87,793	$87,793	$87,793	$87,793
$ 3,914,164	$ 3,302,382	$ 902,227	$ 106,111	$ 106,111	$ 256,185	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378
$73,705	$62,185	$16,989	$1,998	$1,998	$4,824	$4,959	$4,959	$4,959	$4,959	$4,959	$4,959	$4,959	$4,959	$4,959	$4,959	$4,959	$4,959	$4,959
$869,814	$733,863	$200,495	$23,580	$23,580	$56,930	$58,528	$58,528	$58,528	$58,528	$58,528	$58,528	$58,528	$58,528	$58,528	$58,528	$58,528	$58,528	$58,528
$ 4,349,071	$ 3,669,313	$ 1,002,475	$ 117,901	$ 117,901	$ 284,650	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642
$ 2,174,536	$ 1,834,656	$ 501,237	$ 58,950	$ 58,950	$ 142,325	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321
$ 12,686,012	$ 10,703,192	$ 2,924,166	$ 343,910	$ 343,910	$ 830,309	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620

$ 56,176,726	$ 47,396,320	$ 12,948,916	$ 1,522,915	$ 1,522,915	$ 3,676,810	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037

$ 56,176,726	$ 47,396,320	$ 12,948,916	$ 1,522,915	$ 1,522,915	$ 3,676,810	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 56,176,726	$ 47,396,320	$ 12,948,916	$ 1,522,915	$ 1,522,915	$ 3,676,810	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037
$ 56,176,726	$ 47,396,320	$ 12,948,916	$ 1,522,915	$ 1,522,915	$ 3,676,810	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037

30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49

$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 178,256	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470
$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 88,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699
$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 1,842,955	$ 88,842,955	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169

$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036	$3,036
$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036	$ 3,036

$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100
$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100

$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686
$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640
$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326

$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 2,926,417	$ 89,926,417	$ 2,912,631	$ 2,912,631	$ 2,912,631	$ 2,912,631	$ 2,912,631	$ 2,912,631	$ 2,912,631	$ 2,912,631	$ 2,912,631

$87,793	$87,793	$87,793	$87,793	$87,793	$87,793	$87,793	$87,793	$87,793	$2,697,793	$87,379	$87,379	$87,379	$87,379	$87,379	$87,379	$87,379	$87,379	$87,379
$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 263,378	$ 8,093,378	$ 262,137	$ 262,137	$ 262,137	$ 262,137	$ 262,137	$ 262,137	$ 262,137	$ 262,137	$ 262,137
$4,959	$4,959	$4,959	$4,959	$4,959	$4,959	$4,959	$4,959	$4,959	$152,400	$4,936	$4,936	$4,936	$4,936	$4,936	$4,936	$4,936	$4,936	$4,936
$58,528	$58,528	$58,528	$58,528	$58,528	$58,528	$58,528	$58,528	$58,528	$1,798,528	$58,253	$58,253	$58,253	$58,253	$58,253	$58,253	$58,253	$58,253	$58,253
$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 292,642	$ 8,992,642	$ 291,263	$ 291,263	$ 291,263	$ 291,263	$ 291,263	$ 291,263	$ 291,263	$ 291,263	$ 291,263
$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 146,321	$ 4,496,321	$ 145,632	$ 145,632	$ 145,632	$ 145,632	$ 145,632	$ 145,632	$ 145,632	$ 145,632	$ 145,632
$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 853,620	$ 26,231,061	$ 849,599	$ 849,599	$ 849,599	$ 849,599	$ 849,599	$ 849,599	$ 849,599	$ 849,599	$ 849,599

$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 116,157,478	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230

$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 116,157,478	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 116,157,478	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230
$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 3,780,037	$ 116,157,478	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230	$ 3,762,230

49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67
50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470
$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699
$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169

							$500,000											
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

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$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724
$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724

$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100
$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100

$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686
$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640
$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326

$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 3,421,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319

$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$102,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640
$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 307,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919
$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$5,798	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951
$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$68,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426
$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 342,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132
$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 171,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066
$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 997,981	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133

$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 4,419,300	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452

$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 4,419,300	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 4,419,300	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452
$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 4,419,300	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452

68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

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$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470
$ 1,664,699	$ 45,164,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699
$ 1,829,169	$ 45,329,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169

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$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724
$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724

$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100
$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100

$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686
$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640
$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326

$ 2,921,319	$ 46,421,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319

$87,640	$1,392,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640
$ 262,919	$ 4,177,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919
$4,951	$78,671	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951
$58,426	$928,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426
$ 292,132	$ 4,642,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132
$ 146,066	$ 2,321,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066
$ 852,133	$ 13,540,854	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133

$ 3,773,452	$ 59,962,173	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452

$ 3,773,452	$ 59,962,173	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 3,773,452	$ 59,962,173	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452
$ 3,773,452	$ 59,962,173	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452

87	88	89	90	91	92	93	94	95	96	97	98	99	100	TOTAL	Comments
88	89	90	91	92	93	94	95	96	97	98	99	100	101		
														$ -	
														$ -	
														$ 2,340,111	
														$ 2,423,751	
														$ 139,020	
														$ -	
														$ -	
													$ 123,482	$ 123,482	
														$ -	
														$ 8,677,651	
														$ -	
														$ 4,512,411	
														$ 247,841	
														$ 5,011,085	
														$ 28,487,706	
														$ 27,239,524	
														$ 1,088,014	
														$ -	
														$ 4,212,960	
														$ -	
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 123,482	$ 84,503,556	
														$ -	
														$ -	
														$ 119,505	
														$ -	
														$ 4,584	
														$ -	
														$ -	
													$ 922	$ 922	
														$ -	
														$ 334,851	
														$ -	
														$ 201,539	
														$ 11,696	
														$ 594,607	
														$ 32,374	
														$ 19,817	
														$ -	
														$ -	
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 922	$ 1,319,895	
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														$ -	
														$ 78,057	
														$ -	
														$ -	
														$ 218,637	
$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 164,470	$ 35,543,987	$ 50,722,404	
														$ -	
$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 1,664,699	$ 45,164,699	$ 372,099,202	$ 723,394,409	
														$ 132,160	
														$ 17,923,761	
														$ -	
$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 1,829,169	$ 45,329,169	$ 407,643,188	$ 792,469,428	

														$ 11,703,345	
														$ -	
														$ 285,364	
														$ -	
														$ -	
														$ -	
														$ 169,756	
														$ 856,945	
														$ 106,026	
														$ 2,031,760	
														$ -	
													$1,500,000	$ 4,181,327	
														$ -	
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,500,000	$ 19,334,523	

														$ 762,918	
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 40,411	
$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$11,724	$1,406,838	$ 4,192,307	
$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 11,724	$ 1,406,838	$ 4,995,636	

														$ 4,708,109	
														$ -	
														$ 4,222,476	
$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$18,554,748	$ 31,119,380	
														$ -	
$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 18,554,748	$ 40,049,965	

														$ -	
														$ -	
$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$72,276,142	$ 128,770,832	
$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$367,640	$44,943,101	$ 85,173,421	
														$ -	
$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 934,326	$ 117,219,243	$ 213,944,253	

$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 2,921,319	$ 46,421,319	$ 546,448,421	$ 1,156,617,256	

$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$87,640	$1,392,640	$16,418,787	$ 34,698,518	
$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 262,919	$ 4,177,919	$ 49,180,358	$ 104,095,553	
$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$4,951	$78,671	$927,509	$ 1,960,145	
$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$58,426	$928,426	$10,945,858	$ 23,132,345	
$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 292,132	$ 4,642,132	$ 54,644,842	$ 115,661,726	
$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 146,066	$ 2,321,066	$ 27,322,421	$ 57,830,863	
														$ -	
$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 852,133	$ 13,540,854	$ 159,439,776	$ 337,379,150	

$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 59,962,173	$ 705,888,197	$ 1,493,996,406	

$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 59,962,173	$ 705,888,197	$ 1,493,996,406	
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 59,962,173	$ 705,888,197	$ 1,493,996,406	
$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 3,773,452	$ 59,962,173	$ 705,888,197	$ 1,493,996,406	

Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Drillhole Abandonment - User Input

Facility Description			Hole Plugging							
	Description (required)	ID Code	Hole Type (select)	Diameter mm	Total Number of Holes	Max Holes Open at One Time	Casing to Remove m	Average Depth of Hole[1] m bgs	Depth to Water m bgs	Hole Plug Method (select)

Notes:
1. If core holes are pre-drilled, use length of hole below pre-drilled length
2. If Top Plug is selected, assumes maximum 1/2hr laborer time to place plug and backfill with cuttings/soil (including move-to/set up time).

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Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary

	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - User Input

Facility Description			Trench Parameters					Backfill			Revegetation		
	Description (required)	ID Code	Trench Length m	Trench Depth m	Trench Bottom Width m	Trench Sideslope Angle degrees	Additional Hrs for Walk-in (1) hr	Backfill Material (select)	Cut Material Type (select)	Backfilling Fleet (select)	Seed Mix (select)	Mulch (select)	Fertilizer (select)

Notes:
1. Include one-way hours necessary to walk equipment in from drop-off point to work area
2. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

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Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary

	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Drillhole Abandonment

	Description (required)	Vol/m of depth m3	Hole Plugging Material [1]	Total Grout Volume [2] m3	Total Cuttings Volume m3	Total Top Seal Volume [3,4] m3	Total Drillhole Abandon. Hours [6,7] hrs	Casing Removal Labor Cost [5] $	Casing Removal Equipment Cost $	Plugging Labor Cost $	Plugging Equipment Cost $	Plugging Material Cost $	Top Seal Material Cost [2,3] $	Total Cost [6,7] $
								$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Notes:

1. Assumes grout backfill from bottom of hole to 50' (15.24m) above static water level, up to 10' (3m) from top of hole
2. Assumes 25% loss to formation for grout backfill
3. If "Top Plug" hole plug method is used, assumes physical plug installed without backfill, grout or cement. Not available option for Nevada projects
4. Assumes top 10' (3 m) of hole is plugged with cement if "Grout Only", "Backfill + Grout", or "Cement Plug" hole plug method are chosen.
5. Assumes that a) casing is not cemented entire length, b) does not include temporary surface casing
6. Assumes minimum 1 hr per hole for abandonment (excluding move-to and casing removal)
7. Assumes fixed hours per hole for setup & tear-down and moving between holes (see Productivty Sheet) per drill hole (includes rig time if grouting required, labor crew only if cuttings backfill only)

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Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary

	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - Calculations

Exploration Trench Volume Calculation

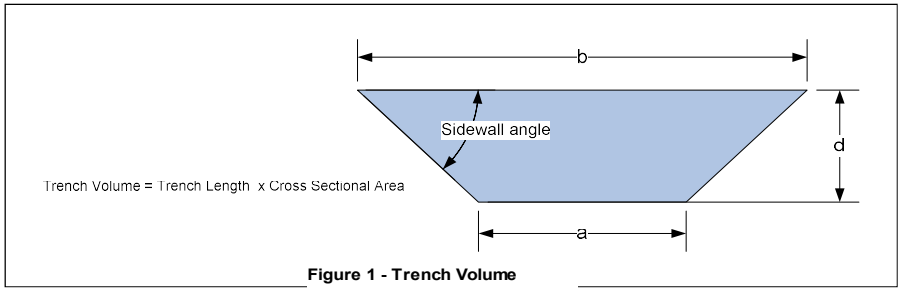

Figure 1 - Trench Volume

Dozing & Ripping/Scarifying Calculations

Dozing: Dozing distance = 1/2 trench length or 400 ft (max push) whichever is less
Assumes flat push (grade correction factor = 1)

Revegetation: 3 m added to trench width to account for revegetation under spoil pile

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Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary

	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - Backfill/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)	Trench Backfill Volume LCM (BCM+30%)	Dozer Push Distance m	Equipment Productivity m3/hr	Dozing Material	Density Correction	Backfilling Fleet	Corrected Hourly Productivity m3/hr	Total Dozer Hours hr	Trench Backfill Labor Cost $	Trench Backfill Equipment Cost $	Total Trench Backfill Cost $
									$0	**$0**	**$0**

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Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary

	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - Revegetation Costs

Description (required)	Surface Area ha	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
		$0	**$0**	**$0**	**$0**

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Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Drillhole Abandonment - User Input

Facility Description			Hole Plugging							
	Description (required)	ID Code	Hole Type (select)	Diameter mm	Total Number of Holes	Max Holes Open at One Time	Casing to Remove m	Average Depth of Hole[1] m bgs	Depth to Water m bgs	Hole Plug Method (select)

Notes:
1. If core holes are pre-drilled, use length of hole below pre-drilled length
2. If Top Plug is selected, assumes maximum 1/2hr laborer time to place plug and backfill with cuttings/soil (including move-to/set up time).

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Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary

	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - User Input

Facility Description			Trench Parameters					Backfill			Revegetation		
	Description (required)	ID Code	Trench Length m	Trench Depth m	Trench Bottom Width m	Trench Sideslope Angle degrees	Additional Hrs for Walk-in (1) hr	Backfill Material (select)	Cut Material Type (select)	Backfilling Fleet (select)	Seed Mix (select)	Mulch (select)	Fertilizer (select)

Notes:
1. Include one-way hours necessary to walk equipment in from drop-off point to work area
2. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

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Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
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Model Version: Version 1.4.1
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary

	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Drillhole Abandonment

	Description (required)	Vol/m of depth m3	Hole Plugging Material [1]	Total Grout Volume [2] m3	Total Cuttings Volume m3	Total Top Seal Volume [3,4] m3	Total Drillhole Abandon. Hours [6,7] hrs	Casing Removal Labor Cost [5] $	Casing Removal Equipment Cost $	Plugging Labor Cost $	Plugging Equipment Cost $	Plugging Material Cost $	Top Seal Material Cost [2,3] $	Total Cost [6,7] $
								$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Notes:

1. Assumes grout backfill from bottom of hole to 50' (15.24m) above static water level, up to 10' (3m) from top of hole
2. Assumes 25% loss to formation for grout backfill
3. If "Top Plug" hole plug method is used, assumes physical plug installed without backfill, grout or cement. Not available option for Nevada projects
4. Assumes top 10' (3 m) of hole is plugged with cement if "Grout Only", "Backfill + Grout", or "Cement Plug" hole plug method are chosen.
5. Assumes that a) casing is not cemented entire length, b) does not include temporary surface casing
6. Assumes minimum 1 hr per hole for abandonment (excluding move-to and casing removal)
7. Assumes fixed hours per hole for setup & tear-down and moving between holes (see Productivty Sheet) per drill hole (includes rig time if grouting required, labor crew only if cuttings backfill only)

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Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary

	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - Calculations

Exploration Trench Volume Calculation

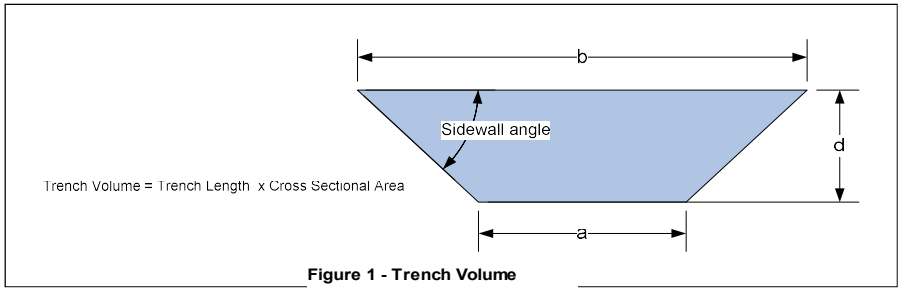

Figure 1 - Trench Volume

Dozing & Ripping/Scarifying Calculations

Dozing: Dozing distance = 1/2 trench length or 400 ft (max push) whichever is less
Assumes flat push (grade correction factor = 1)

Revegetation: 3 m added to trench width to account for revegetation under spoil pile

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Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary

	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - Backfill/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)	Trench Backfill Volume LCM (BCM+30%)	Dozer Push Distance m	Equipment Productivity m3/hr	Dozing Material	Density Correction	Backfilling Fleet	Corrected Hourly Productivity m3/hr	Total Dozer Hours hr	Trench Backfill Labor Cost $	Trench Backfill Equipment Cost $	Total Trench Backfill Cost $
									$0	**$0**	**$0**

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Closure Cost Estimate
Exploration

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Exploration - Cost Summary

	Labor	Equipment	Materials	Totals
Hole Abandonment Costs	$0	$0	$0	$0
Trench Backfilling Costs	$0	$0		$0
Subtotal Earthworks	**$0**	**$0**	**$0**	**$0**
Trench Revegetation Costs	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Exploration Trenches - Revegetation Costs

Description (required)	Surface Area ha	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
		$0	**$0**	**$0**	**$0**

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Closure Cost Estimate
Waste Rock Dumps

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$65,068	$253,922	N/A	$318,990
Cover Placement Cost	$672,940	$2,837,181	N/A	$3,510,121
Topsoil Placement Cost	$904,820	$3,766,338	N/A	$4,671,158
Ripping/Scarifying Cost	$36,182	$141,200	N/A	$177,382
Subtotal Earthworks	**$1,679,010**	**$6,998,641**	**$0**	**$8,677,651**
Revegetation Cost	$102,204	$29,565	$203,082	$334,851
TOTALS	**$1,781,214**	**$7,028,206**	**$203,082**	**$9,012,502**

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 m	Mid-Bench Length m	Average Flat Area Long Dimension (ripping distance) m	Final (Regraded) Dump Footprint ha	Regrade Volume (1) (if calculated elsewhere) m3	Cover Thickness Slopes mm	Cover Thickness Flat Areas mm	Distance from Cover Borrow m	Slope from Dump to Cover Borrow % grade	Slope Growth Media Thickness mm	Flat Area Growth Media Thickness mm	Distance from Growth Media Stockpile m	Slope from Dump to Stockpile % grade
1	WRDF (Operation Year 3 Configuration) - 1		Waste Rock Du	0.0	1.4	3.0	1.0	18	2,212	2,000	13.27		305.0	305.0	5,000	-2.3	355.0	355.0	7,000	-1.9
2	WRDF (Operation Year 3 Configuration) - 2		Waste Rock Du	0.0	1.4	3.0	1.0	18	2,338	2,000	45.04		305.0	305.0	5,000	-2.3	355.0	355.0	7,000	-1.9
3	WRDF (Operation Year 3 Configuration) - 3		Waste Rock Du	0.0	1.4	3.0	1.0	27	2,302	2,000	111.77		305.0	305.0	5,000	-2.3	355.0	355.0	7,000	-1.9
4	WRDF (Operation Year 3 Configuration) - 4		Waste Rock Du	0.0	1.4	3.0	1.0	27	671	1,000	41.48		305.0	305.0	5,000	-2.3	355.0	355.0	7,000	-1.9
5	WRDF (Operation Year 3 Configuration) - 5		Waste Rock Du	0.0	1.4	3.0	1.0	18	1,772	2,000	74.82		305.0	305.0	5,000	-2.3	355.0	355.0	7,000	-1.9
6	WRDF (Operation Year 3 Configuration) - 6		Waste Rock Du	0.0	1.4	3.0	1.0	25	657	1,000	54.16		305.0	305.0	5,000	-2.3	355.0	355.0	7,000	-1.9
7	Ore Stockpile (Operation Year 3 Configuration) - 1		Ore Stockpile	0.0	1.4	3.0	1.0	21	607	2,000	22.58		305.0	305.0	3,500	-0.8	355.0	355.0	5,400	-0.9
8	Ore Stockpile (Operation Year 3 Configuration) - 2		Ore Stockpile	0.0	1.4	3.0	1.0	5	829	1,000	13.01		305.0	305.0	3,500	-0.8	355.0	355.0	5,400	-0.9

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)

Inputs per "Yr3_Mid-benches.xlsx"

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Closure Cost Estimate
Waste Rock Dumps

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Rock Dumps - Cost Summary	Labor	Equipment	Materials	Totals
Grading Costs	$65,068	$253,922	N/A	$318,990
Cover Placement Cost	$672,940	$2,837,181	N/A	$3,510,121
Topsoil Placement Cost	$904,820	$3,766,338	N/A	$4,671,158
Ripping/Scarifying Cost	$36,182	$141,200	N/A	$177,382
Subtotal Earthworks	**$1,679,010**	**$6,998,641**	**$0**	**$8,677,651**
Revegetation Cost	$102,204	$29,565	$203,082	$334,851
TOTALS	**$1,781,214**	**$7,028,206**	**$203,082**	**$9,012,502**

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	WRDF (Operation Year 3 Configuration) - 1	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	Mix 1	Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
2	WRDF (Operation Year 3 Configuration) - 2	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	Mix 1	Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
3	WRDF (Operation Year 3 Configuration) - 3	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	Mix 1	Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
4	WRDF (Operation Year 3 Configuration) - 4	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	Mix 1	Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
5	WRDF (Operation Year 3 Configuration) - 5	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	Mix 1	Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
6	WRDF (Operation Year 3 Configuration) - 6	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	Mix 1	Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
7	Ore Stockpile (Operation Year 3 Configuration) - 1	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	Mix 1	Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
8	Ore Stockpile (Operation Year 3 Configuration) - 2	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	Mix 1	Mix 1			Chemical	Chemical	Yes	Yes	Large 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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Closure Cost Estimate
Waste Rock Dumps

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Waste Rock Dumps - Cost Summary	Labor	Equipment	Materials	Totals
Grading Costs	$65,068	$253,922	N/A	$318,990
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TOTALS	**$1,781,214**	**$7,028,206**	**$203,082**	**$9,012,502**

Waste Rock Dumps - Calculations

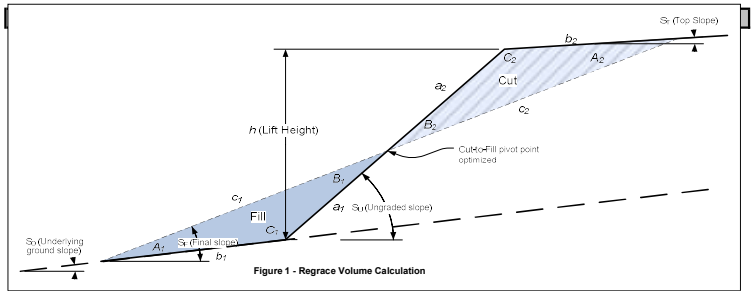

Figure 1 - Regrace Volume Calculation

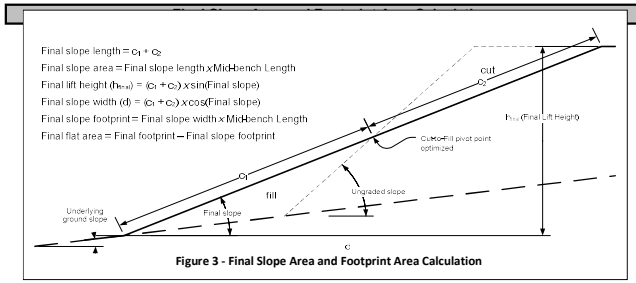

Figure 3 - Final Slope Area and Footprint Area Calculation

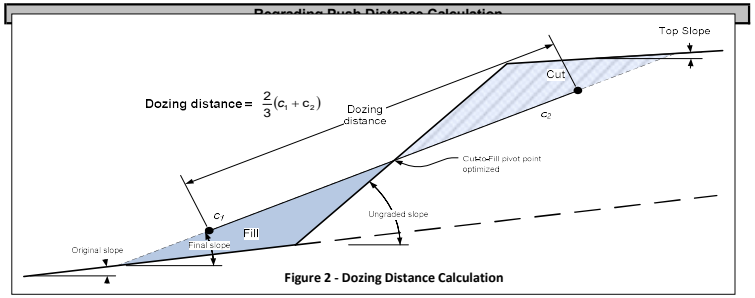

Figure 2 - Dozing Distance Calculation

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

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Closure Cost Estimate
Waste Rock Dumps

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$65,068	$253,922	N/A	$318,990
Cover Placement Cost	$672,940	$2,837,181	N/A	$3,510,121
Topsoil Placement Cost	$904,820	$3,766,338	N/A	$4,671,158
Ripping/Scarifying Cost	$36,182	$141,200	N/A	$177,382
Subtotal Earthworks	**$1,679,010**	**$6,998,641**	**$0**	**$8,677,651**
Revegetation Cost	$102,204	$29,565	$203,082	$334,851
TOTALS	**$1,781,214**	**$7,028,206**	**$203,082**	**$9,012,502**

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 m3	Dozing Distance (see above) m	Regrading Fleet	Uncorrected Dozer Productivity m3/hr	Grade Correction	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity m3/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**WRDF (Operation Year 3 Configuration) - 1**	144,238	29	D10R	1,288	1.6	1.0	0.88	1.0	1,129	128	$7,784	$30,376	$38,160
2	**WRDF (Operation Year 3 Configuration) - 2**	152,448	29	D10R	1,288	1.6	1.0	0.88	1.0	1,129	135	$8,209	$32,037	$40,246
3	**WRDF (Operation Year 3 Configuration) - 3**	341,562	44	D10R	913	1.6	1.0	0.88	1.0	800	427	$25,966	$101,331	$127,297
4	**WRDF (Operation Year 3 Configuration) - 4**	99,488	44	D10R	913	1.6	1.0	0.88	1.0	800	124	$7,540	$29,426	$36,966
5	**WRDF (Operation Year 3 Configuration) - 5**	115,553	29	D10R	1,288	1.6	1.0	0.88	1.0	1,129	102	$6,203	$24,206	$30,409
6	**WRDF (Operation Year 3 Configuration) - 6**	82,747	41	D10R	976	1.6	1.0	0.88	1.0	856	97	$5,899	$23,019	$28,918
7	**Ore Stockpile (Operation Year 3 Configuration) - 1**	54,178	34	D10R	1,130	1.6	1.0	0.88	1.0	990	55	$3,345	$13,052	$16,397
8	**Ore Stockpile (Operation Year 3 Configuration) - 2**	4,006	15	D10R	2,243	1.6	1.0	0.88	1.0	1,966	2	$122	$475	$597
		994,220									1,070	**$65,068**	**$253,922**	**$318,990**

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Closure Cost Estimate
Waste Rock Dumps

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$65,068	$253,922	N/A	$318,990
Cover Placement Cost	$672,940	$2,837,181	N/A	$3,510,121
Topsoil Placement Cost	$904,820	$3,766,338	N/A	$4,671,158
Ripping/Scarifying Cost	$36,182	$141,200	N/A	$177,382
Subtotal Earthworks	**$1,679,010**	**$6,998,641**	**$0**	**$8,677,651**
Revegetation Cost	$102,204	$29,565	$203,082	$334,851
TOTALS	**$1,781,214**	**$7,028,206**	**$203,082**	**$9,012,502**

Waste Rock Dumps - Cover and Growth Media Costs

		Cover (lower layer)								Growth Media Placement							
	Description (required)	Cover Volume m3	Cover Replacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Cover Labor Cost $	Cover Equipment Cost $	Total Cover Cost $	Growth Media Volume m3	Growth Media Replacement Fleet	Fleet Productivity BCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**WRDF (Operation Year 3 Configuration) - 1**	42,361	777D/992G	726	5	58	$25,040	$105,393	$130,433	49,304	777D/992G	808	7	61	$33,901	$140,888	$174,789
2	**WRDF (Operation Year 3 Configuration) - 2**	139,600	777D/992G	726	5	192	$82,890	$348,887	$431,777	162,479	777D/992G	808	7	201	$111,708	$464,238	$575,946
3	**WRDF (Operation Year 3 Configuration) - 3**	343,433	777D/992G	726	5	473	$204,204	$859,498	$1,063,702	399,718	777D/992G	808	7	495	$275,101	$1,143,272	$1,418,373
4	**WRDF (Operation Year 3 Configuration) - 4**	127,553	777D/992G	726	5	175	$75,551	$317,996	$393,547	148,458	777D/992G	808	7	183	$101,704	$422,664	$524,368
5	**WRDF (Operation Year 3 Configuration) - 5**	229,692	777D/992G	726	5	317	$136,855	$576,027	$712,882	267,336	777D/992G	808	7	331	$183,957	$764,491	$948,448
6	**WRDF (Operation Year 3 Configuration) - 6**	166,520	777D/992G	726	5	229	$98,864	$416,120	$514,984	193,811	777D/992G	808	7	240	$133,382	$554,314	$687,696
7	**Ore Stockpile (Operation Year 3 Configuration) - 1**	69,208	777D/992G	680	3	102	$31,383	$135,109	$166,492	80,550	777D/992G	719	4	112	$41,406	$175,936	$217,342
8	**Ore Stockpile (Operation Year 3 Configuration) - 2**	39,720	777D/992G	680	3	59	$18,153	$78,151	$96,304	46,230	777D/992G	719	4	64	$23,661	$100,535	$124,196
		1,158,087				1,605	**$672,940**	**$2,837,181**	**$3,510,121**	1,347,886				1,687	**$904,820**	**$3,766,338**	**$4,671,158**

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Closure Cost Estimate
Waste Rock Dumps

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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$65,068	$253,922	N/A	$318,990
Cover Placement Cost	$672,940	$2,837,181	N/A	$3,510,121
Topsoil Placement Cost	$904,820	$3,766,338	N/A	$4,671,158
Ripping/Scarifying Cost	$36,182	$141,200	N/A	$177,382
Subtotal Earthworks	**$1,679,010**	**$6,998,641**	**$0**	**$8,677,651**
Revegetation Cost	$102,204	$29,565	$203,082	$334,851
TOTALS	**$1,781,214**	**$7,028,206**	**$203,082**	**$9,012,502**

Waste Rock Dumps - Scarifying/Revegetation Costs

	Description (required)	Slope Area ha	Flat Area ha	Total Surface Area ha	Final Slope Length m	Flat Area Long Dimension m	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	**WRDF (Operation Year 3 Configuration) - 1**	12.67	1.21	13.88	57	2,000	D10R	19	2	$1,277	$4,984	$6,261	$3,739	$1,082	$7,425	$12,246
2	**WRDF (Operation Year 3 Configuration) - 2**	13.40	32.37	45.77	57	2,000	D10R	20	51	$4,318	$16,849	$21,167	$12,320	$3,564	$24,480	$40,364
3	**WRDF (Operation Year 3 Configuration) - 3**	19.93	92.67	112.60	87	2,000	D10R	32	146	$10,824	$42,241	$53,065	$30,309	$8,768	$60,225	$99,302
4	**WRDF (Operation Year 3 Configuration) - 4**	5.80	36.02	41.82	87	1,000	D10R	9	57	$4,013	$15,662	$19,675	$11,257	$3,256	$22,368	$36,881
5	**WRDF (Operation Year 3 Configuration) - 5**	10.15	65.15	75.30	57	2,000	D10R	15	102	$7,115	$27,765	$34,880	$20,271	$5,864	$40,275	$66,410
6	**WRDF (Operation Year 3 Configuration) - 6**	5.22	49.37	54.59	80	1,000	D10R	8	78	$5,230	$20,409	$25,639	$14,695	$4,251	$29,198	$48,144
7	**Ore Stockpile (Operation Year 3 Configuration) - 1**	4.08	18.62	22.70	67	2,000	D10R	6	29	$2,128	$8,306	$10,434	$6,108	$1,766	$12,142	$20,016
8	**Ore Stockpile (Operation Year 3 Configuration) - 2**	1.29	11.74	13.03	16	1,000	D10R	2	19	$1,277	$4,984	$6,261	$3,505	$1,014	$6,969	$11,488
		72.54	307.15	379.69				111	484	**$36,182**	**$141,200**	**$177,382**	**$102,204**	**$29,565**	**$203,082**	**$334,851**

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.)

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Closure Cost Estimate
Heap Leach

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Heap Leach Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Drain Installation	$0	$0	$0	$0
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Heap Leach Pads - User Input

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

Facility Description				Physical (1) - 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 (heap) Height m	Mid-Bench Length m	Average Flat Area Long Dimension (ripping distance) m	Final (Regraded) Heap Footprint ha	Regrade Volume (if calculated elsewhere) m3	Cover Thickness Slopes mm	Cover Thickness Flat Areas mm	Distance from Cover Borrow m	Slope from Heap to Cover Borrow % grade	Slope Growth Media Thickness mm	Flat Area Growth Media Thickness mm	Distance from Growth Material Stockpile m	Slope from Heap to Stockpile % grade

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)

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Closure Cost Estimate
Heap Leach

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Heap Leach Pads - Cost Summary	Labor	Equipment	Materials	Totals
Drain Installation	$0	$0	$0	$0
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Heap Leach Pads - User Input (cont.) — You must fill in ALL green cells and relevant blue cells in this section for each heap, lift or heap category

		Grading				Cover		Growth Media		Revegetation								
	Description (required)	Dozing Material Condition (select)	Heap 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)	Scarifying/ Ripping Fleet (select)

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

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Estimate Type: Surety **Cost Basis: Alaska Davis Bacon 2016**

Heap Leach Pads - Cost Summary	Labor	Equipment	Materials	Totals
Drain Installation	$0	$0	$0	$0
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Heap Leach Pads - User Input (cont.)

		Solution Collection Ditch Fill							Piping			
	Description (required)	Collection Ditch Length m	Collection Ditch Top Width m	Collection Ditch Depth m	Volume (if calculated elsewhere) m3	Distance from Borrow m	Slope to Borrow % grade	Drain Rock Equipment Fleet (select)	Solid Pipe Length m	Solid Pipe Type (select)	Drainage Pipe Length m	Drainage Pipe Type (select)

Notes:

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Heap Leach Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Drain Installation	$0	$0	$0	$0
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Heap Leach Pads - Calculations

Regrading Volume Calculation

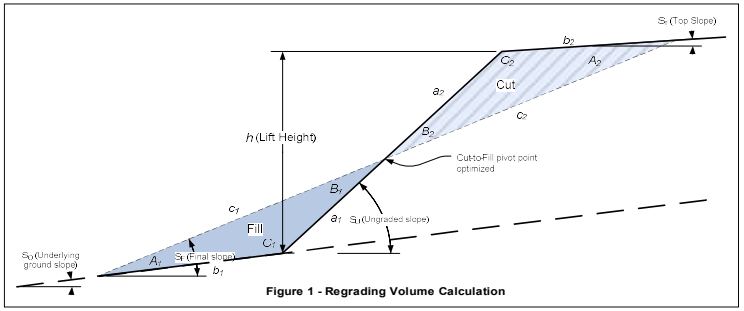

Figure 1 - Regrading Volume Calculation

Regrading Push Distance Calculation

dozing distance: based on 2/3 final cut slope + 2/3 final fill slope (minimum = 15 m)

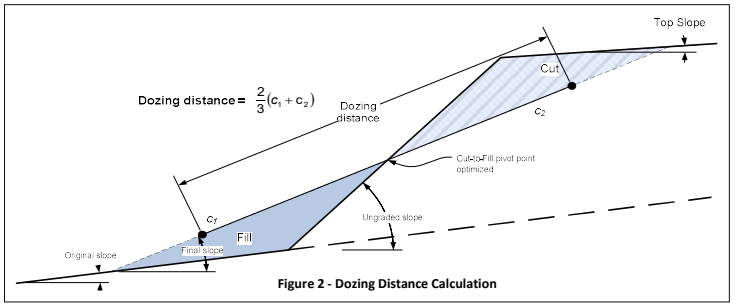

Figure 2 - Dozing Distance Calculation

Ripping/Scarifying Calculations

Minimum 1 hr ripping/scarifying per area

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)

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

Final Slope Area and Footprint Area Calculations

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

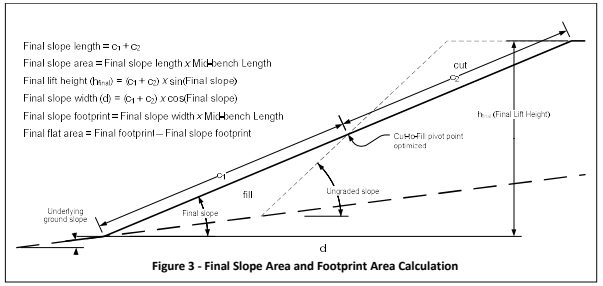

Figure 3 - Final Slope Area and Footprint Area Calculation

Solution Collection Ditch Calculations

Use when existing heap material is not suitable drain rock
Assume to be constructed in existing solution channels
Assume 2H:1V ditch sideslopes
Drain rock assumed to be Gravel - Dry at 2,550 lb/cy (1,510 kg/m3) from CAT Handbook 35th Ed.

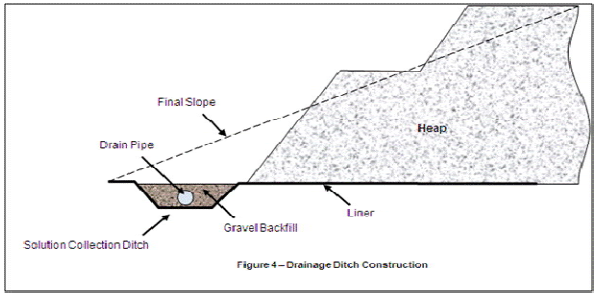

Figure 4 – Drainage Ditch Construction

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Closure Cost Estimate
Heap Leach

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Heap Leach Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Drain Installation	$0	$0	$0	$0
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Heap Leach Pad - Drainage Channel Fill & Drainage Pipe Installation

		Drain Rock Placement								Drainpipe Installation				
	Description (required)	Drain Rock Volume m3	Drain Rock Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours hrs	Drainage Labor Cost $	Drainage Equipment Cost $	Total Drainage Cost $	Piping Crew Hours hrs	Piping Labor Cost $	Piping Equipment Cost $	Piping Material Cost $	Total Pipe Installation Cost $
						0	**$0**	**$0**	**$0**		**$0**	**$0**	**$0**	**$0**

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Closure Cost Estimate
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Heap Leach Pads - Cost Summary	Labor	Equipment	Materials	Totals
Drain Installation	$0	$0	$0	$0
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Heap Leach Pad - 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 m3	Dozing Distance (see above) m	Regrading Fleet	Uncorrected Dozer Productivity m3/hr	Grade Correction	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity m3/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
												$0	**$0**	**$0**

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Closure Cost Estimate
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Heap Leach Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Drain Installation	$0	$0	$0	$0
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Heap Leach Pad - Cover and Growth Media Costs

		Cover (lower layer)								Growth Media Placement							
	Description (required)	Cover Volume m3	Cover Replacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Cover Labor Cost $	Cover Equipment Cost $	Total Cover Cost $	Growth Media Volume m3	Growth Media Replacement Fleet	Fleet Productivity BCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
							$0	**$0**	**$0**						**$0**	**$0**	**$0**

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Closure Cost Estimate
Heap Leach

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Heap Leach Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Drain Installation	$0	$0	$0	$0
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Heap Leach Pad - Scarifying/Revegetation Costs

Description (required)	Slope Area ha	Flat Area ha	Total Surface Area ha	Final Slope Length m	Flat Area Long Dimension m	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 $
									$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

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.)

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Bond Calculation
Tailings

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File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$6,142	$23,968	N/A	$30,110
Cover Placement Cost	$387,446	$1,646,261	N/A	$2,033,707
Topsoil Placement Cost	$448,446	$1,905,453	N/A	$2,353,899
Ripping/Scarifying Cost	$27,669	$67,026	N/A	$94,695
Subtotal Earthworks	**$869,703**	**$3,642,708**	**$0**	**$4,512,411**
Revegetation Cost	$74,126	$21,443	$105,970	$201,539
TOTALS	**$943,829**	**$3,664,151**	**$105,970**	**$4,713,950**

Tailings - User Input

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

	Facility Description		Physical - MANDATORY								Cover				Growth Media		
	Description (required)	ID Code	Underlying Ground Slope % Grade	Ungraded Slope _H:1V	Final (Regraded) Embankment Slope _H:1V	Final Embankment Height m	Final Tailings Surface Area ha	Mid-Embankment or Ripping Length m	Embankment Regrade Volume (if calculated elsewhere) m3	Surface Regrade Volume (calculated elsewhere) m3	Embankment Cover Thickness mm	Tailings Surface Cover Thickness mm	Distance from Cover Borrow m	Slope from Tailings to Borrow % grade	Embankment Growth Media Thickness mm	Tailings Surface Growth Media Thickness mm	Distance from Growth Material Stockpile m
1	**Tailings Storage Area (Operation Year 3 Configuration)**		**0.0**	**1.7**	**1.7**	**45**	**266.90**	**960**		**27,567**	**0.0**	**300.0**	**3,216**	**-2.8**	**0.0**	**350.0**	**3,785**

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)

Rock fill included in Haul Material sheet. Cover layer (colluvium) will be (300mm) and growth media (peat) will be (350mm). - BGC , GM from nearest storage location, cover from waste rock dump.
Dimensions from "TSF-DAM-YEAR-3.xls"
Tailings NAG and consolidation layers are in Haul Materials sheet.

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Bond Calculation
Tailings

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$6,142	$23,968	N/A	$30,110
Cover Placement Cost	$387,446	$1,646,261	N/A	$2,033,707
Topsoil Placement Cost	$448,446	$1,905,453	N/A	$2,353,899
Ripping/Scarifying Cost	$27,669	$67,026	N/A	$94,695
Subtotal Earthworks	**$869,703**	**$3,642,708**	**$0**	**$4,512,411**
Revegetation Cost	$74,126	$21,443	$105,970	$201,539
TOTALS	**$943,829**	**$3,664,151**	**$105,970**	**$4,713,950**

Tailings - User Input (cont.) — You must fill in ALL green cells and relevant blue cells in this section for each tailings impoundment

		Grading				Cover		Growth Media		Revegetation							
	Description (required)	Dozing Material Condition (select)	Embankment 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 Embankment Slope (select)	Seed Mix Tailings Surface (select)	Mulch Embankment Slopes (select)	Mulch Tailings Surface (select)	Fertilizer Embankment Slopes (select)	Fertilizer Tailing Surface (select)	Embankment Slope Scarify/ Rip? (select)	Tailings Surface Scarify/ Rip? (select)
1	**Tailings Storage Area (Operation Year 3 Configuration)**	**1**	**Alluvium**	**Med**	**No**	**Gravel**	**Med Truck**	**Alluvium**	**Med Truck**	**Mix 2**	**Mix 2**	**None**	**None**	**Chemical**	**Chemical**	**Yes**	**Yes**

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

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Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
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Tailings Surface Grading Cost	$6,142	$23,968	N/A	$30,110
Cover Placement Cost	$387,446	$1,646,261	N/A	$2,033,707
Topsoil Placement Cost	$448,446	$1,905,453	N/A	$2,353,899
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Subtotal Earthworks	**$869,703**	**$3,642,708**	**$0**	**$4,512,411**
Revegetation Cost	$74,126	$21,443	$105,970	$201,539
TOTALS	**$943,829**	**$3,664,151**	**$105,970**	**$4,713,950**

Tailings - Calculations

Surface Area Calculations

Top Surface Area provided by user

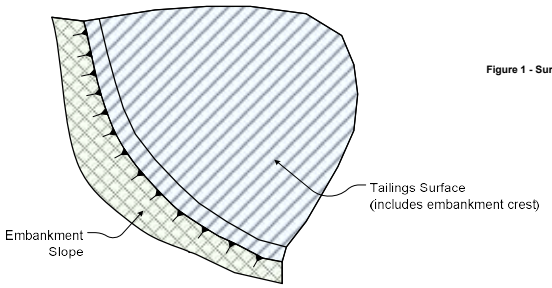

Figure 1 - Surface Areas

Final Slope Area and Footprint Area Calculations

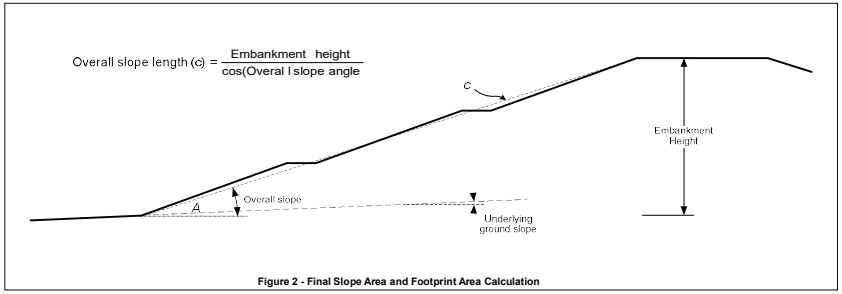

Figure 2 - Final Slope Area and Footprint Area Calculation

Grading Calculations

Grading assumed on impoundment surface only, not embankment
Average push distance assumed to be 2/3 of the 180 m maximum from Catepillar Handbook or 120 m
Material assumed to be loose stockile (1.2 productivity factor)
Dozing density correction based on dry sand = 2300/2400 = 0.96
Slope assumed to be 0 to 5% (1.0 productivity factor)

Ripping/Scarifying/Revegetation Calculation

Minimum 1 hr ripping/scarifying per area
Minimum 1 acre revegetation crew time per area

Regrading Volume Calculation

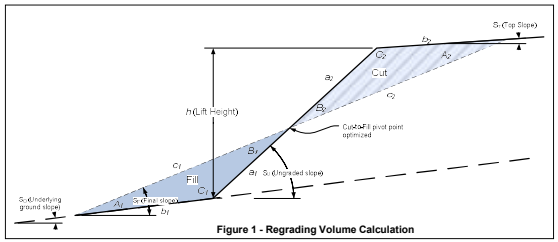

Figure 1 - Regrading Volume Calculation

Regrading Push Distance Calculation

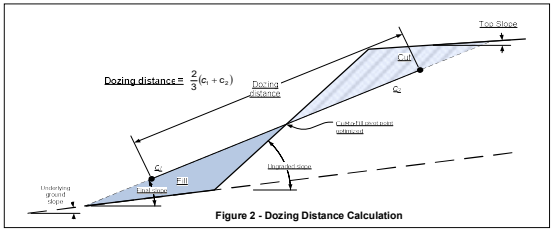

Figure 2 - Dozing Distance Calculation

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Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$6,142	$23,968	N/A	$30,110
Cover Placement Cost	$387,446	$1,646,261	N/A	$2,033,707
Topsoil Placement Cost	$448,446	$1,905,453	N/A	$2,353,899
Ripping/Scarifying Cost	$27,669	$67,026	N/A	$94,695
Subtotal Earthworks	**$869,703**	**$3,642,708**	**$0**	**$4,512,411**
Revegetation Cost	$74,126	$21,443	$105,970	$201,539
TOTALS	**$943,829**	**$3,664,151**	**$105,970**	**$4,713,950**

Tailings - Embankment 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 m3	Dozing Distance (see above) m	Regrading Fleet	Uncorrected Dozer Productivity m3/hr	Grade Correction	Dozing Material Condition	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity m3/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Tailings Storage Area (Operation Year 3 Configuration)**	0		D10R								$0	$0	$0
												$0	**$0**	**$0**

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$6,142	$23,968	N/A	$30,110
Cover Placement Cost	$387,446	$1,646,261	N/A	$2,033,707
Topsoil Placement Cost	$448,446	$1,905,453	N/A	$2,353,899
Ripping/Scarifying Cost	$27,669	$67,026	N/A	$94,695
Subtotal Earthworks	**$869,703**	**$3,642,708**	**$0**	**$4,512,411**
Revegetation Cost	$74,126	$21,443	$105,970	$201,539
TOTALS	**$943,829**	**$3,664,151**	**$105,970**	**$4,713,950**

Tailings - Surface 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 m3	Dozing Distance (see above) m	Regrading Fleet	Uncorrected Dozer Productivity m3/hr	Grade Correction	Density Correction	Dozing Material	Side-by-Side or Slot Dozing	Total Hourly Productivity m3/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Tailings Storage Area (Operation Year 3 Configuration)**	27,567	122	D10R	383	1.00	0.96	1.20	1.00	274	101	$6,142	$23,968	$30,110
		27,567									101	**$6,142**	**$23,968**	**$30,110**

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$6,142	$23,968	N/A	$30,110
Cover Placement Cost	$387,446	$1,646,261	N/A	$2,033,707
Topsoil Placement Cost	$448,446	$1,905,453	N/A	$2,353,899
Ripping/Scarifying Cost	$27,669	$67,026	N/A	$94,695
Subtotal Earthworks	**$869,703**	**$3,642,708**	**$0**	**$4,512,411**
Revegetation Cost	$74,126	$21,443	$105,970	$201,539
TOTALS	**$943,829**	**$3,664,151**	**$105,970**	**$4,713,950**

Tailings - Cover and Growth Media Costs

		Cover Placement								Growth Media Placement							
	Description (required)	Cover Volume m3	Cover Placement Fleet	Cover Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Placement Cost $	Growth Media Volume m3	Growth Media Placement Fleet	Growth Media Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoil Placement Cost $
1	**Tailings Storage Area (Operation Year 3 Configuration)**	800,698	777D/992G	764	4	1,048	$387,446	$1,646,261	$2,033,707	949,096	777D/992G	782	4	1,213	$448,446	$1,905,453	$2,353,899
		800,698				1,048	**$387,446**	**$1,646,261**	**$2,033,707**	949,096				1,213	**$448,446**	**$1,905,453**	**$2,353,899**

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Bond Calculation
Tailings

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$6,142	$23,968	N/A	$30,110
Cover Placement Cost	$387,446	$1,646,261	N/A	$2,033,707
Topsoil Placement Cost	$448,446	$1,905,453	N/A	$2,353,899
Ripping/Scarifying Cost	$27,669	$67,026	N/A	$94,695
Subtotal Earthworks	**$869,703**	**$3,642,708**	**$0**	**$4,512,411**
Revegetation Cost	$74,126	$21,443	$105,970	$201,539
TOTALS	**$943,829**	**$3,664,151**	**$105,970**	**$4,713,950**

Tailings - Scarifying/Revegetation Costs

	Description (required)	Embankment Slope Area ha	Tailings Surface Area ha	Total Surface Area ha	Final Slope Length m	Ripping/ Scarifying Fleet	Slope Scarifying/ Ripping Hours hrs	Flat Area 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	**Tailings Storage Area (Operation Year 3 Configuration)**	8.49	266.90	275.39	88	16G/H	14	441	$27,669	$67,026	$94,695	$74,126	$21,443	$105,970	$201,539
		8.49	266.90	275.39			14	441	**$27,669**	**$67,026**	**$94,695**	**$74,126**	**$21,443**	**$105,970**	**$201,539**

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Slope from Tailings to Stockpile % grade
0.5

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Closure Cost Estimate
Roads

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$285,807	$811,308	N/A	$1,097,115
Cover Placement Cost	$213,971	$939,233	N/A	$1,153,204
Ripping/Scarifying Cost	$19,702	$70,090	N/A	$89,792
Subtotal Earthworks	**$519,480**	**$1,820,631**		**$2,340,111**
Revegetation Cost	$20,022	$5,793	$93,690	$119,505
TOTALS	**$539,502**	**$1,826,424**	**$93,690**	**$2,459,616**

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 m	Road Length m	Slope Replacement Percent %	Regrade Volume (if calculated elsewhere) m3	Disturbed Area (if calculated elsewhere) ha	Growth Media Thickness mm	Haul Distance from Growth Media Stockpile m	Slope from Road to Stockpile % grade
1	LAH-1-ORIG		Project Road	26.0	1.4	35.0	9.0	3,990			14.81	350.0	1,000	0%
2	LAH-2-ORIG		Project Road	20.0	1.4	35.0	9.0	990			3.05	350.0	1,000	0%
3	LAH-ACCESS-1		Project Road	14.0	1.4	35.0	9.0	645			1.53	350.0	1,000	0%
4	LAH-ACCESS-4		Project Road	2.0	1.4	35.0	5.0	193			0.28	350.0	1,000	0%
5	LAO-1		Project Road	22.0	1.4	35.0	5.0	3,972			10.57	350.0	1,000	0%
6	LCF-1		Project Road	7.0	1.4	35.0	22.0	1,124			4.43	350.0	1,000	0%
7	LCF-2-DAM		Project Road	17.0	1.4	35.0	22.0	1,965			13.47	350.0	1,000	0%
8	LMF-1		Project Road	11.0	1.4	35.0	32.0	2,243			12.21	350.0	1,000	0%
9	LMF-2		Project Road	11.0	1.4	35.0	32.0	5,444			30.22	350.0	1,000	0%
10	LMF-2-OPT		Project Road	5.0	1.4	35.0	13.0	1,920			0.96	350.0	1,000	0%
11	SCF-1		Project Road	13.0	1.4	35.0	13.0	2,885			5.77	350.0	1,000	0%
12	SCF-2		Project Road	16.0	1.4	35.0	13.0	627			8.14	350.0	1,000	0%
13	SCF-2-OPT-2		Project Road	12.0	1.4	35.0	13.0	2,666			1.57	350.0	1,000	0%
14	SCF-3		Project Road	28.0	1.4	35.0	6.0	67			15.57	350.0	1,000	0%
15	JUNGJUK		Access Road	3.0	1.4	35.0	45.0	1,403			6.41	350.0	1,000	0%
16	Other Road - ID16		Project Road	35.0	1.4	35.0	45.0	1,373			6.36	350.0	1,000	0%
17	Other Road - ID17		Project Road	13.0	1.4	35.0	45.0	1,379			5.67	350.0	1,000	0%
18	Other Road - ID18		Project Road	10.0	1.4	35.0	45.0	969			5.71	350.0	1,000	0%
19	Other Road - ID19		Project Road	12.0	1.4	35.0	45.0	417			5.44	350.0	1,000	0%
20	Other Road - ID20		Project Road	2.0	1.4	35.0	45.0	522			1.75	350.0	1,000	0%
21	Other Road - ID21		Project Road	2.0	1.4	35.0	45.0	942			2.39	350.0	1,000	0%
22	Other Road - ID22		Project Road	17.0	1.4	35.0	45.0	375			4.19	350.0	1,000	0%
23	Other Road - ID23		Project Road	7.0	1.4	35.0	45.0	184			1.48	350.0	1,000	0%
24	Other Road - ID24		Project Road	5.0	1.4	35.0	25.0	1,750			0.58	350.0	1,000	0%
25	Other Road - ID25		Project Road	2.0	1.4	35.0	25.0	1,282			1.81	350.0	1,000	0%
26	Other Road - ID26		Project Road	27.0	1.4	35.0	25.0	116			4.41	350.0	1,000	0%
27	Other Road - ID27		Project Road	13.0	1.4	35.0	6.0	64			0.87	350.0	1,000	0%
28	Other Road - ID28		Project Road	13.0	1.4	35.0	6.0	183			2.80	350.0	1,000	0%
29	Other Road - ID29		Project Road	7.0	1.4	35.0	6.0	40			0.26	350.0	1,000	0%
30	Other Road - ID30		Project Road	1.0	1.4	35.0	6.0	169			0.03	350.0	1,000	0%
31	Other Road - ID31		Project Road	5.0	1.4	35.0	6.0	1,733			0.03	350.0	1,000	0%
32	Other Road - ID32		Project Road	4.0	1.4	35.0	25.0	528			0.03	350.0	1,000	0%
33	Other Road - ID33		Project Road	15.0	1.4	35.0	6.0	92			0.05	350.0	1,000	0%
34	Other Road - ID34		Project Road	6.0	1.4	35.0	6.0	581			1.06	350.0	1,000	0%
35	Other Road - ID35		Project Road	10.0	1.4	35.0	14.0	1,220			0.24	350.0	1,000	0%
36	Other Road - ID36		Project Road	15.0	1.4	35.0	20.0	1,036			0.05	350.0	1,000	0%
37	Other Road - ID37		Project Road	9.0	1.4	35.0	20.0	381			0.41	350.0	1,000	0%
38	Other Road - ID38		Project Road	5.0	1.4	35.0	5.0	99			0.56	350.0	1,000	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. 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.

Measured from GIS drawing. From "Yr3_Roads.xlsx"

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Closure Cost Estimate
Roads

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary				
	Labor	Equipment	Materials	Totals
Grading Costs	$285,807	$811,308	N/A	$1,097,115
Cover Placement Cost	$213,971	$939,233	N/A	$1,153,204
Ripping/Scarifying Cost	$19,702	$70,090	N/A	$89,792
Subtotal Earthworks	**$519,480**	**$1,820,631**		**$2,340,111**
Revegetation Cost	$20,022	$5,793	$93,690	$119,505
TOTALS	**$539,502**	**$1,826,424**	**$93,690**	**$2,459,616**

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Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$285,807	$811,308	N/A	$1,097,115
Cover Placement Cost	$213,971	$939,233	N/A	$1,153,204
Ripping/Scarifying Cost	$19,702	$70,090	N/A	$89,792
Subtotal Earthworks	**$519,480**	**$1,820,631**		**$2,340,111**
Revegetation Cost	$20,022	$5,793	$93,690	$119,505
TOTALS	**$539,502**	**$1,826,424**	**$93,690**	**$2,459,616**

Roads - User Input (cont.)

		Haul Road Safety Berms				
	Description (required)	Berm Length m	Berm Height m	Berm Base Width m	Berm Sideslope Angle _H:1V	Number of Berms (2) (1 or 2 sides)
1	**LAH-1-ORIG**	**3,990.0**	**1.5**	**8.0**	**2.5**	**1**
2	**LAH-2-ORIG**	**990.0**	**1.5**	**8.0**	**2.5**	**1**
3	**LAH-ACCESS-1**	**645.0**	**1.5**	**8.0**	**2.5**	**1**
4	**LAH-ACCESS-4**	**193.0**	**1.5**	**8.0**	**2.5**	**1**
5	**LAO-1**	**3,972.0**	**1.5**	**8.0**	**2.5**	**1**
6	**LCF-1**	**1,124.0**	**1.5**	**8.0**	**2.5**	**1**
7	**LCF-2-DAM**	**1,965.0**	**1.5**	**8.0**	**2.5**	**1**
8	**LMF-1**	**2,243.0**	**1.5**	**8.0**	**2.5**	**1**
9	**LMF-2**	**5,444.0**	**1.5**	**8.0**	**2.5**	**1**
10	**LMF-2-OPT**	**1,920.0**	**1.5**	**8.0**	**2.5**	**1**
11	**SCF-1**	**2,885.0**	**1.5**	**8.0**	**2.5**	**1**
12	**SCF-2**	**627.0**	**1.5**	**8.0**	**2.5**	**1**
13	**SCF-2-OPT-2**	**2,666.0**	**1.5**	**8.0**	**2.5**	**1**
14	**SCF-3**	**67.0**	**1.5**	**8.0**	**2.5**	**1**
15	**JUNGJUK**	**1,403.0**	**1.5**	**8.0**	**2.5**	**1**
16	**Other Road - ID16**	**1,373.0**	**1.5**	**8.0**	**2.5**	**1**
17	**Other Road - ID17**	**1,379.0**	**1.5**	**8.0**	**2.5**	**1**
18	**Other Road - ID18**	**969.0**	**1.5**	**8.0**	**2.5**	**1**
19	**Other Road - ID19**	**417.0**	**1.5**	**8.0**	**2.5**	**1**
20	**Other Road - ID20**	**522.0**	**1.5**	**8.0**	**2.5**	**1**
21	**Other Road - ID21**	**942.0**	**1.5**	**8.0**	**2.5**	**1**
22	**Other Road - ID22**	**375.0**	**1.5**	**8.0**	**2.5**	**1**
23	**Other Road - ID23**	**184.0**	**1.5**	**8.0**	**2.5**	**1**
24	**Other Road - ID24**	**1,750.0**	**1.5**	**8.0**	**2.5**	**1**
25	**Other Road - ID25**	**1,282.0**	**1.5**	**8.0**	**2.5**	**1**
26	**Other Road - ID26**	**116.0**	**1.5**	**8.0**	**2.5**	**1**
27	**Other Road - ID27**	**64.0**	**1.5**	**8.0**	**2.5**	**1**
28	**Other Road - ID28**	**183.0**	**1.5**	**8.0**	**2.5**	**1**
29	**Other Road - ID29**	**40.0**	**1.5**	**8.0**	**2.5**	**1**
30	**Other Road - ID30**	**169.0**	**1.5**	**8.0**	**2.5**	**1**
31	**Other Road - ID31**	**1,733.0**	**1.5**	**8.0**	**2.5**	**1**
32	**Other Road - ID32**	**528.0**	**1.5**	**8.0**	**2.5**	**1**
33	**Other Road - ID33**	**92.0**	**1.5**	**8.0**	**2.5**	**1**
34	**Other Road - ID34**	**581.0**	**1.5**	**8.0**	**2.5**	**1**
35	**Other Road - ID35**	**1,220.0**	**1.5**	**8.0**	**2.5**	**1**
36	**Other Road - ID36**	**1,036.0**	**1.5**	**8.0**	**2.5**	**1**
37	**Other Road - ID37**	**381.0**	**1.5**	**8.0**	**2.5**	**1**
38	**Other Road - ID38**	**99.0**	**1.5**	**8.0**	**2.5**	**1**

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

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Closure Cost Estimate
Roads

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary	Labor	Equipment	Materials	Totals
Grading Costs	$285,807	$811,308	N/A	$1,097,115
Cover Placement Cost	$213,971	$939,233	N/A	$1,153,204
Ripping/Scarifying Cost	$19,702	$70,090	N/A	$89,792
Subtotal Earthworks	**$519,480**	**$1,820,631**		**$2,340,111**
Revegetation Cost	$20,022	$5,793	$93,690	$119,505
TOTALS	**$539,502**	**$1,826,424**	**$93,690**	**$2,459,616**

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	LAH-1-ORIG	1	Alluvium	Med Excavator	2	Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
2	LAH-2-ORIG	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
3	LAH-ACCESS-1	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
4	LAH-ACCESS-4	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
5	LAO-1	1	Alluvium	Med Excavator	2	Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
6	LCF-1	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
7	LCF-2-DAM	1	Alluvium	Med Excavator		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
8	LMF-1	1	Alluvium	Med Excavator		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
9	LMF-2	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
10	LMF-2-OPT	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
11	SCF-1	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
12	SCF-2	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
13	SCF-2-OPT-2	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
14	SCF-3	1	Alluvium	Med Excavator	2	Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
15	JUNGJUK	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
16	Other Road - ID16	1	Alluvium	Med Excavator	2	Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
17	Other Road - ID17	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
18	Other Road - ID18	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
19	Other Road - ID19	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
20	Other Road - ID20	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
21	Other Road - ID21	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
22	Other Road - ID22	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
23	Other Road - ID23	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
24	Other Road - ID24	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
25	Other Road - ID25	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
26	Other Road - ID26	1	Alluvium	Med Excavator	2	Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
27	Other Road - ID27	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
28	Other Road - ID28	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
29	Other Road - ID29	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
30	Other Road - ID30	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
31	Other Road - ID31	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
32	Other Road - ID32	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
33	Other Road - ID33	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
34	Other Road - ID34	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
35	Other Road - ID35	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
36	Other Road - ID36	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
37	Other Road - ID37	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
38	Other Road - ID38	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer

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.

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Closure Cost Estimate
Roads

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$285,807	$811,308	N/A	$1,097,115
Cover Placement Cost	$213,971	$939,233	N/A	$1,153,204
Ripping/Scarifying Cost	$19,702	$70,090	N/A	$89,792
Subtotal Earthworks	**$519,480**	**$1,820,631**		**$2,340,111**
Revegetation Cost	$20,022	$5,793	$93,690	$119,505
TOTALS	**$539,502**	**$1,826,424**	**$93,690**	**$2,459,616**

Roads - Calculations

Regrading Volume and Footprint Volume

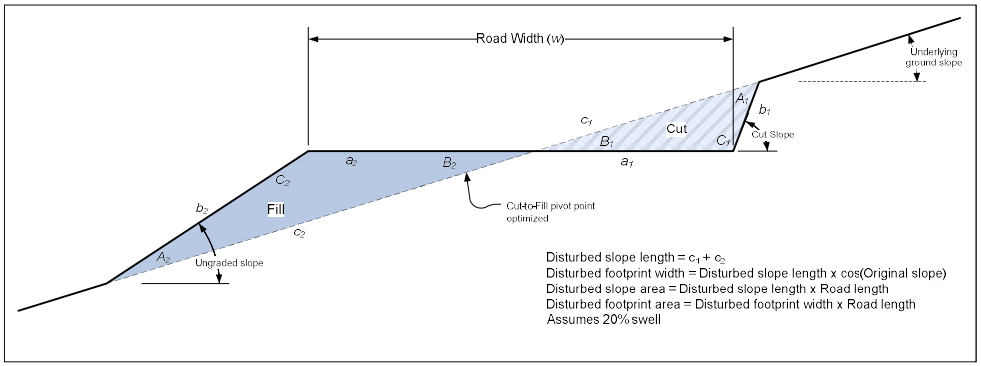


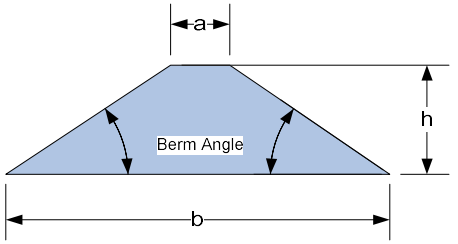
Figure 1 - Regrading Volume Calculation

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 30 m

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

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Closure Cost Estimate
Roads

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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$285,807	$811,308	N/A	$1,097,115
Cover Placement Cost	$213,971	$939,233	N/A	$1,153,204
Ripping/Scarifying Cost	$19,702	$70,090	N/A	$89,792
Subtotal Earthworks	**$519,480**	**$1,820,631**		**$2,340,111**
Revegetation Cost	$20,022	$5,793	$93,690	$119,505
TOTALS	**$539,502**	**$1,826,424**	**$93,690**	**$2,459,616**

Roads - Regrading Costs

	Description (required)	Regrading Volume m3	Recontouring Fleet	Fleet Productivity m3/hr	Total Fleet Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**LAH-1-ORIG**	43,763	345B	367	119	$21,709	$51,795	$73,504
2	**LAH-2-ORIG**	9,362	D10R	337	28	$1,703	$6,645	$8,348
3	**LAH-ACCESS-1**	5,330	D10R	424	13	$791	$3,085	$3,876
4	**LAH-ACCESS-4**	1,222	D10R	587	2	$122	$475	$597
5	**LAO-1**	29,030	345B	367	79	$14,412	$34,385	$48,797
6	**LCF-1**	12,796	D10R	520	25	$1,520	$5,933	$7,453
7	**LCF-2-DAM**	41,261	345B	367	112	$13,621	$36,488	$50,109
8	**LMF-1**	54,956	345B	367	150	$18,243	$48,869	$67,112
9	**LMF-2**	133,383	D10R	447	299	$18,182	$70,956	$89,138
10	**LMF-2-OPT**	14,465	D10R	547	26	$1,581	$6,170	$7,751
11	**SCF-1**	28,876	D10R	437	66	$4,013	$15,662	$19,675
12	**SCF-2**	6,975	D10R	395	18	$1,095	$4,272	$5,367
13	**SCF-2-OPT-2**	25,763	D10R	451	57	$3,466	$13,527	$16,993
14	**SCF-3**	578	345B	367	2	$365	$871	$1,236
15	**JUNGJUK**	21,020	D10R	411	51	$3,101	$12,103	$15,204
16	**Other Road - ID16**	273,091	345B	367	744	$135,728	$323,826	$459,554
17	**Other Road - ID17**	69,714	D10R	313	222	$13,500	$52,683	$66,183
18	**Other Road - ID18**	37,456	D10R	343	109	$6,628	$25,867	$32,495
19	**Other Road - ID19**	19,370	D10R	323	60	$3,649	$14,239	$17,888
20	**Other Road - ID20**	6,262	D10R	421	15	$912	$3,560	$4,472
21	**Other Road - ID21**	11,301	D10R	421	27	$1,642	$6,407	$8,049
22	**Other Road - ID22**	25,678	D10R	273	94	$5,716	$22,307	$28,023
23	**Other Road - ID23**	5,132	D10R	372	14	$851	$3,322	$4,173
24	**Other Road - ID24**	19,010	D10R	547	35	$2,128	$8,306	$10,434
25	**Other Road - ID25**	10,292	D10R	587	18	$1,095	$4,272	$5,367
26	**Other Road - ID26**	5,057	345B	367	14	$2,554	$6,094	$8,648
27	**Other Road - ID27**	453	D10R	437	1	$61	$237	$298
28	**Other Road - ID28**	1,294	D10R	437	3	$182	$712	$894
29	**Other Road - ID29**	267	D10R	520	1	$61	$237	$298
30	**Other Road - ID30**	1,067	D10R	600	2	$122	$475	$597
31	**Other Road - ID31**	11,301	D10R	547	21	$1,277	$4,984	$6,261
32	**Other Road - ID32**	5,221	D10R	560	9	$547	$2,136	$2,683
33	**Other Road - ID33**	666	D10R	409	2	$122	$475	$597
34	**Other Road - ID34**	3,820	D10R	534	7	$426	$1,661	$2,087
35	**Other Road - ID35**	11,469	D10R	479	24	$1,459	$5,695	$7,154
36	**Other Road - ID36**	17,403	D10R	409	43	$2,615	$10,204	$12,819
37	**Other Road - ID37**	4,562	D10R	493	9	$547	$2,136	$2,683
38	**Other Road - ID38**	638	D10R	547	1	$61	$237	$298
		969,304			2,522	**$285,807**	**$811,308**	**$1,097,115**

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Closure Cost Estimate
Roads

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$285,807	$811,308	N/A	$1,097,115
Cover Placement Cost	$213,971	$939,233	N/A	$1,153,204
Ripping/Scarifying Cost	$19,702	$70,090	N/A	$89,792
Subtotal Earthworks	**$519,480**	**$1,820,631**		**$2,340,111**
Revegetation Cost	$20,022	$5,793	$93,690	$119,505
TOTALS	**$539,502**	**$1,826,424**	**$93,690**	**$2,459,616**

Roads - Growth Media Costs

	Description (required)	Growth Media Volume m3	Growth Media Replacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**LAH-1-ORIG**	51,842	777D/992G	707	2	73	$17,933	$78,719	$96,652
2	**LAH-2-ORIG**	10,687	777D/992G	707	2	15	$3,685	$16,175	$19,860
3	**LAH-ACCESS-1**	5,345	777D/992G	707	2	8	$1,965	$8,627	$10,592
4	**LAH-ACCESS-4**	969	777D/992G	707	2	1	$246	$1,078	$1,324
5	**LAO-1**	36,999	777D/992G	707	2	52	$12,774	$56,074	$68,848
6	**LCF-1**	15,517	777D/992G	707	2	22	$5,405	$23,723	$29,128
7	**LCF-2-DAM**	47,139	777D/992G	707	2	67	$16,459	$72,249	$88,708
8	**LMF-1**	42,724	777D/992G	707	2	60	$14,740	$64,700	$79,440
9	**LMF-2**	105,782	777D/992G	707	2	150	$36,849	$161,751	$198,600
10	**LMF-2-OPT**	3,351	777D/992G	707	2	5	$1,228	$5,392	$6,620
11	**SCF-1**	20,196	777D/992G	707	2	29	$7,124	$31,272	$38,396
12	**SCF-2**	28,503	777D/992G	707	2	40	$9,826	$43,134	$52,960
13	**SCF-2-OPT-2**	5,478	777D/992G	707	2	8	$1,965	$8,627	$10,592
14	**SCF-3**	54,502	777D/992G	707	2	77	$18,916	$83,032	$101,948
15	**JUNGJUK**	22,419	777D/992G	707	2	32	$7,861	$34,507	$42,368
16	**Other Road - ID16**	22,249	777D/992G	707	2	31	$7,615	$33,429	$41,044
17	**Other Road - ID17**	19,837	777D/992G	707	2	28	$6,878	$30,194	$37,072
18	**Other Road - ID18**	19,981	777D/992G	707	2	28	$6,878	$30,194	$37,072
19	**Other Road - ID19**	19,050	777D/992G	707	2	27	$6,633	$29,115	$35,748
20	**Other Road - ID20**	6,129	777D/992G	707	2	9	$2,211	$9,705	$11,916
21	**Other Road - ID21**	8,351	777D/992G	707	2	12	$2,948	$12,940	$15,888
22	**Other Road - ID22**	14,663	777D/992G	707	2	21	$5,159	$22,645	$27,804
23	**Other Road - ID23**	5,195	777D/992G	707	2	7	$1,720	$7,548	$9,268
24	**Other Road - ID24**	2,033	777D/992G	707	2	3	$737	$3,235	$3,972
25	**Other Road - ID25**	6,330	777D/992G	707	2	9	$2,211	$9,705	$11,916
26	**Other Road - ID26**	15,419	777D/992G	707	2	22	$5,405	$23,723	$29,128
27	**Other Road - ID27**	3,059	777D/992G	707	2	4	$983	$4,313	$5,296
28	**Other Road - ID28**	9,815	777D/992G	707	2	14	$3,439	$15,097	$18,536
29	**Other Road - ID29**	901	777D/992G	707	2	1	$246	$1,078	$1,324
30	**Other Road - ID30**	119	777D/992G	707	2	1	$246	$1,078	$1,324
31	**Other Road - ID31**	120	777D/992G	707	2	1	$246	$1,078	$1,324
32	**Other Road - ID32**	91	777D/992G	707	2	1	$246	$1,078	$1,324
33	**Other Road - ID33**	177	777D/992G	707	2	1	$246	$1,078	$1,324
34	**Other Road - ID34**	3,710	777D/992G	707	2	5	$1,228	$5,392	$6,620
35	**Other Road - ID35**	851	777D/992G	707	2	1	$246	$1,078	$1,324
36	**Other Road - ID36**	169	777D/992G	707	2	1	$246	$1,078	$1,324
37	**Other Road - ID37**	1,440	777D/992G	707	2	2	$491	$2,157	$2,648
38	**Other Road - ID38**	1,948	777D/992G	707	2	3	$737	$3,235	$3,972
		613,090				871	**$213,971**	**$939,233**	**$1,153,204**

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Closure Cost Estimate
Roads

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$285,807	$811,308	N/A	$1,097,115
Cover Placement Cost	$213,971	$939,233	N/A	$1,153,204
Ripping/Scarifying Cost	$19,702	$70,090	N/A	$89,792
Subtotal Earthworks	**$519,480**	**$1,820,631**		**$2,340,111**
Revegetation Cost	$20,022	$5,793	$93,690	$119,505
TOTALS	**$539,502**	**$1,826,424**	**$93,690**	**$2,459,616**

Roads - Scarifying/Revegetation Costs

	Description (required)	Total Surface Area ha	Final Slope Length m	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	**LAH-1-ORIG**	14.81	37.0	27	$1,642	$5,841	$7,483	$1,613	$467	$7,923	$10,003
2	**LAH-2-ORIG**	3.05	31.0	6	$365	$1,298	$1,663	$333	$96	$1,633	$2,062
3	**LAH-ACCESS-1**	1.53	24.0	3	$182	$649	$831	$166	$48	$817	$1,031
4	**LAH-ACCESS-4**	0.28	14.0	1	$61	$216	$277	$109	$32	$148	$288
5	**LAO-1**	10.57	27.0	20	$1,216	$4,327	$5,543	$1,152	$333	$5,654	$7,139
6	**LCF-1**	4.43	39.0	8	$486	$1,731	$2,217	$483	$140	$2,371	$2,994
7	**LCF-2-DAM**	13.47	69.0	23	$1,399	$4,976	$6,375	$1,467	$424	$7,203	$9,094
8	**LMF-1**	12.21	55.0	22	$1,338	$4,759	$6,097	$1,330	$385	$6,529	$8,244
9	**LMF-2**	30.22	55.0	54	$3,284	$11,682	$14,966	$3,292	$952	$16,165	$20,409
10	**LMF-2-OPT**	0.96	5.0	1	$61	$216	$277	$109	$32	$512	$652
11	**SCF-1**	5.77	20.0	11	$669	$2,380	$3,049	$629	$182	$3,086	$3,897
12	**SCF-2**	8.14	130.0	15	$912	$3,245	$4,157	$887	$257	$4,356	$5,500
13	**SCF-2-OPT-2**	1.57	6.0	3	$182	$649	$831	$170	$49	$838	$1,057
14	**SCF-3**	15.57	2,322.0	30	$1,824	$6,490	$8,314	$1,696	$491	$8,329	$10,516
15	**JUNGJUK**	6.41	46.0	11	$669	$2,380	$3,049	$698	$202	$3,426	$4,326
16	**Other Road - ID16**	6.36	46.0	11	$669	$2,380	$3,049	$692	$200	$3,400	$4,292
17	**Other Road - ID17**	5.67	41.0	10	$608	$2,163	$2,771	$617	$179	$3,031	$3,827
18	**Other Road - ID18**	5.71	59.0	10	$608	$2,163	$2,771	$622	$180	$3,053	$3,855
19	**Other Road - ID19**	5.44	130.0	10	$608	$2,163	$2,771	$593	$172	$2,912	$3,677
20	**Other Road - ID20**	1.75	34.0	3	$182	$649	$831	$191	$55	$937	$1,183
21	**Other Road - ID21**	2.39	25.0	4	$243	$865	$1,108	$260	$75	$1,276	$1,611
22	**Other Road - ID22**	4.19	112.0	8	$486	$1,731	$2,217	$456	$132	$2,241	$2,829
23	**Other Road - ID23**	1.48	81.0	3	$182	$649	$831	$162	$47	$794	$1,003
24	**Other Road - ID24**	0.58	3.0	1	$61	$216	$277	$109	$32	$311	$451
25	**Other Road - ID25**	1.81	14.0	3	$182	$649	$831	$197	$57	$967	$1,221
26	**Other Road - ID26**	4.41	379.0	8	$486	$1,731	$2,217	$480	$139	$2,356	$2,975
27	**Other Road - ID27**	0.87	137.0	2	$122	$433	$555	$109	$32	$468	$608
28	**Other Road - ID28**	2.80	153.0	5	$304	$1,082	$1,386	$305	$88	$1,499	$1,892
29	**Other Road - ID29**	0.26	64.0	1	$61	$216	$277	$109	$32	$138	$278
30	**Other Road - ID30**	0.03	2.0	1	$61	$216	$277	$109	$32	$18	$158
31	**Other Road - ID31**	0.03	0.0	1	$61	$216	$277	$109	$32	$18	$158
32	**Other Road - ID32**	0.03	1.0	1	$61	$216	$277	$109	$32	$14	$154
33	**Other Road - ID33**	0.05	5.0	1	$61	$216	$277	$109	$32	$27	$167
34	**Other Road - ID34**	1.06	18.0	2	$122	$433	$555	$115	$33	$567	$715
35	**Other Road - ID35**	0.24	2.0	1	$61	$216	$277	$109	$32	$130	$270
36	**Other Road - ID36**	0.05	1.0	1	$61	$216	$277	$109	$32	$26	$166
37	**Other Road - ID37**	0.41	11.0	1	$61	$216	$277	$109	$32	$220	$360
38	**Other Road - ID38**	0.56	56.0	1	$61	$216	$277	$109	$32	$297	$437
		175.17		324	**$19,702**	**$70,090**	**$89,792**	**$20,022**	**$5,793**	**$93,690**	**$119,505**

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Closure Cost Estimate
Pits

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Pits - Cost Summary

	Labor	Equipment	Materials	Totals
Safety Berm Construction Cost	$25,794	$113,226	N/A	$139,020
Safety Berm Revegetation Cost	$1,399	$404	$2,781	$4,584
TOTALS	**$27,193**	**$113,630**	**$2,781**	**$143,604**

Pits - User Input

	Facility Description			Pit Berms					Berm Construction		Excavate or Doze	Hauling (if selected method)				Revegetation		
	Description (required)	ID Code	Type	Berm (or Highwall) Length m	Berm Height m	Berm Base Width m	Berm Sideslope Angle _H:1V	Volume (if calculated elsewhere) m3	Construction Method (select)	Berm Material Type (select)	Berm Construction Equipment Fleet (select)	Berm Hauling Fleet (select)	Distance to Borrow Source m	Slope to Borrow Source % grade	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)
1	**Pit 1 (Operation Year 3 Configuration)**		**Pit**	**5,675.8**	**2.0**	**6.0**	**1.3**		**Haul & Place**	**Sandstone**	**Med**	**Med Truck**	**1,800**	**0.0**		**Mix 1**		**Chemical**
2	**Pit 2 (Operation Year 3 Configuration)**		**Pit**	**2,857.9**	**2.0**	**6.0**	**1.3**		**Haul & Place**	**Sandstone**	**Med**	**Med Truck**	**1,800**	**0.0**		**Mix 1**		**Chemical**

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

Inputs from 2016_SRCE_disturbance.xlsx (see User 14)

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Pits - Cost Summary

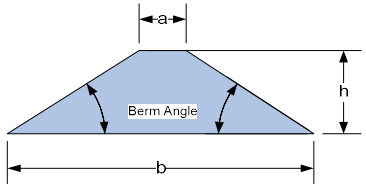
	Labor	Equipment	Materials	Totals
Safety Berm Construction Cost	$25,794	$113,226	N/A	$139,020
Safety Berm Revegetation Cost	$1,399	$404	$2,781	$4,584
TOTALS	**$27,193**	**$113,630**	**$2,781**	**$143,604**

Pits - Calculations

Safety Berm Volume Calculation

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

Berm Volume = Berm Length x Cross Sectional Area



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

Revegetation Calculations

Minimum 1 acre revegetation crew time per area

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Pits - Cost Summary

	Labor	Equipment	Materials	Totals
Safety Berm Construction Cost	$25,794	$113,226	N/A	$139,020
Safety Berm Revegetation Cost	$1,399	$404	$2,781	$4,584
TOTALS	**$27,193**	**$113,630**	**$2,781**	**$143,604**

Pits - Safety Berm Construction Costs

		Safety Berm							
	Description (required)	Safety Berm Volume m3	Selected Fleet	Number of Trucks/ Scrapers	Corrected Fleet Productivity m3/hr	Total Hours	Safety Berm Labor Cost $	Safety Berm Equipment Cost $	Total Safety Berm Cost $
1	**Pit 1 (Operation Year 3 Configuration)**	40,232	777D/992G	2	571	70	$17,196	$75,484	$92,680
2	**Pit 2 (Operation Year 3 Configuration)**	20,258	777D/992G	2	571	35	$8,598	$37,742	$46,340
		60,490				105	**$25,794**	**$113,226**	**$139,020**

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Pits - Cost Summary

	Labor	Equipment	Materials	Totals
Safety Berm Construction Cost	$25,794	$113,226	N/A	$139,020
Safety Berm Revegetation Cost	$1,399	$404	$2,781	$4,584
TOTALS	**$27,193**	**$113,630**	**$2,781**	**$143,604**

Pits - Safety Berms - Revegetation Costs

	Description (required)	Flat Area ha	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Pit 1 (Operation Year 3 Configuration)**	3.46	$931	$269	$1,850	$3,050
2	**Pit 2 (Operation Year 3 Configuration)**	1.74	$468	$135	$931	$1,534
		5.20	**$1,399**	**$404**	**$2,781**	**$4,584**

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Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Quarries and Borrow Areas - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
Safety Berm Revegetation Cost	$0	$0	$0	$0
	$0	**$0**	**$0**	**$0**
TOTALS	**$0**	**$0**	**$0**	**$0**

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 m	Mid-Bench Length m	Average Flat Area Long Dimension (ripping distance) m	Final (Regraded) Footprint ha	Regrade Volume (1) (if calculated elsewhere) m3	Cover Thickness Slopes mm	Cover Thickness Flat Areas mm	Distance from Cover Borrow m	Slope from Dump to Cover Borrow % grade	Slope Growth Media Thickness mm	Flat Area Growth Media Thickness mm	Distance from Growth Media Stockpile m	Slope from Dump to Stockpile % grade

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)

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Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Quarries and Borrow Areas - Cost Summary	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
Safety Berm Revegetation Cost	$0	$0	$0	$0
	$0	**$0**	**$0**	**$0**
TOTALS	**$0**	**$0**	**$0**	**$0**

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)

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

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Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Quarries and Borrow Areas - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
Safety Berm Revegetation Cost	$0	$0	$0	$0
	$0	**$0**	**$0**	**$0**
TOTALS	**$0**	**$0**	**$0**	**$0**

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 m	Berm Height m	Berm Base Width m	Berm Sideslope Angle _H:1V	Volume (if calculated elsewhere) m3	Construction Method (select)	Berm Material Type (select)	Berm Construction Equipment Fleet (select)	Berm Hauling Fleet (select)	Distance to Borrow Source m	Slope to Borrow Source % grade	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)

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 Productivity Sheet)
3. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Quarries & Borrow Pits - Calculations

Regrading Volume Calculation

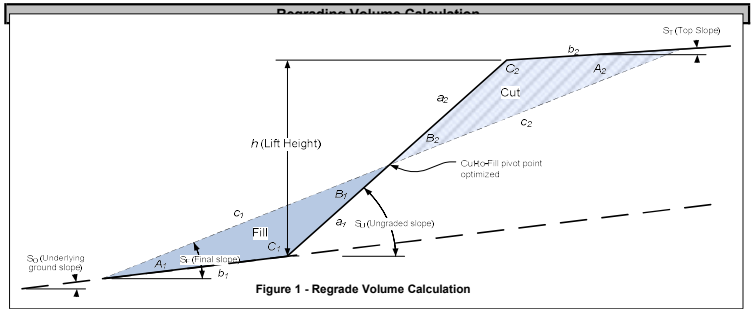

Figure 1 - Regrade Volume Calculation

Final Slope Area and Footprint Area Calculations

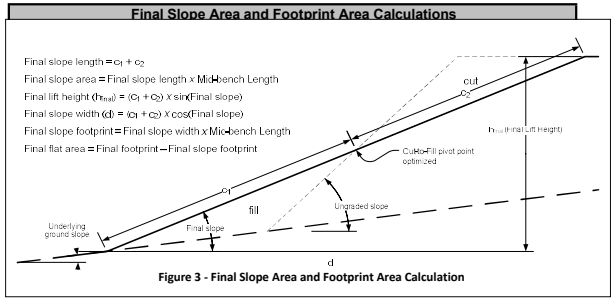

Figure 3 - Final Slope Area and Footprint Area Calculation

Regrading Push Distance Calculation

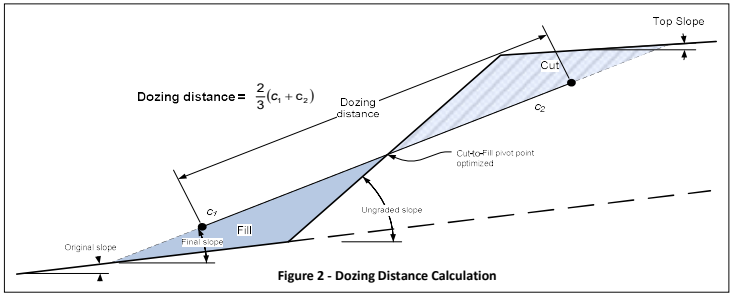

Figure 2 - Dozing Distance Calculation

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

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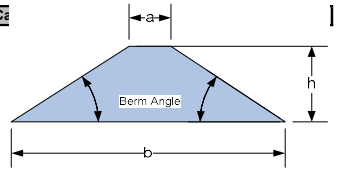
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety **Cost Basis: Alaska Davis Bacon 2016**

Quarries and Borrow Areas - Cost Summary	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
Safety Berm Revegetation Cost	$0	$0	$0	$0
	$0	**$0**	**$0**	**$0**
TOTALS	**$0**	**$0**	**$0**	**$0**

Safety Berm Volume Ca

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

Berm Volume = Berm Length x Cross Sectional Area



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

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Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Quarries and Borrow Areas - Cost Summary	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
Safety Berm Revegetation Cost	$0	$0	$0	$0
	$0	**$0**	**$0**	**$0**
TOTALS	**$0**	**$0**	**$0**	**$0**

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 m3	Dozing Distance (see above) m	Regrading Fleet	Uncorrected Dozer Productivity m3/hr	Grade Correction	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity m3/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
												$0	**$0**	**$0**

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Closure Cost Estimate
Quarries & Borrow Pits

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Quarries and Borrow Areas - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
Safety Berm Revegetation Cost	$0	$0	$0	$0
	$0	**$0**	**$0**	**$0**
TOTALS	**$0**	**$0**	**$0**	**$0**

Quarries & Borrow Pits - Cover and Growth Media Costs

		Cover (lower layer)								Growth Media Placement							
	Description (required)	Cover Volume m3	Cover Replacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Cover Labor Cost $	Cover Equipment Cost $	Total Cover Cost $	Growth Media Volume m3	Growth Media Replacement Fleet	Fleet Productivity BCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
							$0	**$0**	**$0**						**$0**	**$0**	**$0**

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Closure Cost Estimate
Quarries & Borrow Pits

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Quarries and Borrow Areas - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
Safety Berm Revegetation Cost	$0	$0	$0	$0
	$0	**$0**	**$0**	**$0**
TOTALS	**$0**	**$0**	**$0**	**$0**

Quarries & Borrow Pits - Scarifying/Revegetation Costs

	Description (required)	Slope Area ha	Flat Area ha	Total Surface Area ha	Final Slope Length m	Flat Area Long Dimension m	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 $
											$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.)

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Closure Cost Estimate
Underground Openings

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Underground Openings Cost Summary

	Labor	Equipment	Materials	Totals
Adits, Portals & Declines Plugging	$0	$0	$0	$0
Shaft Backfill/Cover	$0	$0	N/A	$0
Shaft Capping	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Adits, Portals & Declines - User Input

Facility Description			Physical Characteristics				Backfill Material			
	Description (required)	ID Code	Height m	Width m	Backfill/ Plug Type	Distance to Bulkhead m	Backfill Material Condition (select)	Backfill Material Type (select)	Distance to Backfill Borrow m	Slope from Adit to Borrow Area % grade

Notes: 1) Foam (adit) option is for smaller openings that can be plugged with simple forms and a 1.5 m thick plug.
2) Foam (production) option is for larger production openings (declines, etc.) and requires larger form construction and minimum 3 m thick plug.
3) All foam plugs include minimum 5m 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

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Closure Cost Estimate
Underground Openings

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Underground Openings Cost Summary

	Labor	Equipment	Materials	Totals
Adits, Portals & Declines Plugging	$0	$0	$0	$0
Shaft Backfill/Cover	$0	$0	N/A	$0
Shaft Capping	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

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	Shaft Depth (for backfill method)	Backfill/ Plug Type	Backfill Material Type	Cover/ Backfill Fleet	Thickness (if not complete backfill)	Distance to Backfill Borrow	Slope from Shaft to Borrow Area	Maximum Fleet Size
			m	m	(select)	(select)	(select)	m	m	% grade	(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

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Closure Cost Estimate
Underground Openings

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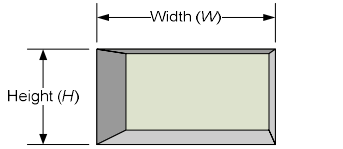
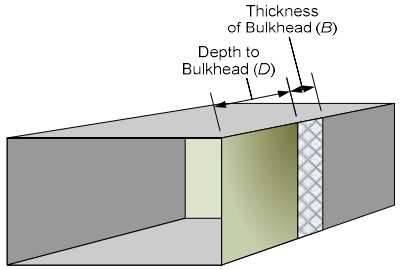
Underground Openings Cost Summary

	Labor	Equipment	Materials	Totals
Adits, Portals & Declines Plugging	$0	$0	$0	$0
Shaft Backfill/Cover	$0	$0	N/A	$0
Shaft Capping	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Underground Openings - Calculations

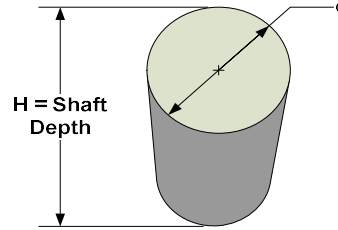
Adits, Declines and Portals - Volume Calculations





Cross-Sectional Area (A) = $W \times H$
Volume of Concrete Bulkhead = $A \times B$
Volume of Backfill = $A \times D$

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 450 mm thick slab

Backfill Calculations

Uses 1 large and 1 small dozer for adit backfill
Assumes max 120 m push
Assumes average operator and 50 min/hr availability

Uses truck & loader load, haul place fleets for shafts
Concrete cap will be 450 mm thick, reinforced, structually supported.
If concrete cap is used, assume 3 m of rock backfill on top of cap.
Assumes that all concrete works are reinforced
If backfill is used, assume overfill by 1.5 m
Carpenter rate incl Fringe: 0 per hour

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Closure Cost Estimate
Underground Openings

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Underground Openings Cost Summary

	Labor	Equipment	Materials	Totals
Adits, Portals & Declines Plugging	$0	$0	$0	$0
Shaft Backfill/Cover	$0	$0	N/A	$0
Shaft Capping	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

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 m3	Backfill (rock) Volume m3	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 $
				$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

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).

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Closure Cost Estimate
Underground Openings

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Underground Openings Cost Summary

	Labor	Equipment	Materials	Totals
Adits, Portals & Declines Plugging	$0	$0	$0	$0
Shaft Backfill/Cover	$0	$0	N/A	$0
Shaft Capping	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Shaft Plugging

		Cover/Cap						Backfill/Cover		
	Description (required)	Cover Area m2	Backfill or Cover Volume m3	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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Closure Cost Estimate
Material Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamatio
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Revegetation Materials

Seed Mixes

Seed Mix	Description		Cost/Ha
None			
Mix 1	Basins		$388.85
Mix 2	Low Hills		$238.80
Mix 3	Uplands		
Mix 4	Riparian or Custom		
User Mix 1			
User Mix 2			
User Mix 3			
User Mix 4			
	Cost/lb	kg/Ha	Cost/Ha
User Mix 5 (from Seed Mix sheet	$17.54	$7.42	$130.14
Notes:			

Mulch

Item	Cost/kg	kg/Ha	Cost/Ha
None			
Straw Mulch		2000	
Hydro Mulch		100	
Timber Mulch		100	
Notes:			

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Closure Cost Estimate
Material Costs

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Cost Estimate Type: Surety **Cost Basis: Alaska Davis Bacon 2016**

Amendments			
Item	**Cost/kg**	**kg/Ha**	**Cost/Ha**
None			
Organic Matter		**2000**	
Treated Sludge			
Chemical	$1.46	**100**	$146.00
Notes:			

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Closure Cost Estimate
Material Costs

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Well Abandonment Materials

Description	Cost/20kg bag	Units	Cost/unit*
Cement	$6.79	m3	$42.44
Grout (Low Grade Bentonite)	$7.76	m3	$48.50
Inert Material/Cuttings		m3	
		m3	
		m3	

NDEP 2016 costs converted to metric units and adjusted for location.

* 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.	$2,459.66
Sampling Supplies	ea.	$5.75
Water Analysis (Complete) (1)	ea.	$1,055.00
ABA + S speciation	ea.	
Cyanide - WAD	ea.	
Cyanide - Free	ea.	
Cyanide - Total soils	ea.	
Cyanide - Total water	ea.	
TPH in soils	ea.	$80.00
Humidty Cell (20 wk) (2)	ea.	
Humidty Cell (40 wk)	ea.	
NAG	ea.	
TCLP w/ full analysis	ea.	$185.00
SPLP w/ full analysis	ea.	$150.00
AS4439 Leach test w/ full analysis	ea.	
Methy Hg	ea.	
	ea.	

Pump and consumable costs from Drillers World
AK Lab Rates from SRK Consulting based on similar projects

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Material Costs

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Fuel, Etc.

Description	Units	Cost/unit	User Overrides
Off-road Diesel - delivered (1)	$/Litre	$0.844	
Pickup Truck Mileage	$/km	$0.348	
Electical Power	$/kWh	$0.129	
Donlin feasibility 2011 inflated to 2016			
IRS allowance converted to metric			
Donlin feasibility 2011 inflated to 2016			

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Closure Cost Estimate
Material Costs

Revegetation Method				
Slopes				
Disturbance Type	**Seed Application Method**	**Labor** Cost/Ha	**Equipment** Cost/Ha	**Total** Cost/Ha
Waste Rock Dumps	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Heap Leach	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Tailings	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Quarries & Borrow Pits	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Flat Areas and Undifferentiated				
Disturbance Type	**Seed Application Method**	**Labor** Cost/Ha	**Equipment** Cost/Ha	**Total** Cost/Ha
Exploration Trenches	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Exploration Roads	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Waste Rock Dumps	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Heap Leach	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Tailings	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Quarries & Borrow Pits	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Roads	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Pits	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Haul Material	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Foundations & Buildings	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Sediment & Drainge Control	**Hand Broadcast**	$389.34	$144.20	$533.54
Process Ponds	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Landfills	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Yards, Etc.	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Revegetation Maintenance	**Mechanical Broadcast**	$269.16	$77.87	$347.03

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Closure Cost Estimate
Foundations & Buildings

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$203,019	N/A	$247,841
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$203,019**	**$0**	**$247,841**
Revegetation Cost	$7,843	$2,269	$1,584	$11,696
TOTALS	**$8,145,290**	**$3,816,008**	**$1,584**	**$11,962,882**

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 m	Width m	Eve Height m	Slab Thickness mm	Foundation Wall Thickness mm	Foundation Wall Height mm	Average Flat Area Long Dimension (ripping distance) m	Building Area Footprint (including surrounding facilities) ha	Foundation Cover Thickness mm	Distance from Foundation Cover Borrow Area m	Slope from Facility to Borrow Area % grade	Growth Media Thickness mm	Distance from Growth Media Stockpile m	Slope from Facility to Stockpile % grade
1	Mine Site Washbay		Site Facilities - Structures	25	30	20	400	100	300			700	100	0.0	300	500	0.0
2	Mine Site Truck Shop		Site Facilities - Structures	186	49	19	300	250	300			700	100	0.0	300	500	0.0
3	Repair Shop		Site Facilities - Structures	35	51	7	200	250				700	100	0.0	300	500	0.0
4	Primary Crusher		Site Facilities - Structures	22	12	45	600	80	1,200			700	100	0.0	300	500	0.0
5	Primary Crusher - Concrete		Process - Crushing & Screening	22	12	33	1,000	750				700	100	0.0	300	500	0.0
6	Primary Crusher - Steel Bldg. Below Ground		Process - Crushing & Screening	10	9	42											
7	Primary Crusher - Steel Bldg. Above Ground		Process - Crushing & Screening	35	12	14											
8	Take-up Tower		Process - Plant & Buildings	28	15	10	600	250				3000	100	0.0	300	500	0.0
9	Conveyor (Total)		Process - Plant & Buildings	1812	2	2		300									
10	Drive House		Process - Plant & Buildings	27	11	22											
11	Ore Stockpile Cover		Process - Plant & Buildings	125		45											
12	Pebble Crusher		Process - Plant & Buildings	28	22	30	300	300	600			700	400	0.0	300	500	0.0
13	Grinding Building		Process - Plant & Buildings	96	48	35	300	100	600			700	400	0.0	300	500	0.0
14	Ball Mill Foundations (two total)		Process - Plant & Buildings	50	25	1	4,000					4000	400	0.0	300	500	0.0
15	Ball Mill Foundations (Concr.Piers Above Grade Slab.)		Process - Plant & Buildings	43.6	44	1											
16	SAG Mill Foundation		Process - Plant & Buildings	25	30	1	4,000					4000	400	0.0	300	500	0.0
17	SAG Mill Foundation (Concr.Piers Above Grade Slab.)		Process - Plant & Buildings	33.2	33	1											
18	POX Process Building - High Section		Process - Plant & Buildings	57.8	42	46	600	600	600			700	100	0.0	300	500	0.0
19	POX Process Building - Lower Section		Process - Plant & Buildings	102.5	42	28	600	600	600			700	100	0.0	300	500	0.0
20	POX Process Building - End additioin		Process - Plant & Buildings	27.5	19	14	600	600	600			1000	400	0.0	300	500	0.0
21	POX Misc. Small Tanks (8)		Process - Plant & Buildings	32	4	5		100									
22	Autoclaves (2)		Process - Plant & Buildings	40	6	6		600									
23	Stock Tanks Concrete Contain.		Process - Plant & Buildings	150	60	0	500	100	600			700	400	0.0	300	500	0.0
24	Concrete Thickener Concrete		Process - Plant & Buildings	100	110	0	500	100	600			700	100	0.0	300	500	0.0
25	Flot./POX Thickener Concrete		Process - Plant & Buildings	240	140	0	600	250				700	400	0.0	300	500	0.0
26	Hot Cure Tanks		Process - Plant & Buildings	42	14	16		100									
27	Flotation Building		Process - Plant & Buildings	120	96	35	600	100	600			700	400	0.0	300	500	0.0
28	CIL Building		Process - Plant & Buildings	96	40	38	600	230	600			700	400	0.0	300	500	0.0
29	Refinery		Process - Plant & Buildings	32	24	35	600	250	600			700	400	0.0	300	500	0.0
30	Cyanide Reagent Building		Process - Plant & Buildings	32	96	35	600	100	600			700	300	0.0	300	500	0.0
31	Water Treatment Plant Building - Construction		Process - Plant & Buildings	24.4	12	8	600	300	600			700	100	0.0	300	500	0.0
32	Water Treatment Plant Building - Operation		Process - Plant & Buildings	45.5	26	14	600	300	300			700	100	0.0	300	500	0.0
33	Man Camp - Airstrip		Off Site Facilities	65	11	23	100	150				700	300	0.0	300	500	0.0
34	Man Camp - Airstrip		Off Site Facilities	65	11	23	100	150				700	300	0.0	300	500	0.0
35	Man Camp - Airstrip		Off Site Facilities	98	11	23	100	150				700	300	0.0	300	500	0.0
36	Man Camp - Airstrip		Off Site Facilities	98	11	23	100	150				700	300	0.0	300	500	0.0
37	Man Camp - Airstrip		Off Site Facilities	72	11	23	100	150				700	300	0.0	300	500	0.0
38	Man Camp - Airstrip		Off Site Facilities	77.2	29	12	100	150				700	300	0.0	300	500	0.0
39	STP Building		Off Site Facilities	18.3	12	7	300	150				700	300	0.0	300	500	0.0
40	Power Station A/B Buildings		Site Facilities - Buildings	120	30	15	300	100				700	400	0.0	300	500	0.0
41	Power Station A Gensets		Site Facilities - Buildings	70	15	4		100									
42	Power station A Transformers		Site Facilities - Buildings	24	20	4		100									
43	Power Station A Tanks		Site Facilities - Buildings	20	20	15		100									
44	Power Station A Building		Site Facilities - Buildings	36	20	12	300	100				700	300	0.0	300	500	0.0
45	Power Station A Building (small)		Site Facilities - Buildings	32	18	6	200	100				700	300	0.0	300	500	0.0
46	Power Station B Gensets		Site Facilities - Buildings	70	15	4		100									
47	Power station B Transformers		Site Facilities - Buildings	24	20	4		100									
48	Power Station B Tanks		Site Facilities - Buildings	20	20	15		100									
49	Power Station B Building (small)		Site Facilities - Buildings	32	18	6	200	100				700	300	0.0	300	500	0.0
50	Cold Storage Building		Process - Other	46	23	8	300	100	600			700	100	0.0	300	500	0.0
51	Autoclave Feed Tanks		Process - Plant & Buildings	18	18	14		100									
52	Quench/Flash/Heaters		Process - Plant & Buildings	11	11	35		300									
53	Absorber Towers		Process - Plant & Buildings	6	6	8		300									
54	Cooling Towers		Process - Plant & Buildings	12	12	8		300									
55	Mercury Scrubbing		Process - Plant & Buildings	12	6	8		300									
56	Quench Building (60 m total H)		Process - Plant & Buildings	54.5	22	35	300	100				700	100	0.0	300	500	0.0
57	Autoclave		Process - Plant & Buildings	40	6	6		100									

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$203,019	N/A	$247,841
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$203,019**	**$0**	**$247,841**
Revegetation Cost	$7,843	$2,269	$1,584	$11,696
TOTALS	**$8,145,290**	**$3,816,008**	**$1,584**	**$11,962,882**

58	**HP cooling tank**		Process - Plant & Buildings	12	12	14		100									
59	**Demin Tank**		Process - Plant & Buildings	8	8	8		100									
60	**Seal Water Tank**		Process - Plant & Buildings	4	4	8		100									
61	**Autoclave Feed Pumps**		Process - Plant & Buildings	6	5	3		100									
62	**LP Column**		Process - Plant & Buildings	12	12	10		100									
63	**HP Column**		Process - Plant & Buildings	12	12	10		100									
64	**Main Heat Exchanger**		Process - Plant & Buildings	16	12	10		100									
65	**Wash Water Tower**		Process - Plant & Buildings	7	7	7		100									
66	**Chilled Water Tower**		Process - Plant & Buildings	7	7	7		100									
67	**Compressors (3)**		Process - Plant & Buildings	55	10	10		100				700	100	0.0	300	500	0.0
68	**Warehouse**		Site Facilities - Buildings	46	31	9	300	300				700	100	0.0	300	500	0.0
69	**Boiler Room**		Process - Plant & Buildings	30	30	9	300	600				700	100	0.0	300	500	0.0
70	**STP Building**		Process - Plant & Buildings	49	18	8	300	600				700	100	0.0	300	500	0.0
71	**Utilidor**		Off Site Facilities	215	5	7											
72	**RO plant (not to be demolished, required for treatment)**		Process - Other														

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)

Buildings and Tanks per AMEC drawings.
Bridge demolition measurements from Amec drawings. Assumed same cost as large steel building.
Break and bury in place costs selected to cover burial costs at waste dump and breakup cost to prepare for hauling.

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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	Mine Site Washbay	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
2	Mine Site Truck Shop	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
3	Repair Shop	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
4	Primary Crusher	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
5	Primary Crusher - Concrete	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
6	Primary Crusher - Steel Bldg. Below Ground	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
7	Primary Crusher - Steel Bldg. Above Ground	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
8	Take-up Tower	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
9	Conveyor (Total)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
10	Drive House	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
11	Ore Stockpile Cover	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
12	Pebble Crusher	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
13	Grinding Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
14	Ball Mill Foundations (two total)	Lg. concrete	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
15	Ball Mill Foundations (Concr.Piers Above Grade Slab.)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
16	SAG Mill Foundation	Lg. concrete	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
17	SAG Mill Foundation (Concr.Piers Above Grade Slab.)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
18	POX Process Building - High Section	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
19	POX Process Building - Lower Section	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
20	POX Process Building - End additioin	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
21	POX Misc. Small Tanks (8)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
22	Autoclaves (2)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
23	Stock Tanks Concrete Contain.	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
24	Concrete Thickener Concrete	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
25	Flot./POX Thickener Concrete	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
26	Hot Cure Tanks	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
27	Flotation Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
28	CIL Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
29	Refinery	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
30	Cyanide Reagent Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
31	Water Treatment Plant Building - Construction	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
32	Water Treatment Plant Building - Operation	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
33	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
34	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
35	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
36	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
37	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
38	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
39	STP Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
40	Power Station A/B Buildings	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
41	Power Station A Gensets	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
42	Power station A Transformers	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
43	Power Station A Tanks	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
44	Power Station A Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
45	Power Station A Building (small)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
46	Power Station B Gensets	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
47	Power station B Transformers	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
48	Power Station B Tanks	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
49	Power Station B Building (small)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
50	Cold Storage Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
51	Autoclave Feed Tanks	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
52	Quench/Flash/Heaters	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
53	Absorber Towers	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
54	Cooling Towers	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
55	Mercury Scrubbing	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
56	Quench Building (60 m total H)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
57	Autoclave	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		
58	HP cooling tank	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical		

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Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$203,019	N/A	$247,841
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$203,019**	**$0**	**$247,841**
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TOTALS	**$8,145,290**	**$3,816,008**	**$1,584**	**$11,962,882**

59	**Demin Tank**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
60	**Seal Water Tank**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
61	**Autoclave Feed Pumps**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
62	**LP Column**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
63	**HP Column**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
64	**Main Heat Exchanger**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
65	**Wash Water Tower**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
66	**Chilled Water Tower**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
67	**Compressors (3)**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
68	**Warehouse**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
69	**Boiler Room**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
70	**STP Building**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
71	**Utilidor**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	
72	**RO plant (not to be demolished, required for treatment)**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**	

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

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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) m2	Building Volume m3	Wall Length m	Wall Area m2	Slab Demolition Fleet	Slab Volume m3	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	**Mine Site Washbay**	750	15,000	110	33	345B	300	$70,188	$31,518	$101,706	$796	$0	$796	$0	$0	$0	$70,984	$31,518	$102,502
2	**Mine Site Truck Shop**	9,114	168,610	470	141	345B	2,734	$788,959	$354,287	$1,143,246	$3,400	$0	$3,400	$0	$0	$0	$792,359	$354,287	$1,146,646
3	**Repair Shop**	1,785	12,495	172	0	345B	357	$58,467	$26,255	$84,722	$0	$0	$0	$0	$0	$0	$58,467	$26,255	$84,722
4	**Primary Crusher**	264	11,880	68	82	345B	158	$55,588	$24,962	$80,550	$1,977	$0	$1,977	$0	$0	$0	$57,565	$24,962	$82,527
5	**Primary Crusher - Concrete**	264	8,712	68	0	345B	264	$40,765	$18,306	$59,071	$0	$0	$0	$0	$0	$0	$40,765	$18,306	$59,071
6	**Primary Crusher - Steel Bldg. Below Ground**	90	3,780	38	0	345B	0	$17,687	$7,943	$25,630	$0	$0	$0	$0	$0	$0	$17,687	$7,943	$25,630
7	**Primary Crusher - Steel Bldg. Above Ground**	420	5,880	94	0	345B	0	$27,514	$12,355	$39,869	$0	$0	$0	$0	$0	$0	$27,514	$12,355	$39,869
8	**Take-up Tower**	420	4,200	86	0	345B	252	$19,653	$8,825	$28,478	$0	$0	$0	$0	$0	$0	$19,653	$8,825	$28,478
9	**Conveyor (Total)**	3,624	7,249	3,628	0	345B	0	$33,918	$15,231	$49,149	$0	$0	$0	$0	$0	$0	$33,918	$15,231	$49,149
10	**Drive House**	297	6,534	76	0	345B	0	$30,574	$13,729	$44,303	$0	$0	$0	$0	$0	$0	$30,574	$13,729	$44,303
11	**Ore Stockpile Cover**	0	0	250	0	345B	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12	**Pebble Crusher**	616	18,480	100	60	345B	185	$86,471	$38,830	$125,301	$1,447	$0	$1,447	$0	$0	$0	$87,918	$38,830	$126,748
13	**Grinding Building**	4,608	161,279	288	173	345B	1,382	$754,657	$338,884	$1,093,541	$4,171	$0	$4,171	$0	$0	$0	$758,828	$338,884	$1,097,712
14	**Ball Mill Foundations (two total)**	1,250	1,250	150	0	345B	5,000	$8,237	$3,686	$11,923	$0	$0	$0	$0	$0	$0	$8,237	$3,686	$11,923
15	**Ball Mill Foundations (Concr.Piers Above Grade Slab.)**	1,901	1,901	174	0	345B	0	$8,893	$3,994	$12,887	$0	$0	$0	$0	$0	$0	$8,893	$3,994	$12,887
16	**SAG Mill Foundation**	750	750	110	0	345B	3,000	$4,942	$2,212	$7,154	$0	$0	$0	$0	$0	$0	$4,942	$2,212	$7,154
17	**SAG Mill Foundation (Concr.Piers Above Grade Slab.)**	1,101	1,101	133	0	345B	0	$5,153	$2,314	$7,467	$0	$0	$0	$0	$0	$0	$5,153	$2,314	$7,467
18	**POX Process Building - High Section**	2,399	110,341	199	119	345B	1,439	$516,306	$231,851	$748,157	$2,869	$0	$2,869	$0	$0	$0	$519,175	$231,851	$751,026
19	**POX Process Building - Lower Section**	4,254	119,105	288	173	345B	2,552	$557,319	$250,268	$807,587	$4,171	$0	$4,171	$0	$0	$0	$561,490	$250,268	$811,758
20	**POX Process Building - End additioin**	512	7,161	92	55	345B	307	$33,508	$15,047	$48,555	$1,326	$0	$1,326	$0	$0	$0	$34,834	$15,047	$49,881
21	**POX Misc. Small Tanks (8)**	128	640	72	0	345B	0	$2,995	$1,345	$4,340	$0	$0	$0	$0	$0	$0	$2,995	$1,345	$4,340
22	**Autoclaves (2)**	240	1,440	92	0	345B	0	$6,738	$3,026	$9,764	$0	$0	$0	$0	$0	$0	$6,738	$3,026	$9,764
23	**Stock Tanks Concrete Contain.**	9,000	0	420	252	345B	4,500	$0	$0	$0	$6,076	$0	$6,076	$0	$0	$0	$6,076	$0	$6,076
24	**Concrete Thickener Concrete**	11,000	0	420	252	345B	5,500	$0	$0	$0	$6,076	$0	$6,076	$0	$0	$0	$6,076	$0	$6,076
25	**Flot./POX Thickener Concrete**	33,600	0	760	0	345B	20,160	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
26	**Hot Cure Tanks**	588	9,408	112	0	345B	0	$44,022	$19,768	$63,790	$0	$0	$0	$0	$0	$0	$44,022	$19,768	$63,790
27	**Flotation Building**	11,520	403,199	432	259	345B	6,912	$1,886,647	$847,212	$2,733,859	$6,244	$0	$6,244	$0	$0	$0	$1,892,891	$847,212	$2,740,103
28	**CIL Building**	3,840	145,921	272	163	345B	2,304	$682,791	$306,612	$989,403	$3,930	$0	$3,930	$0	$0	$0	$686,721	$306,612	$993,333
29	**Refinery**	768	26,880	112	67	345B	461	$125,776	$56,481	$182,257	$1,615	$0	$1,615	$0	$0	$0	$127,391	$56,481	$183,872
30	**Cyanide Reagent Building**	3,072	107,520	256	154	345B	1,843	$503,106	$225,923	$729,029	$3,713	$0	$3,713	$0	$0	$0	$506,819	$225,923	$732,742
31	**Water Treatment Plant Building - Construction**	298	2,233	73	44	345B	179	$10,447	$4,691	$15,138	$1,061	$0	$1,061	$0	$0	$0	$11,508	$4,691	$16,199
32	**Water Treatment Plant Building - Operation**	1,183	16,207	143	43	345B	710	$75,837	$34,055	$109,892	$1,037	$0	$1,037	$0	$0	$0	$76,874	$34,055	$110,929
33	**Man Camp - Airstrip**	741	17,043	153	0	345B	74	$79,748	$35,811	$115,559	$0	$0	$0	$0	$0	$0	$79,748	$35,811	$115,559
34	**Man Camp - Airstrip**	741	17,043	153	0	345B	74	$79,748	$35,811	$115,559	$0	$0	$0	$0	$0	$0	$79,748	$35,811	$115,559
35	**Man Camp - Airstrip**	1,117	25,696	219	0	345B	112	$120,235	$53,993	$174,228	$0	$0	$0	$0	$0	$0	$120,235	$53,993	$174,228
36	**Man Camp - Airstrip**	1,117	25,696	219	0	345B	112	$120,235	$53,993	$174,228	$0	$0	$0	$0	$0	$0	$120,235	$53,993	$174,228
37	**Man Camp - Airstrip**	821	18,878	167	0	345B	82	$88,336	$39,668	$128,004	$0	$0	$0	$0	$0	$0	$88,336	$39,668	$128,004
38	**Man Camp - Airstrip**	2,262	27,143	213	0	345B	226	$127,010	$57,035	$184,045	$0	$0	$0	$0	$0	$0	$127,010	$57,035	$184,045
39	**STP Building**	223	1,563	61	0	345B	67	$7,313	$3,284	$10,597	$0	$0	$0	$0	$0	$0	$7,313	$3,284	$10,597
40	**Power Station A/B Buildings**	3,600	54,001	300	0	345B	1,080	$252,678	$113,467	$366,145	$0	$0	$0	$0	$0	$0	$252,678	$113,467	$366,145
41	**Power Station A Gensets**	1,050	4,200	170	0	345B	0	$19,652	$8,825	$28,477	$0	$0	$0	$0	$0	$0	$19,652	$8,825	$28,477
42	**Power station A Transformers**	480	1,920	88	0	345B	0	$8,984	$4,034	$13,018	$0	$0	$0	$0	$0	$0	$8,984	$4,034	$13,018
43	**Power Station A Tanks**	400	6,000	80	0	345B	0	$28,076	$12,608	$40,684	$0	$0	$0	$0	$0	$0	$28,076	$12,608	$40,684
44	**Power Station A Building**	720	8,640	112	0	345B	216	$40,428	$18,155	$58,583	$0	$0	$0	$0	$0	$0	$40,428	$18,155	$58,583
45	**Power Station A Building (small)**	576	3,456	100	0	345B	115	$16,171	$7,262	$23,433	$0	$0	$0	$0	$0	$0	$16,171	$7,262	$23,433
46	**Power Station B Gensets**	1,050	4,200	170	0	345B	0	$19,652	$8,825	$28,477	$0	$0	$0	$0	$0	$0	$19,652	$8,825	$28,477
47	**Power station B Transformers**	480	1,920	88	0	345B	0	$8,984	$4,034	$13,018	$0	$0	$0	$0	$0	$0	$8,984	$4,034	$13,018
48	**Power Station B Tanks**	400	6,000	80	0	345B	0	$28,076	$12,608	$40,684	$0	$0	$0	$0	$0	$0	$28,076	$12,608	$40,684
49	**Power Station B Building (small)**	576	3,456	100	0	345B	115	$16,171	$7,262	$23,433	$0	$0	$0	$0	$0	$0	$16,171	$7,262	$23,433
50	**Cold Storage Building**	1,058	8,464	138	83	345B	317	$39,605	$17,785	$57,390	$2,001	$0	$2,001	$0	$0	$0	$41,606	$17,785	$59,391
51	**Autoclave Feed Tanks**	324	4,536	72	0	345B	0	$21,225	$9,531	$30,756	$0	$0	$0	$0	$0	$0	$21,225	$9,531	$30,756
52	**Quench/Flash/Heaters**	121	4,235	44	0	345B	0	$19,816	$8,899	$28,715	$0	$0	$0	$0	$0	$0	$19,816	$8,899	$28,715
53	**Absorber Towers**	36	288	24	0	345B	0	$1,348	$605	$1,953	$0	$0	$0	$0	$0	$0	$1,348	$605	$1,953
54	**Cooling Towers**	144	1,152	48	0	345B	0	$5,390	$2,421	$7,811	$0	$0	$0	$0	$0	$0	$5,390	$2,421	$7,811
55	**Mercury Scrubbing**	72	576	36	0	345B	0	$2,695	$1,210	$3,905	$0	$0	$0	$0	$0	$0	$2,695	$1,210	$3,905
56	**Quench Building (60 m total H)**	1,199	41,965	153	0	345B	359	$196,361	$88,177	$284,538	$0	$0	$0	$0	$0	$0	$196,361	$88,177	$284,538
57	**Autoclave**	240	1,440	92	0	345B	0	$6,738	$3,026	$9,764	$0	$0	$0	$0	$0	$0	$6,738	$3,026	$9,764
58	**HP cooling tank**	144	2,016	48	0	345B	0	$9,433	$4,236	$13,669	$0	$0	$0	$0	$0	$0	$9,433	$4,236	$13,669

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$203,019	N/A	$247,841
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$203,019**	**$0**	**$247,841**
Revegetation Cost	$7,843	$2,269	$1,584	$11,696
TOTALS	**$8,145,290**	**$3,816,008**	**$1,584**	**$11,962,882**

59	**Demin Tank**	64	512	32	0	345B	0	$2,396	$1,076	$3,472	$0	$0	$0	$0	$0	$0	$2,396	$1,076	$3,472
60	**Seal Water Tank**	16	128	16	0	345B	0	$599	$269	$868	$0	$0	$0	$0	$0	$0	$599	$269	$868
61	**Autoclave Feed Pumps**	30	90	22	0	345B	0	$421	$189	$610	$0	$0	$0	$0	$0	$0	$421	$189	$610
62	**LP Column**	144	1,440	48	0	345B	0	$6,738	$3,026	$9,764	$0	$0	$0	$0	$0	$0	$6,738	$3,026	$9,764
63	**HP Column**	144	1,440	48	0	345B	0	$6,738	$3,026	$9,764	$0	$0	$0	$0	$0	$0	$6,738	$3,026	$9,764
64	**Main Heat Exchanger**	192	1,920	56	0	345B	0	$8,984	$4,034	$13,018	$0	$0	$0	$0	$0	$0	$8,984	$4,034	$13,018
65	**Wash Water Tower**	49	343	28	0	345B	0	$1,605	$721	$2,326	$0	$0	$0	$0	$0	$0	$1,605	$721	$2,326
66	**Chilled Water Tower**	49	343	28	0	345B	0	$1,605	$721	$2,326	$0	$0	$0	$0	$0	$0	$1,605	$721	$2,326
67	**Compressors (3)**	550	5,500	130	0	345B	0	$25,735	$11,556	$37,291	$0	$0	$0	$0	$0	$0	$25,735	$11,556	$37,291
68	**Warehouse**	1,426	12,835	154	0	345B	428	$60,054	$26,968	$87,022	$0	$0	$0	$0	$0	$0	$60,054	$26,968	$87,022
69	**Boiler Room**	900	7,650	120	0	345B	270	$35,796	$16,074	$51,870	$0	$0	$0	$0	$0	$0	$35,796	$16,074	$51,870
70	**STP Building**	897	7,174	135	0	345B	269	$33,567	$15,073	$48,640	$0	$0	$0	$0	$0	$0	$33,567	$15,073	$48,640
71	**Utilidor**	1,075	7,525	440	0	345B	0	$35,211	$15,812	$51,023	$0	$0	$0	$0	$0	$0	$35,211	$15,812	$51,023
72	**RO plant (not to be demolished, required for treatment)**	0	0	0	0	345B	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
			1,717,583				64,415	**$8,040,715**	**$3,610,720**	**$11,651,435**	**$51,910**	**$0**	**$51,910**	**$0**	**$0**	**$0**	**$8,092,625**	**$3,610,720**	**$11,703,345**

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$203,019	N/A	$247,841
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$203,019**	**$0**	**$247,841**
Revegetation Cost	$7,843	$2,269	$1,584	$11,696
TOTALS	**$8,145,290**	**$3,816,008**	**$1,584**	**$11,962,882**

Building & Foundation - Foundation Cover and Growth Media Costs

		Foundation Cover								Growth Media								Total Cover & Growth Media Costs		
	Description (required)	Cover Volume m3	Cover Repacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $	Growth Media Volume m3	Growth Media Repacement Fleet	Fleet Productivity LCM/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	**Mine Site Washbay**	525	777D/992G	499	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
2	**Mine Site Truck Shop**	6,379	777D/992G	499	1	13	$2,387	$10,817	$13,204						$0	$0	$0	$2,387	$10,817	$13,204
3	**Repair Shop**	1,249	777D/992G	499	1	3	$551	$2,496	$3,047						$0	$0	$0	$551	$2,496	$3,047
4	**Primary Crusher**	185	777D/992G	499	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
5	**Primary Crusher - Concrete**	185	777D/992G	499	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
6	**Primary Crusher - Steel Bldg. Below Ground**	83	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
7	**Primary Crusher - Steel Bldg. Above Ground**	384	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
8	**Take-up Tower**	1,260	777D/992G	499	1	3	$551	$2,496	$3,047						$0	$0	$0	$551	$2,496	$3,047
9	**Conveyor (Total)**	3,314	777D/992G	530	1	6	$1,102	$4,992	$6,094						$0	$0	$0	$1,102	$4,992	$6,094
10	**Drive House**	271	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
11	**Ore Stockpile Cover**						$0	$0	$0						$0	$0	$0	$0	$0	$0
12	**Pebble Crusher**	431	777D/992G	437	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
13	**Grinding Building**	3,226	777D/992G	437	1	7	$1,285	$5,825	$7,110						$0	$0	$0	$1,285	$5,825	$7,110
14	**Ball Mill Foundations (two total)**	5,000	777D/992G	437	1	11	$2,020	$9,153	$11,173						$0	$0	$0	$2,020	$9,153	$11,173
15	**Ball Mill Foundations (Concr.Piers Above Grade Slab.)**	1,738	777D/992G	530	1	3	$551	$2,496	$3,047						$0	$0	$0	$551	$2,496	$3,047
16	**SAG Mill Foundation**	3,000	777D/992G	437	1	7	$1,285	$5,825	$7,110						$0	$0	$0	$1,285	$5,825	$7,110
17	**SAG Mill Foundation (Concr.Piers Above Grade Slab.)**	1,007	777D/992G	530	1	2	$367	$1,664	$2,031						$0	$0	$0	$367	$1,664	$2,031
18	**POX Process Building - High Section**	1,679	777D/992G	499	1	3	$551	$2,496	$3,047						$0	$0	$0	$551	$2,496	$3,047
19	**POX Process Building - Lower Section**	2,978	777D/992G	499	1	6	$1,102	$4,992	$6,094						$0	$0	$0	$1,102	$4,992	$6,094
20	**POX Process Building - End additioin**	511	777D/992G	437	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
21	**POX Misc. Small Tanks (8)**	117	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
22	**Autoclaves (2)**	219	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
23	**Stock Tanks Concrete Contain.**	6,300	777D/992G	437	1	14	$2,571	$11,649	$14,220						$0	$0	$0	$2,571	$11,649	$14,220
24	**Concrete Thickener Concrete**	7,700	777D/992G	499	1	15	$2,755	$12,481	$15,236						$0	$0	$0	$2,755	$12,481	$15,236
25	**Flot./POX Thickener Concrete**	23,520	777D/992G	437	1	54	$9,917	$44,932	$54,849						$0	$0	$0	$9,917	$44,932	$54,849
26	**Hot Cure Tanks**	537	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
27	**Flotation Building**	8,064	777D/992G	437	1	18	$3,306	$14,977	$18,283						$0	$0	$0	$3,306	$14,977	$18,283
28	**CIL Building**	2,688	777D/992G	437	1	6	$1,102	$4,992	$6,094						$0	$0	$0	$1,102	$4,992	$6,094
29	**Refinery**	537	777D/992G	437	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
30	**Cyanide Reagent Building**	2,151	777D/992G	455	1	5	$918	$4,160	$5,078						$0	$0	$0	$918	$4,160	$5,078
31	**Water Treatment Plant Building - Construction**	209	777D/992G	499	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
32	**Water Treatment Plant Building - Operation**	828	777D/992G	499	1	2	$367	$1,664	$2,031						$0	$0	$0	$367	$1,664	$2,031
33	**Man Camp - Airstrip**	518	777D/992G	455	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
34	**Man Camp - Airstrip**	518	777D/992G	455	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
35	**Man Camp - Airstrip**	782	777D/992G	455	1	2	$367	$1,664	$2,031						$0	$0	$0	$367	$1,664	$2,031
36	**Man Camp - Airstrip**	782	777D/992G	455	1	2	$367	$1,664	$2,031						$0	$0	$0	$367	$1,664	$2,031
37	**Man Camp - Airstrip**	574	777D/992G	455	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
38	**Man Camp - Airstrip**	1,583	777D/992G	455	1	3	$551	$2,496	$3,047						$0	$0	$0	$551	$2,496	$3,047
39	**STP Building**	156	777D/992G	455	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
40	**Power Station A/B Buildings**	2,520	777D/992G	437	1	6	$1,102	$4,992	$6,094						$0	$0	$0	$1,102	$4,992	$6,094
41	**Power Station A Gensets**	960	777D/992G	530	1	2	$367	$1,664	$2,031						$0	$0	$0	$367	$1,664	$2,031
42	**Power station A Transformers**	439	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
43	**Power Station A Tanks**	365	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
44	**Power Station A Building**	504	777D/992G	455	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
45	**Power Station A Building (small)**	403	777D/992G	455	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
46	**Power Station B Gensets**	960	777D/992G	530	1	2	$367	$1,664	$2,031						$0	$0	$0	$367	$1,664	$2,031
47	**Power station B Transformers**	439	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
48	**Power Station B Tanks**	365	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
49	**Power Station B Building (small)**	403	777D/992G	455	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
50	**Cold Storage Building**	741	777D/992G	499	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
51	**Autoclave Feed Tanks**	296	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
52	**Quench/Flash/Heaters**	111	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
53	**Absorber Towers**	33	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
54	**Cooling Towers**	132	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
55	**Mercury Scrubbing**	66	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
56	**Quench Building (60 m total H)**	839	777D/992G	499	1	2	$367	$1,664	$2,031						$0	$0	$0	$367	$1,664	$2,031
57	**Autoclave**	219	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
58	**HP cooling tank**	132	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$203,019	N/A	$247,841
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$203,019**	**$0**	**$247,841**
Revegetation Cost	$7,843	$2,269	$1,584	$11,696
TOTALS	**$8,145,290**	**$3,816,008**	**$1,584**	**$11,962,882**

59	**Demin Tank**	59	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
60	**Seal Water Tank**	15	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
61	**Autoclave Feed Pumps**	28	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
62	**LP Column**	132	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
63	**HP Column**	132	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
64	**Main Heat Exchanger**	176	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
65	**Wash Water Tower**	45	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
66	**Chilled Water Tower**	45	777D/992G	530	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
67	**Compressors (3)**	385	777D/992G	499	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
68	**Warehouse**	999	777D/992G	499	1	2	$367	$1,664	$2,031						$0	$0	$0	$367	$1,664	$2,031
69	**Boiler Room**	630	777D/992G	499	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
70	**STP Building**	628	777D/992G	499	1	1	$184	$832	$1,016						$0	$0	$0	$184	$832	$1,016
71	**Utilidor**	983	777D/992G	530	1	2	$367	$1,664	$2,031						$0	$0	$0	$367	$1,664	$2,031
72	**RO plant (not to be demolished, required for treatment)**						$0	$0	$0						$0	$0	$0	$0	$0	$0
		105,372				244	**$44,822**	**$203,019**	**$247,841**						**$0**	**$0**	**$0**	**$44,822**	**$203,019**	**$247,841**

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$203,019	N/A	$247,841
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$203,019**	**$0**	**$247,841**
Revegetation Cost	$7,843	$2,269	$1,584	$11,696
TOTALS	**$8,145,290**	**$3,816,008**	**$1,584**	**$11,962,882**

Building & Foundation - Scarifying/Revegetation Costs

					Scarifying/Ripping			Revegetation				Total Scarify & Revegation Costs			
	Description (required)	Flat Area ha	Area Long Dimension m	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	**Mine Site Washbay**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
2	**Mine Site Truck Shop**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
3	**Repair Shop**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
4	**Primary Crusher**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
5	**Primary Crusher - Concrete**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
6	**Primary Crusher - Steel Bldg. Below Ground**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
7	**Primary Crusher - Steel Bldg. Above Ground**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
8	**Take-up Tower**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
9	**Conveyor (Total)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
10	**Drive House**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
11	**Ore Stockpile Cover**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
12	**Pebble Crusher**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
13	**Grinding Building**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
14	**Ball Mill Foundations (two total)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
15	**Ball Mill Foundations (Concr.Piers Above Grade Slab.)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
16	**SAG Mill Foundation**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
17	**SAG Mill Foundation (Concr.Piers Above Grade Slab.)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
18	**POX Process Building - High Section**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
19	**POX Process Building - Lower Section**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
20	**POX Process Building - End additioin**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
21	**POX Misc. Small Tanks (8)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
22	**Autoclaves (2)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
23	**Stock Tanks Concrete Contain.**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
24	**Concrete Thickener Concrete**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
25	**Flot./POX Thickener Concrete**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
26	**Hot Cure Tanks**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
27	**Flotation Building**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
28	**CIL Building**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
29	**Refinery**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
30	**Cyanide Reagent Building**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
31	**Water Treatment Plant Building - Construction**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
32	**Water Treatment Plant Building - Operation**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
33	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
34	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
35	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
36	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
37	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
38	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
39	**STP Building**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
40	**Power Station A/B Buildings**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
41	**Power Station A Gensets**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
42	**Power station A Transformers**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
43	**Power Station A Tanks**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
44	**Power Station A Building**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
45	**Power Station A Building (small)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
46	**Power Station B Gensets**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
47	**Power station B Transformers**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
48	**Power Station B Tanks**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
49	**Power Station B Building (small)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
50	**Cold Storage Building**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
51	**Autoclave Feed Tanks**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
52	**Quench/Flash/Heaters**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
53	**Absorber Towers**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
54	**Cooling Towers**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
55	**Mercury Scrubbing**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
56	**Quench Building (60 m total H)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
57	**Autoclave**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
58	**HP cooling tank**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$203,019	N/A	$247,841
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$203,019**	**$0**	**$247,841**
Revegetation Cost	$7,843	$2,269	$1,584	$11,696
TOTALS	**$8,145,290**	**$3,816,008**	**$1,584**	**$11,962,882**

59	**Demin Tank**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
60	**Seal Water Tank**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
61	**Autoclave Feed Pumps**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
62	**LP Column**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
63	**HP Column**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
64	**Main Heat Exchanger**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
65	**Wash Water Tower**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
66	**Chilled Water Tower**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
67	**Compressors (3)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
68	**Warehouse**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
69	**Boiler Room**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
70	**STP Building**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
71	**Utilidor**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
72	**RO plant (not to be demolished, required for treatment)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
		2.88			**$0**	**$0**	**$0**	**$7,843**	**$2,269**	**$1,584**	**$11,696**	**$7,843**	**$2,269**	**$1,584**	**$11,696**

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Closure Cost Estimate
Other Demo & Equip Removal

Other Demoltion and Equipment Removal - Cost Summary	Labor	Equipment	Materials	Totals
Other Demolition	$0	$0	$0	$0
Equipment Removal	$90,283	$195,081	$0	$285,364
TOTALS	**$90,283**	**$195,081**	**$0**	**$285,364**

Color Code Key	
User Input - Direct Input	**Direct Input**
User Input - Pull Down List	**Pull Down Selection**
Program Constant (can override)	**Alternate Input**
Program Calculated Value	**Locked Cell - Formula or Reference**

Other Demolition

Facility Description						Labor Unit Cost $	Equipment Unit Cost $	Material Unit Cost $	Total Cost $
	Description (required)	ID Code	Type	Quantity	Units				
						$0	**$0**	**$0**	

Notes:

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Closure Cost Estimate
Other Demo & Equip Removal

Other Demoltion and Equipment Removal - Cost Summary	Labor	Equipment	Materials	Totals
Other Demolition	$0	$0	$0	$0
Equipment Removal	$90,283	$195,081	$0	$285,364
TOTALS	**$90,283**	**$195,081**	**$0**	**$285,364**

Equipment & Material Removal

	Facility Description					Labor Unit Cost ($)	Equipment Unit Cost ($)	Material Unit Cost ($)	Total Cost ($)
	Description (required)	ID Code	Type	Quantity	Units				
1	**Misc. Tanks and Vessels (see User Sheet 4)**		**Process - Plant & Buildings**	**1**	**ea**	**$90,283.35**	**$195,080.85**		$285,364
						$90,283	**$195,081**	**$0**	**$285,364**

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Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$139,194	$250,554	N/A	$389,748
Diversion Ditch Liner	$1,912,141	$802,498	$914,900	$3,629,539
Diversion Ditch Rip-Rap	$10,306,577	$2,903,616	$11,258,226	$24,468,419
Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$12,357,912**	**$3,956,668**	**$12,173,126**	**$28,487,706**
Diversion Ditch Revegetation	$11,840	$3,424	$17,110	$32,374
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$11,840**	**$3,424**	**$17,110**	**$32,374**
TOTALS	**$12,369,752**	**$3,960,092**	**$12,190,236**	**$28,520,080**

Diversion Ditches - User Input

			Diversions Ditches							Revegetation			Liner and Rip-Rap Installation			
	Description (required)	ID Code	Diversion Length m	Diversion Depth m	Ditch Bottom Width m	Ditch Sideslope Angle _H:1V	Excavate Volume (if calculated elsewhere) m3	Excavating Material Condition (select)	Excavating Equipment Fleet (select)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Liner Area m2	Liner Type (select)	Rip-Rap Area m2	Rip-Rap Type (select type)
1	**Reclaimed WRF RO Collection**		**4425**	**2.0**	**4.0**	**2.0**	**87,600**	**1**	**Medium**	**Mix 1**					**34,222**	**Rip-Rap 18 in (45**
2	**Primary Channel (WRF)**		**12000**	**2.0**	**4.0**	**2.0**		**1**	**Medium**	**Mix 1**			**130700**	**40 mil VLDPE**	**130,700**	**Rip-Rap 3/8 to 1/4**
3	**Secondary Channel (WRF)**		**26000**	**1.0**	**2.0**	**2.0**		**1**	**Medium**	**Mix 1**					**156,000**	**Rip-Rap 3/8 to 1/4**
4	**Tailings spillway construction (excavation volume in User 11)**		**1000**	**10.5**	**10.0**	**2.0**	**386,512**	**0.6**	**Medium**	**Mix 1**						

Notes:
Item 2 and Item 3 diversion lengths and liner area from "DC11-028_Closure_Period_MTOs_for_WRF_Diversion_Channels.pdf"
Tailings spillway construction blasting costs in "Other User."

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Diversion Ditch Rip-Rap	$10,306,577	$2,903,616	$11,258,226	$24,468,419
Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$12,357,912**	**$3,956,668**	**$12,173,126**	**$28,487,706**
Diversion Ditch Revegetation	$11,840	$3,424	$17,110	$32,374
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$11,840**	**$3,424**	**$17,110**	**$32,374**
TOTALS	**$12,369,752**	**$3,960,092**	**$12,190,236**	**$28,520,080**

Sediment/Evaporation Pond Construction/Removal - User Input

			Sediment Ponds								Growth Media		
	Description (required)	ID Code	Pond Width m	Pond/Berm Length m	Berm Height m	Crest Width m	Sideslope Angle _H:1V	Final Area (if calculated elsewhere) ha	Regrade Volume (if calculated elsewhere) m3	Cover Volume (if calculated elsewhere) m3	Growth Media Thickness mm	Distance from Growth Media Stockpile m	Slope from Pond to Borrow % grade

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

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Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$12,357,912**	**$3,956,668**	**$12,173,126**	**$28,487,706**
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TOTALS	**$12,369,752**	**$3,960,092**	**$12,190,236**	**$28,520,080**

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)

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

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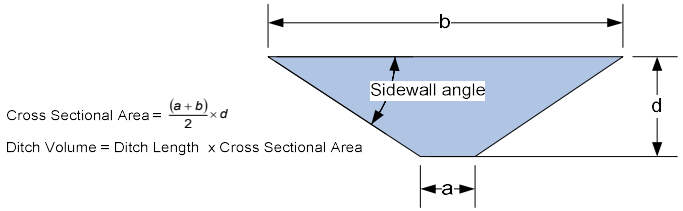
TOTALS	**$12,369,752**	**$3,960,092**	**$12,190,236**	**$28,520,080**

Drainage Control - Calculations

Diversion Ditch Volume Calculation



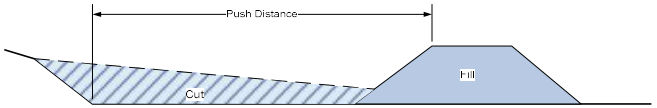
Cross Sectional Area = $\frac{(a+b)}{2} \times d$

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 (120 m)

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 0.4 ha revegetation crew time per area

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Drainage Control - Cost Summary

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Diversion Ditch Construction	$139,194	$250,554	N/A	$389,748
Diversion Ditch Liner	$1,912,141	$802,498	$914,900	$3,629,539
Diversion Ditch Rip-Rap	$10,306,577	$2,903,616	$11,258,226	$24,468,419
Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
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TOTALS	**$12,369,752**	**$3,960,092**	**$12,190,236**	**$28,520,080**

Diversion Ditches - Excavation Costs

	Description (required)	Diversion Ditch Volume LCM	Diversion Ditch Equipment	Corrected Excavator Productivity LCM/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	**Reclaimed WRF RO Collection**	105,120	345B	480	239	$14,534	$26,161	$40,695	$0	$0	$0	$0	$1,585,163	$446,597	$0	$2,031,760
2	**Primary Channel (WRF)**	252,844	345B	480	689	$41,898	$75,418	$117,316	$1,912,141	$802,498	$914,900	$3,629,539	$3,975,894	$1,120,099	$5,132,369	$10,228,362
3	**Secondary Channel (WRF)**	113,045	345B	480	308	$18,729	$33,714	$52,443	$0	$0	$0	$0	$4,745,520	$1,336,920	$6,125,857	$12,208,297
4	**Tailings spillway construction (excavation volume in Use**	463,814	345B	480	1,053	$64,033	$115,261	$179,294	$0	$0	$0	$0	$0	$0	$0	$0
		934,823			2,289	**$139,194**	**$250,554**	**$389,748**	**$1,912,141**	**$802,498**	**$914,900**	**$3,629,539**	**$10,306,577**	**$2,903,616**	**$11,258,226**	**$24,468,419**

Notes: LCM assumes 20% swell from ditch volume

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Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
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Diversion Ditches - Revegetation Costs

	Description (required)	Surface Area ha	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Reclaimed WRF RO Collection**	5.99	$1,612	$466	$2,329	$4,407
2	**Primary Channel (WRF)**	16.19	$4,357	$1,260	$6,296	$11,913
3	**Secondary Channel (WRF)**	16.19	$4,357	$1,260	$6,296	$11,913
4	**Tailings spillway construction (excavation volume in Use**	5.63	$1,514	$438	$2,189	$4,141
		44.00	**$11,840**	**$3,424**	**$17,110**	**$32,374**

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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 m3	Sed/Evap Pond Equipment	Dozing Distance (see above) m	Uncorrected Dozer Productivity LCM/hr	Grade Correction	Density Correction	Excavating Material	Corrected Productivity LCM/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 $
											$0	**$0**	**$0**	**$0**	**$0**	**$0**

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Sediment/Evaporation Ponds - Growth Media Costs

		Growth Media							
	Description (required)	Growth Media Volume m3	Growth Media Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Placement Cost $
							$0	**$0**	**$0**

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Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$139,194	$250,554	N/A	$389,748
Diversion Ditch Liner	$1,912,141	$802,498	$914,900	$3,629,539
Diversion Ditch Rip-Rap	$10,306,577	$2,903,616	$11,258,226	$24,468,419
Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$12,357,912**	**$3,956,668**	**$12,173,126**	**$28,487,706**
Diversion Ditch Revegetation	$11,840	$3,424	$17,110	$32,374
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$11,840**	**$3,424**	**$17,110**	**$32,374**
TOTALS	**$12,369,752**	**$3,960,092**	**$12,190,236**	**$28,520,080**

Sediment/Evaporation Ponds - Revegetation Costs

Description (required)	Surface Area ha	Long Ripping Distance m	Area Width m	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 $
				0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

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Closure Cost Estimate
Process Ponds

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$87,968	N/A	$108,671
Growth Media Placement Costs	$2,218	$9,425	N/A	$11,643
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$98,463**	**$0**	**$123,482**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$98,561**	**$486**	**$124,404**

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	Pond Width	Pond Depth	Pond Sideslope Angle	Disturbed Area (if calculated elsewhere)	Percent Backfill	Distance from Backfill Borrow	Slope from Facility to Borrow Area	Pond Volume (if calculated elsewhere)	Growth Media Thickness	Distance from Growth Media Stockpile	Slope from Facility to Stockpile
			m	m	m	_H:1V	ha	(100% if blank)	m	% grade	m3	mm	m	% grade
1	**TSF seepage pond (required long-term for water treatment)**		**100**	**75**	**10.0**	**2.0**	**1.25**		**4,400**	**-5%**		**350**	**4,400**	**-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)

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Closure Cost Estimate
Process Ponds

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Process Ponds - Cost Summary	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$87,968	N/A	$108,671
Growth Media Placement Costs	$2,218	$9,425	N/A	$11,643
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$98,463**	**$0**	**$123,482**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$98,561**	**$486**	**$124,404**

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	TSF seepage pond (required long-term for water treatment	16.0	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		

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

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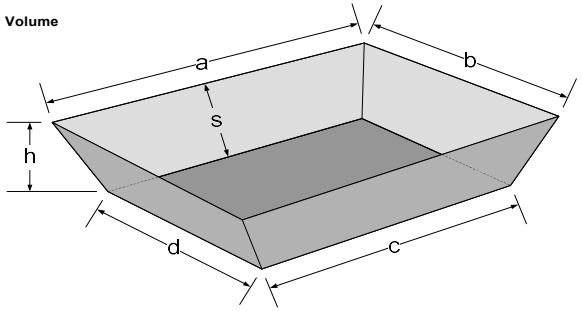
Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$87,968	N/A	$108,671
Growth Media Placement Costs	$2,218	$9,425	N/A	$11,643
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$98,463**	**$0**	**$123,482**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$98,561**	**$486**	**$124,404**

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 0.4 ha revegetation crew time per area

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Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$87,968	N/A	$108,671
Growth Media Placement Costs	$2,218	$9,425	N/A	$11,643
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$98,463**	**$0**	**$123,482**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$98,561**	**$486**	**$124,404**

Process Ponds - Liner Cutting and Folding

	Description (required)	Crew Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $
1	**TSF seepage pond (required long-term for water treatment**	16	$2,098	$1,070	$3,168
		16	**$2,098**	**$1,070**	**$3,168**

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Closure Cost Estimate
Process Ponds

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$87,968	N/A	$108,671
Growth Media Placement Costs	$2,218	$9,425	N/A	$11,643
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$98,463**	**$0**	**$123,482**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$98,561**	**$486**	**$124,404**

Process Ponds - Backfill and Growth Media Costs

		Pond Backfill								Growth Media							
	Description (required)	Backfill Volume m3	Backfill Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Backfill Cost $	Growth Media Volume m3	Growth Media Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**TSF seepage pond (required long-term for water treatment**	45,319	777D/992G	804	4	56	$20,703	$87,968	$108,671	4,461	777D/992G	804	4	6	$2,218	$9,425	$11,643
		45,319				56	**$20,703**	**$87,968**	**$108,671**	4,461				6	**$2,218**	**$9,425**	**$11,643**

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Closure Cost Estimate
Process Ponds

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Process Ponds - Cost Summary	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$87,968	N/A	$108,671
Growth Media Placement Costs	$2,218	$9,425	N/A	$11,643
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$98,463**	**$0**	**$123,482**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$98,561**	**$486**	**$124,404**

Process Ponds - Revegetation Costs

	Description (required)	Surface Area ha	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**TSF seepage pond (required long-term for water treatment**	1.25	$338	$98	$486	$922
		1.25	**$338**	**$98**	**$486**	**$922**

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Closure Cost Estimate
Landfills

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Landfills - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Landfills - User Input

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

Facility Description			Physical (1)			Cover			Growth Media		
	Description (required)	ID Code	Final Landfill Footprint ha	Average Long Dimension (ripping distance) m	Regrade Volume (calculated elsewhere) m3	Cover Thickness mm	Distance from Cover Borrow m	Slope from Landfill to Cover Borrow % grade	Growth Media Thickness mm	Distance from Growth Media Stockpile m	Slope from Landfill to Stockpile % grade

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)

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Closure Cost Estimate
Landfills

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Landfills - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Landfills - User Input (cont.)

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

		Grading				Cover			Growth Media			R	
	Description (required)	Dozing Material Condition	Landfill Material Type	Grading Equipment Fleet	Slot/ Side-by-Side	Cover Material Type	Cover Placement Equipment Fleet	Maximum Fleet Size	Growth Media Material Type	Growth Media Equipment Fleet	Maximum Fleet Size	Seed Mix	Mulch Type
		(select)	(select)	(select)	(select)	(select)	(select)	(user override)	(select)	(select)	(user override)	(select)	(select)

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

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Closure Cost Estimate
Landfills

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Landfills - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Landfills - Calculations

Dozing, Ripping/Scarifying & Revegetation Calculations

Dozing: Dozing distance = 2/3 of the 180 m maximum from Catepillar Handbook or 120 m
Assumes flat push (grade correction factor = 1)
Minimum 1 hr per area

Ripping: 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 per area

Revegetation: Minimum 0.4 ha revegetation crew time per area

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Closure Cost Estimate
Landfills

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Landfills - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Landfills - Regrading Costs

Productivity = Dozer Productivity 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 m3	Dozing Distance (see above) m	Uncorrected Dozer Productivity m3/hr	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity LCM/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
										$0	**$0**	**$0**

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Closure Cost Estimate
Landfills

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Landfills - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Landfills - Cover and Growth Media Costs

		Cover Placement								Growth Medi			
	Description (required)	Cover Volume m	Cover Replacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Cover Labor Cost $	Cover Equipment Cost $	Total Cover Cost $	Growth Media Volume m	Growth Media Replacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers
							$0	**$0**	**$0**				

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Closure Cost Estimate
Landfills

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Landfills - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$0	$0	N/A	$0
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	**$0**	**$0**	**$0**	**$0**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$0**

Landfills - Scarifying/Revegetation Costs

	Description (required)	Surface Area ha	Long Dimension m	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 $
					$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

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Revegetation		
Fertilizer	**Scarify/ Rip?**	**Scarifying/ Ripping Fleet**
(select)	(select)	(select)

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ia Placement			
Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
	$0	$0	$0

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Closure Cost Estimate
Yards, Etc.

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Yards, Etc. - Cost Summary	Labor	Equipment	Materials	Totals
Regrading Cost	$435,886	$1,701,041	N/A	$2,136,927
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$471,421	$2,069,336	N/A	$2,540,757
Ripping/Scarifying Cost	$73,154	$260,247	N/A	$333,401
Subtotal Earthworks	**$980,461**	**$4,030,624**		**$5,011,085**
Revegetation Cost	$181,543	$52,517	$360,547	$594,607
TOTALS	**$1,162,004**	**$4,083,141**	**$360,547**	**$5,605,692**

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 ha	Average Flat Area Long Dimension (ripping distance) m	Regrade Volume (calculated elsewhere) m3	Cover Thickness mm	Distance from Cover Borrow Area m	Slope from Facility to Borrow Area % grade	Growth Media Thickness mm	Distance from Growth Media Stockpile m	Slope from Facility to Stockpile % grade
1	Permanent Man Camp Yards		Yard	14.84	500	29,679				300	1,000	0.0
2	Material Sites - 1		Yard	11.19	500	22,378				300	1,000	0.0
3	Material Sites - 2		Yard	4.17	500	8,339				300	1,000	0.0
4	Material Sites - 3		Yard	5.74	500	11,477				300	1,000	0.0
5	Material Sites - 4		Yard	84.30	500	168,604				300	1,000	0.0
6	Material Sites - 5		Yard	1.89	500	3,787				300	1,000	0.0
7	Material Sites - 6		Yard	9.01	500	18,016				300	1,000	0.0
8	Material Sites - 7		Yard	8.86	500	17,729				300	1,000	0.0
9	Material Sites - 8		Yard	1.15	500	2,296				300	1,000	0.0
10	Material Sites - 9		Yard	9.87	500	19,749				300	1,000	0.0
11	Material Sites - 10		Yard	4.24	500	8,490				300	1,000	0.0
12	Material Sites - 11		Yard	6.35	500	12,703				300	1,000	0.0
13	Material Sites - 12		Yard	8.70	500	17,402				300	1,000	0.0
14	Material Sites - 13		Yard	14.84	500	29,678				300	1,000	0.0
15	Material Sites - 14		Yard	9.89	100	19,784				300	1,000	0.0
16	Material Sites - 15		Yard	5.05	100	10,105				300	1,000	0.0
17	Material Sites - 16		Yard	1.12	100	2,231				300	1,000	0.0
18	Lower Contact Water Dam (see "Haul Material" sheet)											
19	Upper Contact Water Dam (see "Haul Material" sheet)											
20	Jung Port Disturbance (not reclaimed)		Yard	8.48								
21	Mine Borrow Areas		Yard	74.21	1,000	148,420				300	1,000	0.0
22	Growth media - TSF Stockpile 1		Yard	54.63	1,000	109,260						
23	Growth media - TSF Stockpile 2		Yard	42.60	1,000	85,200						
24	Growth media - North Overburden Stockpile 2028		Yard	47.47	1,000	94,940						
25	Growth media - Airstrip Overburden Stockpile		Yard	2.31	1,000	4,620						
26	Growth media - Airstrip Overburden Stockpile		Yard	2.46	1,000	4,920						
27	Growth media - Jungjuk Port Site Overburden Stockpile		Yard	2.11	1,000	4,220						
28	Growth media - South Overburden Stockpile 2019		Yard	77.32	1,000	154,640						
29	Misc. Yards		Yard	158.00	2,000	316,000				300	1,000	0.0
30	Plant Site		Yard	9.79	1,000	19,580				300	1,000	0.0
31	Primary Crusher		Yard	1.85	1,000	3,700				300	1,000	0.0
32	Truck Shop		Yard	0.09	1,000	180				300	1,000	0.0
33	Airstrip (Not Reclaimed)		Yard	35.99								

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 nominal amount of regrading required - m3 per ha: 2000

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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Yards, Etc. - Cost Summary	Labor	Equipment	Materials	Totals
Regrading Cost	$435,886	$1,701,041	N/A	$2,136,927
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$471,421	$2,069,336	N/A	$2,540,757
Ripping/Scarifying Cost	$73,154	$260,247	N/A	$333,401
Subtotal Earthworks	**$980,461**	**$4,030,624**		**$5,011,085**
Revegetation Cost	$181,543	$52,517	$360,547	$594,607
TOTALS	**$1,162,004**	**$4,083,141**	**$360,547**	**$5,605,692**

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	Permanent Man Camp Yards	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
2	Material Sites - 1	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
3	Material Sites - 2	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
4	Material Sites - 3	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
5	Material Sites - 4	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
6	Material Sites - 5	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
7	Material Sites - 6	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
8	Material Sites - 7	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
9	Material Sites - 8	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
10	Material Sites - 9	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
11	Material Sites - 10	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
12	Material Sites - 11	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
13	Material Sites - 12	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
14	Material Sites - 13	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
15	Material Sites - 14	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
16	Material Sites - 15	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
17	Material Sites - 16	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
18	Lower Contact Water Dam (see "Haul Material" sheet)														
19	Upper Contact Water Dam (see "Haul Material" sheet)														
20	Jung Port Disturbance (not reclaimed)														
21	Mine Borrow Areas	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
22	Growth media - TSF Stockpile 1	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
23	Growth media - TSF Stockpile 2	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
24	Growth media - North Overburden Stockpile 2028	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
25	Growth media - Airstrip Overburden Stockpile	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
26	Growth media - Airstrip Overburden Stockpile	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
27	Growth media - Jungjuk Port Site Overburden Stockpile	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
28	Growth media - South Overburden Stockpile 2019	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
29	Misc. Yards	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
30	Plant Site	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
31	Primary Crusher	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
32	Truck Shop	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Med Dozer
33	Airstrip (Not Reclaimed)														

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 Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$435,886	$1,701,041	N/A	$2,136,927
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$471,421	$2,069,336	N/A	$2,540,757
Ripping/Scarifying Cost	$73,154	$260,247	N/A	$333,401
Subtotal Earthworks	**$980,461**	**$4,030,624**		**$5,011,085**
Revegetation Cost	$181,543	$52,517	$360,547	$594,607
TOTALS	**$1,162,004**	**$4,083,141**	**$360,547**	**$5,605,692**

Yards, Etc. - Calculations

Grading Calculations

Average push distance assumed to be 2/3 of the 180 m maximum from Catepillar Handbook or 120 m
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 0.4 ha revegetation crew time per area

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Regrading Cost	$435,886	$1,701,041	N/A	$2,136,927
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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 m3	Dozing Distance (see above) m	Uncorrected Dozer Productivity m3/hr	Grade Correction	Dozing Material	Density Correction	Total Hourly Productivity m3/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Permanent Man Camp Yards**	29,679	122	383	1.0	1.0	0.79	188	158	$9,608	$37,495	$47,103
2	**Material Sites - 1**	22,378	122	383	1.0	1.0	0.79	188	119	$7,236	$28,240	$35,476
3	**Material Sites - 2**	8,339	122	383	1.0	1.0	0.79	188	44	$2,676	$10,442	$13,118
4	**Material Sites - 3**	11,477	122	383	1.0	1.0	0.79	188	61	$3,709	$14,476	$18,185
5	**Material Sites - 4**	168,604	122	383	1.0	1.0	0.79	188	896	$54,486	$212,630	$267,116
6	**Material Sites - 5**	3,787	122	383	1.0	1.0	0.79	188	20	$1,216	$4,746	$5,962
7	**Material Sites - 6**	18,016	122	383	1.0	1.0	0.79	188	96	$5,838	$22,782	$28,620
8	**Material Sites - 7**	17,729	122	383	1.0	1.0	0.79	188	94	$5,716	$22,307	$28,023
9	**Material Sites - 8**	2,296	122	383	1.0	1.0	0.79	188	12	$730	$2,848	$3,578
10	**Material Sites - 9**	19,749	122	383	1.0	1.0	0.79	188	105	$6,385	$24,918	$31,303
11	**Material Sites - 10**	8,490	122	383	1.0	1.0	0.79	188	45	$2,736	$10,679	$13,415
12	**Material Sites - 11**	12,703	122	383	1.0	1.0	0.79	188	68	$4,135	$16,137	$20,272
13	**Material Sites - 12**	17,402	122	383	1.0	1.0	0.79	188	93	$5,655	$22,070	$27,725
14	**Material Sites - 13**	29,678	122	383	1.0	1.0	0.79	188	158	$9,608	$37,495	$47,103
15	**Material Sites - 14**	19,784	122	383	1.0	1.0	0.79	188	105	$6,385	$24,918	$31,303
16	**Material Sites - 15**	10,105	122	383	1.0	1.0	0.79	188	54	$3,284	$12,815	$16,099
17	**Material Sites - 16**	2,231	122	383	1.0	1.0	0.79	188	12	$730	$2,848	$3,578
18	**Lower Contact Water Dam (see "Haul Material" sheet)**									$0	$0	$0
19	**Upper Contact Water Dam (see "Haul Material" sheet)**									$0	$0	$0
20	**Jung Port Disturbance (not reclaimed)**									$0	$0	$0
21	**Mine Borrow Areas**	148,420	122	383	1.0	1.0	0.79	188	789	$47,979	$187,238	$235,217
22	**Growth media - TSF Stockpile 1**	109,260	122	383	1.0	1.0	0.79	188	581	$35,331	$137,877	$173,208
23	**Growth media - TSF Stockpile 2**	85,200	122	383	1.0	1.0	0.79	188	453	$27,547	$107,501	$135,048
24	**Growth media - North Overburden Stockpile 2028**	94,940	122	383	1.0	1.0	0.79	188	505	$30,709	$119,842	$150,551
25	**Growth media - Airstrip Overburden Stockpile**	4,620	122	383	1.0	1.0	0.79	188	25	$1,520	$5,933	$7,453
26	**Growth media - Airstrip Overburden Stockpile**	4,920	122	383	1.0	1.0	0.79	188	26	$1,581	$6,170	$7,751
27	**Growth media - Jungjuk Port Site Overburden Stockpile**	4,220	122	383	1.0	1.0	0.79	188	22	$1,338	$5,221	$6,559
28	**Growth media - South Overburden Stockpile 2019**	154,640	122	383	1.0	1.0	0.79	188	822	$49,986	$195,069	$245,055
29	**Misc. Yards**	316,000	122	383	1.0	1.0	0.79	188	1,680	$102,161	$398,681	$500,842
30	**Plant Site**	19,580	122	383	1.0	1.0	0.79	188	104	$6,324	$24,680	$31,004
31	**Primary Crusher**	3,700	122	383	1.0	1.0	0.79	188	20	$1,216	$4,746	$5,962
32	**Truck Shop**	180	122	383	1.0	1.0	0.79	188	1	$61	$237	$298
33	**Airstrip (Not Reclaimed)**									$0	$0	$0
		1,348,127							7,168	**$435,886**	**$1,701,041**	**$2,136,927**

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Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$435,886	$1,701,041	N/A	$2,136,927
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$471,421	$2,069,336	N/A	$2,540,757
Ripping/Scarifying Cost	$73,154	$260,247	N/A	$333,401
Subtotal Earthworks	**$980,461**	**$4,030,624**		**$5,011,085**
Revegetation Cost	$181,543	$52,517	$360,547	$594,607
TOTALS	**$1,162,004**	**$4,083,141**	**$360,547**	**$5,605,692**

Yards, Etc. - Cover and Growth Media Costs

		Cover								Growth Media							
	Description (required)	Cover Volume m3	Topsoil Repacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $	Growth Media Volume m3	Growth Media Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**Permanent Man Camp Yards**						$0	$0	$0	45,269	777D/992G	707	2	64	$15,722	$69,014	$84,736
2	**Material Sites - 1**						$0	$0	$0	34,044	777D/992G	707	2	48	$11,792	$51,760	$63,552
3	**Material Sites - 2**						$0	$0	$0	12,705	777D/992G	707	2	18	$4,422	$19,410	$23,832
4	**Material Sites - 3**						$0	$0	$0	17,515	777D/992G	707	2	25	$6,142	$26,959	$33,101
5	**Material Sites - 4**						$0	$0	$0	256,934	777D/992G	707	2	363	$89,175	$391,437	$480,612
6	**Material Sites - 5**						$0	$0	$0	5,798	777D/992G	707	2	8	$1,965	$8,627	$10,592
7	**Material Sites - 6**						$0	$0	$0	27,506	777D/992G	707	2	39	$9,581	$42,055	$51,636
8	**Material Sites - 7**						$0	$0	$0	27,013	777D/992G	707	2	38	$9,335	$40,977	$50,312
9	**Material Sites - 8**						$0	$0	$0	3,453	777D/992G	707	2	5	$1,228	$5,392	$6,620
10	**Material Sites - 9**						$0	$0	$0	30,097	777D/992G	707	2	43	$10,563	$46,369	$56,932
11	**Material Sites - 10**						$0	$0	$0	12,952	777D/992G	707	2	18	$4,422	$19,410	$23,832
12	**Material Sites - 11**						$0	$0	$0	19,365	777D/992G	707	2	27	$6,633	$29,115	$35,748
13	**Material Sites - 12**						$0	$0	$0	26,520	777D/992G	707	2	37	$9,089	$39,899	$48,988
14	**Material Sites - 13**						$0	$0	$0	45,269	777D/992G	707	2	64	$15,722	$69,014	$84,736
15	**Material Sites - 14**						$0	$0	$0	30,097	777D/992G	707	2	43	$10,563	$46,369	$56,932
16	**Material Sites - 15**						$0	$0	$0	15,419	777D/992G	707	2	22	$5,405	$23,723	$29,128
17	**Material Sites - 16**						$0	$0	$0	3,453	777D/992G	707	2	5	$1,228	$5,392	$6,620
18	**Lower Contact Water Dam (see "Haul Material" sheet)**						$0	$0	$0						$0	$0	$0
19	**Upper Contact Water Dam (see "Haul Material" sheet)**						$0	$0	$0						$0	$0	$0
20	**Jung Port Disturbance (not reclaimed)**						$0	$0	$0						$0	$0	$0
21	**Mine Borrow Areas**						$0	$0	$0	226,220	777D/992G	707	2	320	$78,611	$345,069	$423,680
22	**Growth media - TSF Stockpile 1**						$0	$0	$0						$0	$0	$0
23	**Growth media - TSF Stockpile 2**						$0	$0	$0						$0	$0	$0
24	**Growth media - North Overburden Stockpile 2028**						$0	$0	$0						$0	$0	$0
25	**Growth media - Airstrip Overburden Stockpile**						$0	$0	$0						$0	$0	$0
26	**Growth media - Airstrip Overburden Stockpile**						$0	$0	$0						$0	$0	$0
27	**Growth media - Jungjuk Port Site Overburden Stockpile**						$0	$0	$0						$0	$0	$0
28	**Growth media - South Overburden Stockpile 2019**						$0	$0	$0						$0	$0	$0
29	**Misc. Yards**						$0	$0	$0	481,551	777D/992G	707	2	681	$167,294	$734,350	$901,644
30	**Plant Site**						$0	$0	$0	29,851	777D/992G	707	2	42	$10,318	$45,290	$55,608
31	**Primary Crusher**						$0	$0	$0	5,674	777D/992G	707	2	8	$1,965	$8,627	$10,592
32	**Truck Shop**						$0	$0	$0	247	777D/992G	707	2	1	$246	$1,078	$1,324
33	**Airstrip (Not Reclaimed)**						$0	$0	$0						$0	$0	$0
							$0	**$0**	**$0**	1,356,952				1,919	**$471,421**	**$2,069,336**	**$2,540,757**

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$435,886	$1,701,041	N/A	$2,136,927
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$471,421	$2,069,336	N/A	$2,540,757
Ripping/Scarifying Cost	$73,154	$260,247	N/A	$333,401
Subtotal Earthworks	**$980,461**	**$4,030,624**		**$5,011,085**
Revegetation Cost	$181,543	$52,517	$360,547	$594,607
TOTALS	**$1,162,004**	**$4,083,141**	**$360,547**	**$5,605,692**

Yards, Etc. - Scarifying/Revegetation Costs

	Description (required)	Surface Area ha	Area Long Dimension m	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	**Permanent Man Camp Yards**	14.85	500	26	$1,581	$5,625	$7,206	$3,998	$1,156	$7,942	$13,096
2	**Material Sites - 1**	11.17	500	20	$1,216	$4,327	$5,543	$3,006	$870	$5,975	$9,851
3	**Material Sites - 2**	4.17	500	8	$486	$1,731	$2,217	$1,122	$325	$2,231	$3,678
4	**Material Sites - 3**	5.75	500	10	$608	$2,163	$2,771	$1,547	$447	$3,076	$5,070
5	**Material Sites - 4**	84.30	500	151	$9,182	$32,666	$41,848	$22,690	$6,564	$45,088	$74,342
6	**Material Sites - 5**	1.90	500	3	$182	$649	$831	$512	$148	$1,016	$1,676
7	**Material Sites - 6**	9.02	500	16	$973	$3,461	$4,434	$2,429	$703	$4,824	$7,956
8	**Material Sites - 7**	8.86	500	16	$973	$3,461	$4,434	$2,386	$690	$4,739	$7,815
9	**Material Sites - 8**	1.13	500	2	$122	$433	$555	$305	$88	$604	$997
10	**Material Sites - 9**	9.87	500	18	$1,095	$3,894	$4,989	$2,658	$769	$5,279	$8,706
11	**Material Sites - 10**	4.25	500	8	$486	$1,731	$2,217	$1,144	$331	$2,274	$3,749
12	**Material Sites - 11**	6.35	500	11	$669	$2,380	$3,049	$1,710	$495	$3,396	$5,601
13	**Material Sites - 12**	8.70	500	15	$912	$3,245	$4,157	$2,342	$677	$4,653	$7,672
14	**Material Sites - 13**	14.85	500	26	$1,581	$5,625	$7,206	$3,998	$1,156	$7,942	$13,096
15	**Material Sites - 14**	9.87	100	19	$1,155	$4,110	$5,265	$2,658	$769	$5,279	$8,706
16	**Material Sites - 15**	5.06	100	10	$608	$2,163	$2,771	$1,362	$394	$2,707	$4,463
17	**Material Sites - 16**	1.13	100	2	$122	$433	$555	$305	$88	$604	$997
18	**Lower Contact Water Dam (see "Haul Material" sheet)**	0.04	0		$0	$0	$0	$0	$0	$0	$0
19	**Upper Contact Water Dam (see "Haul Material" sheet)**	0.04	0		$0	$0	$0	$0	$0	$0	$0
20	**Jung Port Disturbance (not reclaimed)**	8.50	0		$0	$0	$0	$0	$0	$0	$0
21	**Mine Borrow Areas**	74.22	1,000	132	$8,027	$28,556	$36,583	$19,978	$5,779	$39,697	$65,454
22	**Growth media - TSF Stockpile 1**	54.63	1,000	97	$5,899	$20,984	$26,883	$14,706	$4,254	$29,219	$48,179
23	**Growth media - TSF Stockpile 2**	42.61	1,000	76	$4,622	$16,441	$21,063	$11,470	$3,318	$22,790	$37,578
24	**Growth media - North Overburden Stockpile 2028**	47.47	1,000	84	$5,108	$18,172	$23,280	$12,777	$3,696	$25,390	$41,863
25	**Growth media - Airstrip Overburden Stockpile**	2.31	1,000	4	$243	$865	$1,108	$621	$180	$1,235	$2,036
26	**Growth media - Airstrip Overburden Stockpile**	2.47	1,000	4	$243	$865	$1,108	$664	$192	$1,321	$2,177
27	**Growth media - Jungjuk Port Site Overburden Stockpile**	2.10	1,000	4	$243	$865	$1,108	$566	$164	$1,124	$1,854
28	**Growth media - South Overburden Stockpile 2019**	77.34	1,000	138	$8,392	$29,854	$38,246	$20,817	$6,022	$41,366	$68,205
29	**Misc. Yards**	157.99	2,000	281	$17,088	$60,789	$77,877	$42,526	$12,302	$84,502	$139,330
30	**Plant Site**	9.79	1,000	18	$1,095	$3,894	$4,989	$2,636	$763	$5,236	$8,635
31	**Primary Crusher**	1.86	1,000	3	$182	$649	$831	$501	$145	$995	$1,641
32	**Truck Shop**	0.08	1,000	1	$61	$216	$277	$109	$32	$43	$184
33	**Airstrip (Not Reclaimed)**	35.98	0		$0	$0	$0	$0	$0	$0	$0
		718.66		1,203	**$73,154**	**$260,247**	**$333,401**	**$181,543**	**$52,517**	**$360,547**	**$594,607**

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Closure Cost Estimate
Waste Disposal

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - User Input - Solid Waste

						Landfill (Bulk) Disposal			Dumpster
	Description (required)	ID Code	Waste Type (select)	Disposal Method (select)	Quantity m3	Distance to Landfill m	Slope to Landfill % grade	Number of Trucks (user override)	Months Dumpster Rental months
1	**Mill and Crusher Liner Waste**		**Waste Mgmt & Disposal**	**Landfill (bulk)**	**33,163**	**5000**	**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)

Liner waste disposal quantities from 1. June 8, 2011 email from Alexandra J. Kozak.

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Closure Cost Estimate
Waste Disposal

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - User Input - Hazardous Materials

	Description (required)	ID Code	Waste Type (select)	Container Type (select)	Vacuum Truck Size (select)	Liquid Quantity litres	Soild Quantity m3	One Way Travel Distance to Disposal Site km	One Way Travel Time to Disposal Site hr

Notes:
1. Use Other Demo & Equip Removal Sheet for tank removal

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Closure Cost Estimate
Waste Disposal

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - User Input - Hydrocarbon Contaminated Soils

	Description (required)	ID Code	Waste Type (select)	Disposal Method (select)	Quantity m3	Travel Distance to Offsite Disposal km
1	**Ready Line**		**Waste Mgmt & Disposal**	**On site**	**630**	**1**
2	**Truck Shop**		**Waste Mgmt & Disposal**	**On site**	**500**	**1**
3	**Power Plant**		**Waste Mgmt & Disposal**	**On site**	**1,300**	**1**
4	**Mine Area Fuel Storage Area**		**Waste Mgmt & Disposal**	**On site**	**3,500**	**1**
5	**Port Fuel Storage Area**		**Waste Mgmt & Disposal**	**On site**	**400**	**1**
6	**Misc. Areas**		**Waste Mgmt & Disposal**	**On site**	**500**	**1**

Notes:
1. Use Yards or Landfills Sheets for bioremediation facility reclamation

Assume 0.5m deep at ready line, 1m deep at truck shop

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Closure Cost Estimate
Waste Disposal

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

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)

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Closure Cost Estimate
Waste Disposal

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - Solid Waste Disposal

	Description (required)	Waste Volume m3	Number of Off Site Dumpster Loads	Landfill Fleet Equipment	Landfill Fleet Productivity LCM/hr	Number of Trucks	Total Fleet Hours	Total Dumpster Cost $	Total Labor Cost $	Total Equipment Cost $
1	**Mill and Crusher Liner Waste**	33,163		740	427	6	78	$0	$38,364	$39,693
		33,163					78	**$0**	**$38,364**	**$39,693**

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Closure Cost Estimate
Waste Disposal

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - Hazardous Materials Disposal

	Description (required)	Liquid Waste Volume litres	Solid Waste Volume m3	Number of Truck Loads	Tonnes of Waste Tonnes	Pick-up Fees $	Transport Fees $	Disposal Fees $	Total Hazardous Material Cost $
						$0	**$0**	**$0**	**$0**

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Closure Cost Estimate
Waste Disposal

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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - Hydrocarbon Contaminated Soils

	Description (required)	Quantity m3	Total Fleet Hours	Treatment Cost $	Transport Fees $	Disposal Fees $	Total Labor Cost $	Total Equipment Cost $	Total Waste Disposal Cost $
1	**Ready Line**	630		$18,458	$0	$0	$1,095	$574	$20,127
2	**Truck Shop**	500		$14,650	$0	$0	$912	$478	$16,040
3	**Power Plant**	1,300		$38,080	$0	$0	$2,311	$1,211	$41,602
4	**Mine Area Fuel Storage Area**	3,500		$102,547	$0	$0	$6,203	$3,251	$112,001
5	**Port Fuel Storage Area**	400		$11,715	$0	$0	$730	$382	$12,827
6	**Misc. Areas**	500		$14,650	$0	$0	$912	$478	$16,040
		6,830		**$200,100**	**$0**	**$0**	**$12,163**	**$6,374**	**$218,637**

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Closure Cost Estimate
Well Abandonment

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Well Abandonment	Labor	Equipment	Materials	Totals
Production, Dewatering, Infiltration Wells	$692,944	$1,540,502	$83,643	$2,317,089
Monitoring Wells	$29,052	$65,538	$12,072	$106,662
TOTALS	**$721,996**	**$1,606,040**	**$95,715**	**$2,423,751**

Production, Dewatering and Infiltration Well Closure

	Description (required)	ID Code	Number of Holes	Casing Diam mm	Average Depth[1] m bgs	Depth to First Water m bgs	Original Static Water Level m bgs	Top of Slotted Casing[2] m bgs	Blank Casing Below Top of Screen[2] m	Type of Pump (if any) (select)	Depth to Pump m bgs	Hole Plug Method (select)	Casing Volume per m m3	Perforation Length[3,4] m	Grout Volume per Hole[4,5] m3	Cement Volume per Hole[6] m3	Inert Media Volume per Hole[7] m3	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] $
1	P1609		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
2	P1610		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
3	P1611		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
4	P1701		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
5	P1702		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
6	P1704		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
7	P1705		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
8	P2001		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
9	P2002		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
10	P2003		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
11	P2004		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
12	P2005		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
13	P2006		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
14	P2007		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
15	P2008		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
16	P2201		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
17	P2202		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
18	P2203		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
19	P2501		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
20	P2502		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
21	P2701		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
22	P3001		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
23	P3002		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
24	P3003		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
25	P3004		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
26	P3401		1	203.2	215	115	165	160	15	Submersit	120	Grout Only	0.010	80	13.65	0.15		$4,005	$8,701	$1,146	$3,290	$1,069	$2,456	$669	$288
27	Permanent camp and mill potable water wells (e-mail Sep		8	203.2	200	175	175	200	0	Submersit	200	Grout Only	0.010	45	101.49	0.15		$53,348	$115,901	$6,282	$17,386	$35,443	$81,395	$39,428	$2,303
28	Jungjuk Port potable water well (e-mail September 19, 20		1	152.4	60	50	50	50	15	Submersit	50	Grout Only	0.006	35	2.05	0.08		$1,667	$3,622	$612	$1,694	$534	$1,226	$103	$288
29	I1905		1	152.4	216	116	166	161	15	Submersit	121	Grout Only	0.006	80	7.85	0.08		$4,036	$8,768	$1,005	$2,963	$835	$1,918	$384	$288
30	I1904		1	152.4	216	116	166	161	15	Submersit	121	Grout Only	0.006	80	7.85	0.08		$4,036	$8,768	$1,005	$2,963	$835	$1,918	$384	$288
31	I1903		1	152.4	216	116	166	161	15	Submersit	121	Grout Only	0.006	80	7.85	0.08		$4,036	$8,768	$1,005	$2,963	$835	$1,918	$384	$288
32	I1902		1	152.4	216	116	166	161	15	Submersit	121	Grout Only	0.006	80	7.85	0.08		$4,036	$8,768	$1,005	$2,963	$835	$1,918	$384	$288
33	I1901		1	152.4	216	116	166	161	15	Submersit	121	Grout Only	0.006	80	7.85	0.08		$4,036	$8,768	$1,005	$2,963	$835	$1,918	$384	$288
34	I1906		1	152.4	192	92	142	137	15	Submersit	97	Grout Only	0.006	80	6.96	0.08		$3,233	$7,023	$1,005	$2,963	$779	$1,789	$341	$288
35	I1908		1	152.4	216	116	166	161	15	Submersit	121	Grout Only	0.006	80	7.85	0.08		$4,036	$8,768	$1,005	$2,963	$835	$1,918	$384	$288
36	I1909		1	152.4	216	116	166	161	15	Submersit	121	Grout Only	0.006	80	7.85	0.08		$4,036	$8,768	$1,005	$2,963	$835	$1,918	$384	$288
37	I1910		1	152.4	216	116	166	161	15	Submersit	121	Grout Only	0.006	80	7.85	0.08		$4,036	$8,768	$1,005	$2,963	$835	$1,918	$384	$288
38	I1907		1	152.4	192	92	142	137	15	Submersit	97	Grout Only	0.006	80	6.96	0.08		$3,233	$7,023	$1,005	$2,963	$779	$1,789	$341	$288
39	I2301		1	152.4	116	16	66	61	15	Submersit	21	Grout Only	0.006	56	4.14	0.08		$701	$1,524	$801	$2,297	$591	$1,357	$204	$288
40	I2302		1	152.4	116	16	66	61	15	Submersit	21	Grout Only	0.006	56	4.14	0.08		$701	$1,524	$801	$2,297	$591	$1,357	$204	$288
41	I2303		1	152.4	140	40	90	85	15	Submersit	45	Grout Only	0.006	80	5.02	0.08		$1,504	$3,269	$1,005	$2,963	$647	$1,485	$246	$288
42	I2401		1	152.4	110	10	60	55	15	Submersit	15	Grout Only	0.006	50	3.91	0.08		$498	$1,082	$738	$2,103	$581	$1,334	$193	$288
43	I2402		1	152.4	110	10	60	55	15	Submersit	15	Grout Only	0.006	50	3.91	0.08		$498	$1,082	$738	$2,103	$581	$1,334	$193	$288
44	I2403		1	152.4	110	10	60	55	15	Submersit	15	Grout Only	0.006	50	3.91	0.08		$498	$1,082	$738	$2,103	$581	$1,334	$193	$288
45	I2404		1	152.4	110	10	60	55	15	Submersit	15	Grout Only	0.006	50	3.91	0.08		$498	$1,082	$738	$2,103	$581	$1,334	$193	$288
46	I2405		1	152.4	110	10	60	55	15	Submersit	15	Grout Only	0.006	50	3.91	0.08		$498	$1,082	$738	$2,103	$581	$1,334	$193	$288
47	I2406		1	152.4	110	10	60	55	15	Submersit	15	Grout Only	0.006	50	3.91	0.08		$498	$1,082	$738	$2,103	$581	$1,334	$193	$288
48	I2501		1	152.4	266	166	216	211	15	Submersit	171	Grout Only	0.006	80	9.71	0.08		$5,703	$12,390	$1,005	$2,963	$965	$2,216	$474	$288
49	I2502		1	152.4	266	166	216	211	15	Submersit	171	Grout Only	0.006	80	9.71	0.08		$5,703	$12,390	$1,005	$2,963	$965	$2,216	$474	$288
50	I2503		1	152.4	266	166	216	211	15	Submersit	171	Grout Only	0.006	80	9.71	0.08		$5,703	$12,390	$1,005	$2,963	$965	$2,216	$474	$288
51	I2504		1	152.4	266	166	216	211	15	Submersit	171	Grout Only	0.006	80	9.71	0.08		$5,703	$12,390	$1,005	$2,963	$965	$2,216	$474	$288
52	I2505		1	152.4	266	166	216	211	15	Submersit	171	Grout Only	0.006	80	9.71	0.08		$5,703	$12,390	$1,005	$2,963	$965	$2,216	$474	$288
53	I2506		1	152.4	266	166	216	211	15	Submersit	171	Grout Only	0.006	80	9.71	0.08		$5,703	$12,390	$1,005	$2,963	$965	$2,216	$474	$288
54	I2507		1	152.4	266	166	216	211	15	Submersit	171	Grout Only	0.006	80	9.71	0.08		$5,703	$12,390	$1,005	$2,963	$965	$2,216	$474	$288
55	I2508		1	152.4	266	166	216	211	15	Submersit	171	Grout Only	0.006	80	9.71	0.08		$5,703	$12,390	$1,005	$2,963	$965	$2,216	$474	$288
56	I2601		1	152.4	242	142	192	187	15	Submersit	147	Grout Only	0.006	80	8.82	0.08		$4,900	$10,645	$1,005	$2,966	$909	$2,087	$431	$288
57	I2602		1	152.4	218	118	168	163	15	Submersit	123	Grout Only	0.006	80	7.92	0.08		$4,107	$8,922	$1,005	$2,966	$853	$1,958	$387	$288

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Well Abandonment

	Labor	Equipment	Materials	Totals
Production, Dewatering, Infiltration Wells	$692,944	$1,540,502	$83,643	$2,317,089
Monitoring Wells	$29,052	$65,538	$12,072	$106,662
TOTALS	**$721,996**	**$1,606,040**	**$95,715**	**$2,423,751**

58	I2701		1	152.4	290	190	240	235	15	Submersit	195	Grout Only	0.006	80	10.59	0.08		$6,506	$14,134	$1,005	$2,966	$1,021	$2,345	$517	$288
59	I2702		1	152.4	290	190	240	235	15	Submersit	195	Grout Only	0.006	80	10.59	0.08		$6,506	$14,134	$1,005	$2,966	$1,021	$2,345	$517	$288
60	I2703		1	152.4	290	190	240	235	15	Submersit	195	Grout Only	0.006	80	10.59	0.08		$6,506	$14,134	$1,005	$2,966	$1,021	$2,345	$517	$288
61	I2704		1	152.4	290	190	240	235	15	Submersit	195	Grout Only	0.006	80	10.59	0.08		$6,506	$14,134	$1,005	$2,966	$1,021	$2,345	$517	$288
62	I2706		1	152.4	210	110	160	155	15	Submersit	115	Grout Only	0.006	80	7.62	0.08		$3,832	$8,326	$1,005	$2,966	$829	$1,903	$373	$288
63	I2705		1	152.4	290	190	240	235	15	Submersit	195	Grout Only	0.006	80	10.59	0.08		$6,506	$14,134	$1,005	$2,966	$1,021	$2,345	$517	$288
64	I2707		1	152.4	210	110	160	155	15	Submersit	115	Grout Only	0.006	80	7.62	0.08		$3,832	$8,326	$1,005	$2,966	$829	$1,903	$373	$288
65	I2801		1	152.4	182	82	132	127	15	Submersit	87	Grout Only	0.006	80	6.58	0.08		$2,897	$6,294	$1,005	$2,966	$753	$1,729	$323	$288
66	I2802		1	152.4	182	82	132	127	15	Submersit	87	Grout Only	0.006	80	6.58	0.08		$2,897	$6,294	$1,005	$2,966	$753	$1,729	$323	$288
67	I2803		1	152.4	182	82	132	127	15	Submersit	87	Grout Only	0.006	80	6.58	0.08		$2,897	$6,294	$1,005	$2,966	$753	$1,729	$323	$288
68	I2901		1	152.4	162	62	112	107	15	Submersit	67	Grout Only	0.006	80	5.83	0.08		$2,236	$4,859	$1,005	$2,966	$716	$1,645	$286	$288
69	I2902		1	152.4	162	62	112	107	15	Submersit	67	Grout Only	0.006	80	5.83	0.08		$2,236	$4,859	$1,005	$2,966	$716	$1,645	$286	$288
70	I2903		1	152.4	220	120	170	165	15	Submersit	125	Grout Only	0.006	80	8.00	0.08		$4,168	$9,055	$1,005	$2,963	$855	$1,963	$391	$288
71	I2904		1	152.4	186	86	136	131	15	Submersit	91	Grout Only	0.006	80	6.73	0.08		$3,039	$6,603	$1,005	$2,966	$773	$1,774	$330	$288
72	I2905		1	152.4	186	86	136	131	15	Submersit	91	Grout Only	0.006	80	6.73	0.08		$3,039	$6,603	$1,005	$2,966	$773	$1,774	$330	$288
73	I2906		1	152.4	186	86	136	131	15	Submersit	91	Grout Only	0.006	80	6.73	0.08		$3,039	$6,603	$1,005	$2,966	$773	$1,774	$330	$288
74	I2907		1	152.4	186	86	136	131	15	Submersit	91	Grout Only	0.006	80	6.73	0.08		$3,039	$6,603	$1,005	$2,966	$773	$1,774	$330	$288
75	I2908		1	152.4	186	86	136	131	15	Submersit	91	Grout Only	0.006	80	6.73	0.08		$3,039	$6,603	$1,005	$2,966	$773	$1,774	$330	$288
76	I2909		1	152.4	196	96	146	141	15	Submersit	101	Grout Only	0.006	80	7.10	0.08		$3,365	$7,310	$1,005	$2,966	$799	$1,834	$348	$288
77	I2910		1	152.4	196	96	146	141	15	Submersit	101	Grout Only	0.006	80	7.10	0.08		$3,365	$7,310	$1,005	$2,966	$799	$1,834	$348	$288
78	I2911		1	152.4	220	120	170	165	15	Submersit	125	Grout Only	0.006	80	8.00	0.08		$4,168	$9,055	$1,005	$2,963	$855	$1,963	$391	$288
79	I2912		1	152.4	220	120	170	165	15	Submersit	125	Grout Only	0.006	80	8.00	0.08		$4,168	$9,055	$1,005	$2,963	$855	$1,963	$391	$288
80	I3101		1	152.4	138	38	88	83	15	Submersit	43	Grout Only	0.006	78	4.95	0.08		$1,433	$3,114	$989	$2,910	$645	$1,481	$243	$288
81	I3102		1	152.4	138	38	88	83	15	Submersit	43	Grout Only	0.006	78	4.95	0.08		$1,433	$3,114	$989	$2,910	$645	$1,481	$243	$288
82	I3103		1	152.4	138	38	88	83	15	Submersit	43	Grout Only	0.006	78	4.95	0.08		$1,433	$3,114	$989	$2,910	$645	$1,481	$243	$288
83	I3104		1	152.4	138	38	88	83	15	Submersit	43	Grout Only	0.006	78	4.95	0.08		$1,433	$3,114	$989	$2,910	$645	$1,481	$243	$288
84	I3105		1	152.4	240	140	190	185	15	Submersit	145	Grout Only	0.006	80	8.73	0.08		$4,839	$10,512	$1,005	$2,966	$907	$2,082	$427	$288
85	I3106		1	152.4	240	140	190	185	15	Submersit	145	Grout Only	0.006	80	8.73	0.08		$4,839	$10,512	$1,005	$2,966	$907	$2,082	$427	$288
86	I3107		1	152.4	240	140	190	185	15	Submersit	145	Grout Only	0.006	80	8.73	0.08		$4,839	$10,512	$1,005	$2,966	$907	$2,082	$427	$288
87	I3108		1	152.4	138	38	88	83	15	Submersit	43	Grout Only	0.006	78	4.95	0.08		$1,433	$3,114	$989	$2,910	$645	$1,481	$243	$288
88	I3109		1	152.4	138	38	88	83	15	Submersit	43	Grout Only	0.006	78	4.95	0.08		$1,433	$3,114	$989	$2,910	$645	$1,481	$243	$288
89	I3110		1	152.4	138	38	88	83	15	Submersit	43	Grout Only	0.006	78	4.95	0.08		$1,433	$3,114	$989	$2,910	$645	$1,481	$243	$288
90	I3111		1	152.4	162	62	112	107	15	Submersit	67	Grout Only	0.006	80	5.83	0.08		$2,236	$4,859	$1,005	$2,966	$716	$1,645	$286	$288
91	I3301		1	152.4	196	96	146	141	15	Submersit	101	Grout Only	0.006	80	7.10	0.08		$3,365	$7,310	$1,005	$2,966	$799	$1,834	$348	$288
92	I3302		1	152.4	196	96	146	141	15	Submersit	101	Grout Only	0.006	80	7.10	0.08		$3,365	$7,310	$1,005	$2,966	$799	$1,834	$348	$288
93	I3401		1	152.4	264	164	214	209	15	Submersit	169	Grout Only	0.006	80	9.63	0.08		$5,632	$12,235	$1,005	$2,966	$963	$2,211	$470	$288
94	I3402		1	152.4	264	164	214	209	15	Submersit	169	Grout Only	0.006	80	9.63	0.08		$5,632	$12,235	$1,005	$2,966	$963	$2,211	$470	$288
95	I3403		1	152.4	240	140	190	185	15	Submersit	145	Grout Only	0.006	80	8.73	0.08		$4,839	$10,512	$1,005	$2,966	$907	$2,082	$427	$288
96	I3501		1	152.4	92	92	42	37	15	Submersit	97	Grout Only	0.006	0	3.24	0.08		$3,233	$7,023	$0	$0	$565	$1,275	$160	$288
97	I3502		1	152.4	92	92	42	37	15	Submersit	97	Grout Only	0.006	0	3.24	0.08		$3,233	$7,023	$0	$0	$565	$1,275	$160	$288
98	I3503		1	152.4	92	92	42	37	15	Submersit	97	Grout Only	0.006	0	3.24	0.08		$3,233	$7,023	$0	$0	$565	$1,275	$160	$288
99	I3801		1	152.4	166	66	116	111	15	Submersit	71	Grout Only	0.006	80	5.99	0.08		$2,369	$5,146	$1,005	$2,963	$721	$1,655	$294	$288
100	I3802		1	152.4	166	66	116	111	15	Submersit	71	Grout Only	0.006	80	5.99	0.08		$2,369	$5,146	$1,005	$2,963	$721	$1,655	$294	$288
101	I3803		1	152.4	166	66	116	111	15	Submersit	71	Grout Only	0.006	80	5.99	0.08		$2,369	$5,146	$1,005	$2,963	$721	$1,655	$294	$288
102	I3901		1	152.4	114	14	64	59	15	Submersit	19	Grout Only	0.006	54	4.05	0.08		$630	$1,369	$785	$2,246	$589	$1,352	$200	$288
103	I3902		1	152.4	114	14	64	59	15	Submersit	19	Grout Only	0.006	54	4.05	0.08		$630	$1,369	$785	$2,246	$589	$1,352	$200	$288
104	I3903		1	152.4	114	14	64	59	15	Submersit	19	Grout Only	0.006	54	4.05	0.08		$630	$1,369	$785	$2,246	$589	$1,352	$200	$288
105	I4101		1	152.4	98	98	48	43	15	Submersit	103	Grout Only	0.006	0	3.46	0.08		$3,436	$7,465	$0	$0	$565	$1,275	$171	$288
106	I4102		1	152.4	98	98	48	43	15	Submersit	103	Grout Only	0.006	0	3.46	0.08		$3,436	$7,465	$0	$0	$565	$1,275	$171	$288
107	I4103		1	152.4	146	46	96	91	15	Submersit	51	Grout Only	0.006	80	5.24	0.08		$1,698	$3,688	$1,005	$2,966	$669	$1,536	$258	$288
108	I4104		1	152.4	146	46	96	91	15	Submersit	51	Grout Only	0.006	80	5.24	0.08		$1,698	$3,688	$1,005	$2,966	$669	$1,536	$258	$288
																		$424,791	**$922,872**	**$109,283**	**$317,927**	**$125,764**	**$288,708**	**$83,643**	**$33,106**

(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:
See User 15 for details.

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Well Abandonment				
	Labor	Equipment	Materials	Totals
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Monitoring Wells	$29,052	$65,538	$12,072	$106,662
TOTALS	**$721,996**	**$1,606,040**	**$95,715**	**$2,423,751**

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Closure Cost Estimate
Well Abandonment

Inert Media Equip Cost[9] $
$96
$96
$96

$96
$96
$96

Closure Cost Estimate
Well Abandonment

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Well Abandonment	Labor	Equipment	Materials	Totals
Production, Dewatering, Infiltration Wells	$692,944	$1,540,502	$83,643	$2,317,089
Monitoring Wells	$29,052	$65,538	$12,072	$106,662
TOTALS	**$721,996**	**$1,606,040**	**$95,715**	**$2,423,751**

Monitoring Well Closure

	Description (required)	ID Code	Number of Holes	Casing Diam mm	Average Depth m bgs	Top of Screen[1] m bgs	Hole Plug Method (select)	Casing Volume per m m3	Grout Volume/ Well[2,3] m3	Cement Volume per Hole[4] m3	Inert Backfill Volume per Hole[5] m3	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] $
1	**Monitoring wells**		**50**	**152.4**	**215**	**160**	**Grout Only**	0.006	4.88	0.11		3.7		$29,052	$65,538	$12,072	$0	$0
														$29,052	**$65,538**	**$12,072**	**$0**	**$0**

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:
See User 15 for details.

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
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Well Abandonment	Labor	Equipment	Materials	Totals
Production, Dewatering, Infiltration Wells	$692,944	$1,540,502	$83,643	$2,317,089
Monitoring Wells	$29,052	$65,538	$12,072	$106,662
TOTALS	**$721,996**	**$1,606,040**	**$95,715**	**$2,423,751**

Well Construction

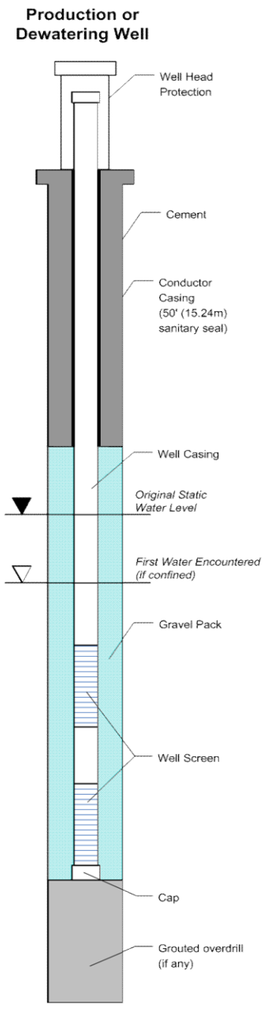

Figure 1 - Production Well

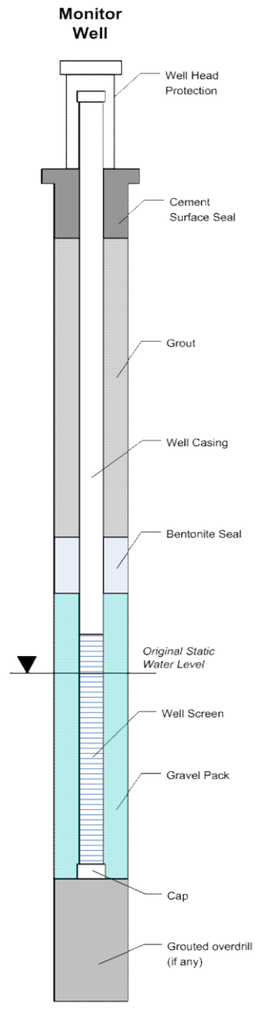

Figure 2 - Monitor Well

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Closure Cost Estimate
Misc. Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$0	$0	N/A	$0
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$0	$0	N/A	$0
Surface Pipe Removal	$158,323	$11,433	N/A	$169,756
Power Lines	$856,945	N/A	N/A	$856,945
Substations/Transformers	$106,026	N/A	N/A	$106,026
Rip-rap, rock lining, gabions	$1,585,163	$446,597	$0	$2,031,760
Other Costs	$0	$0	$0	$0
TOTALS	**$2,706,457**	**$458,030**	**$0**	**$3,164,487**

Fence Removal

You must fill in ALL green and blue cells

	Description (required)	ID Code	Length m	Type (select type)	Costs: Labor Cost $	Costs: Equipment Cost $	Costs: Total Cost $
					$0	**$0**	**$0**

Notes:

Fence Installation

You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Length m	Input: Type (select type)	Costs: Labor Cost $	Costs: Equipment Cost $	Costs: Material Cost ($)
					$0	**$0**	**$0**

Notes:

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Closure Cost Estimate
Misc. Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$0	$0	N/A	$0
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$0	$0	N/A	$0
Surface Pipe Removal	$158,323	$11,433	N/A	$169,756
Power Lines	$856,945	N/A	N/A	$856,945
Substations/Transformers	$106,026	N/A	N/A	$106,026
Rip-rap, rock lining, gabions	$1,585,163	$446,597	$0	$2,031,760
Other Costs	$0	$0	$0	$0
TOTALS	**$2,706,457**	**$458,030**	**$0**	**$3,164,487**

Culvert & Buried Pipe Removal

You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Length m	Input: Type (select type)	Input: Location (select)	Costs: Labor Cost $	Costs: Equipment Cost $
						$0	**$0**

Notes:

Surface Pipe Removal

You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Length m	Input: Type (select type)	Input: Location (select)	Costs: Labor Cost $	Costs: Equipment Cost $
1	**Tailings Line**		**3700**	**20 in (500 mm) -**	**On site**	$94,794	$6,845
2	**TSF Return Water Line**		**3700**	**10 in (250 mm) -**	**On site**	$63,529	$4,588
						$158,323	**$11,433**

Notes:

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Closure Cost Estimate
Misc. Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Model Version: Version 1.4.1
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$0	$0	N/A	$0
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$0	$0	N/A	$0
Surface Pipe Removal	$158,323	$11,433	N/A	$169,756
Power Lines	$856,945	N/A	N/A	$856,945
Substations/Transformers	$106,026	N/A	N/A	$106,026
Rip-rap, rock lining, gabions	$1,585,163	$446,597	$0	$2,031,760
Other Costs	$0	$0	$0	$0
TOTALS	**$2,706,457**	**$458,030**	**$0**	**$3,164,487**

Power Line and Substation Removal

You must fill in ALL green and blue cells

			Input				
	Description (required)	ID Code	Power Line Length km	Power Line Type (select)	Number of Substations #	Location (select)	Power Line Removal $
1	**Mancamp Powerline**		**4.77**	**Double Pole**	**1**	**Off-site**	$166,978
2	**Powerline to tailings**		**5.41**	**Double Pole**		**Off-site**	$189,382
3	**Powerline to Crusher**		**1.3**	**Double Pole**		**Off-site**	$45,508
4	**Misc. Mill Area Powerlines**		**0.5**	**Double Pole**	**1**	**Off-site**	$17,503
5	**From Fuel Storage to Magazines**		**5.4**	**Double Pole**		**Off-site**	$189,032
6	**From Fuel Storage to Pit Booster Pumps**		**7.1**	**Double Pole**	**1**	**Off-site**	$248,542
							$856,945

Notes: If substation owned by operator, use Other Demo & Equipment Removal sheet
User may need to add line items in Foundations & Buildings for substation slab demolition and fence removal
Labor/Equipment costs assume approximately 80% of cost are equipment and 20% are labor related costs

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Closure Cost Estimate
Misc. Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$0	$0	N/A	$0
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$0	$0	N/A	$0
Surface Pipe Removal	$158,323	$11,433	N/A	$169,756
Power Lines	$856,945	N/A	N/A	$856,945
Substations/Transformers	$106,026	N/A	N/A	$106,026
Rip-rap, rock lining, gabions	$1,585,163	$446,597	$0	$2,031,760
Other Costs	$0	$0	$0	$0
TOTALS	**$2,706,457**	**$458,030**	**$0**	**$3,164,487**

Rip-Rap & Rock Lining — **You must fill in ALL green and blue cells**

			Input		Costs		
	Description (required)	ID Code	Area m2	Type (select type)	Labor Cost $	Equipment Cost $	Material Cost $
1	**Reclaimed WRF RO Collection**		**34222**	**Rip-Rap 18 in (45**	$1,585,163	$446,597	$0
					$1,585,163	**$446,597**	**$0**

Notes:

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Closure Cost Estimate
Misc. Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$0	$0	N/A	$0
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$0	$0	N/A	$0
Surface Pipe Removal	$158,323	$11,433	N/A	$169,756
Power Lines	$856,945	N/A	N/A	$856,945
Substations/Transformers	$106,026	N/A	N/A	$106,026
Rip-rap, rock lining, gabions	$1,585,163	$446,597	$0	$2,031,760
Other Costs	$0	$0	$0	$0
TOTALS	**$2,706,457**	**$458,030**	**$0**	**$3,164,487**

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety **Cost Basis: Alaska Davis Bacon 2016**

Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$44,603	$12,902	$64,434	$121,939
Erosion Maintenance	$137,760	$413,280	N/A	$551,040
Reclamation Monitoring	$87,681	$2,258	N/A	$89,939
Subtotal Reclamation Monitoring	**$270,044**	**$428,440**	**$64,434**	**$762,918**
Water Quality Monitoring	$15,846	$1,202	$23,363	$40,411
TOTAL MONITORING	**$285,890**	**$429,642**	**$87,797**	**$803,329**

Clear Sheet

Reclamation Maintenance

Description	Total Revegetation Surface Area (1,2) ha	% Area Requiring Reseeding	Seed Mix (select)	Area Requiring Reseeding ha	Seed $/ha	Labor $/ha	Equipment $/ha	Totals $
Revegetation Maintenance	1,657	**10%**	**Mix 1**	165.7	$388.85	$269.17	$77.86	
Labor								$44,603
Equipment								$12,902
Materials								$64,434
Cost/Ha								$736
							Subtotal	**$121,939**

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 m3	% Volume Requiring Maintenance	Average Growth Media Placement Cost $/m3	Volume Requiring Replacement m3		Labor (assume: 25%) $/ha	Equipment (assume: 75%) $/ha	Total $
Erosion Maintenance	4,338,894	**5%**	$2.54	216,945		$137,760.00	$413,280.00	$551,040

Notes:

Reclamation Monitoring

Description	Hrs/Day	Days/Year	Number of Years	Rate $/hr		
Field Work						
Field Geologist/Engineer	**10**	**24**	**4**	$48.83		$46,877
Range Scientist	**10**	**5**	**4**	$48.42		$9,684
Reporting						
Field Geologist/Engineer	**8**	**10**	**4**	$48.83		$15,626
Range Scientist	**8**	**10**	**4**	$48.42		$15,494
					Subtotal	**$87,681**
Travel						
	Hrs/Trip hr	**Trips/Year**	**Years**	**Truck Cost** $/hr		
Travel	**20**	**2**	**4**	$14.11		$2,258
					Subtotal	**$2,258**
					Total Reclamation Monitoring	**$89,939**

Notes:

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$44,603	$12,902	$64,434	$121,939
Erosion Maintenance	$137,760	$413,280	N/A	$551,040
Reclamation Monitoring	$87,681	$2,258	N/A	$89,939
Subtotal Reclamation Monitoring	**$270,044**	**$428,440**	**$64,434**	**$762,918**
Water Quality Monitoring	$15,846	$1,202	$23,363	$40,411
TOTAL MONITORING	**$285,890**	**$429,642**	**$87,797**	**$803,329**

Clear Sheet

Water and Rock Sample Analysis

Description	Samples #	Events/Year	No. Years	First Sample Year closure year (1-100)	No. of Samplers	Days/Event	Hrs/Day	Analysis Cost $/sample	Supplies $/sample	Lab Cost $
TPH in soils	**50**	**1**	**1**	**1**	**2**	**4**	**8**	$80.00	$5.75	$4,000
TCLP w/ full analysis	**50**	**2**	**1**	**1**	**2**	**4**	**8**	$185.00	$5.75	$18,500
										$22,500.00

Notes: Sampling labor cost = No. Samplers x Years x Events/year x Days/event x Hour/Day x Labor Rate
Sampling equipment costs include 1 pickup truck for every two samplers

Ground & Surface Water Monitoring

Pump Costs

Description	No. of units		Years		Cost $
Pump (purchased)		Replacement period (yrs):			$0
				Subtotal Field Work	**$0**

Notes: Replacement period = frequency of pump replacement

Reporting

Description	Hrs/Event	Rate $/hr	Cost $
Field Geologist/Engineer	**80**	$48.83	$7,813
		Subtotal Reporting	**$7,813**

Notes:

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Closure Cost Estimate
Constr. Mgmt

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Construction Management & Road Maintenance - Cost Summary				
	Labor	Equipment	Materials	Totals
Construction Management	$4,160,033	$548,076	N/A	$4,708,109
Construction Support		$0		$0
Road Maintenance	$1,983,312	$2,239,164	$0	$4,222,476
TOTAL CONSTRUCTION MANAGEMENT	**$6,143,345**	**$2,787,240**	**$0**	**$8,930,585**

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	**60**	**365**	**2**	$95.03	$4,160,033	$548,076	$4,708,109
Monitoring & Maintenance					$0	$0	$0
				Total Staff	**$4,160,033**	**$548,076**	**$4,708,109**

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	**$4,708,109**

Road Maintenance

Description	Fleet Size (select)	Number	Duration mo.	Hours/ Month hr.	Labor Cost $	Equipment Cost $	Totals $
Active Reclamation							
Water Truck	**Medium**	**1**	**60**	**180**	$669,816	$1,158,516	$1,828,332
Grader	**Medium**	**2**	**60**	**180**	$1,313,496	$1,080,648	$2,394,144
Monitoring & Maintenance							
Water Truck					$0	$0	$0
Grader					$0	$0	$0

Description	Litres/ Day	Days/ Month	Duration mo.	Cost/ Litre $			Totals $
Water Fees							
Water Fees							$0
				Total Project Maintenance	**$1,983,312**	**$2,239,164**	**$4,222,476**

Notes: 1) Supervisor equipment = pickup truck
Maintenance fleet assumed average life-of-project useage of 1/2 time.
Assumes the grader will also maintain the runway as needed.

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$50,722,404	N/A	$0	$50,722,404
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$0	$351,386,004	$19,008,405	$353,000,000	$723,394,409
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$118,389**	**$402,122,179**	**$19,008,405**	**$353,000,000**	**$774,248,973**

Solution/Water Management - User Input - Pumping

	Description (required)	ID Code	Water Type (select)	Management Type (select)	Capital Cost $	Flow (Q) l/s	Pipeline Length m	Static Head m	Pipe Diameter (ID) mm	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)
1	TSF SRS to ACMA Pit (Maintenance)		Contact Water	Active		56.85	5,300	80.0	450	HDPE	80	20	24.0	30.4	24	0	
2	TSF to WTP (Physical Closure)		Contact Water	Active		161.41	1,800	42.0	650	HDPE	80	20	24.0	30.4	60	0	
3	TSF SRS to ACMA Pit (Physical Closure)		Contact Water	Active		56.85	5,300	80.0	450	HDPE	80	20	24.0	30.4	60	0	
4	TSF SRS to ACMA Pit (Pit Lake Fills)		Contact Water	Active		56.85	5,300	80.0	450	HDPE	80	20	24.0	30.4	36	0	
5	TSF Consolidation to Pit (Pit Lake Fills)		Contact Water	Active		1.26	4,000	0.0	450	HDPE	80	20	24.0	30.4	36	0	
6	TSF SRS to ACMA Pit (Post Closure)		Contact Water	Active		56.85	2,500	80.0	450	HDPE	80	20	24.0	30.4	2,436	0	0.2
7	TSF Consolidation to Pit (Post Closure)		Contact Water	Active		1.26	4,000	0.0	450	HDPE	80	20	24.0	30.4	2,436	0	0.2
8	Pit to WTP (Post Closure 1st 30 yrs - WTP at Mill)		Contact Water	Active		167.22	3,500	195.5	650	HDPE	80	20	24.0	30.4	276	0	0.2
9	Pit to WTP (Post Closure - WTP at pit)		Contact Water	Active		167.22	100	20.5	650	HDPE	80	20	24.0	30.4	2,160	0	0.2

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

Assumes that tailings return line and pumps will be available for pumping surplus decant water to pit at end of mine life
Crews under Human Resources
Flow rates per User 12.
Line 6-8, Long term costs for electricity modified to assume diesel generator.
Static head to pump to lower elevations is set to zero.

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$50,722,404	N/A	$0	$50,722,404
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$0	$351,386,004	$19,008,405	$353,000,000	$723,394,409
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$118,389**	**$402,122,179**	**$19,008,405**	**$353,000,000**	**$774,248,973**

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) l/s	Pipeline Length m	Static Head m	Pipe Diameter (ID) mm	Pipe Material (select)	Pump Efficiency %	Total Concentated Losses (1)	Required Pressure at Outlet mH2O	Operating Period: Hrs/Day	Operating Period: Days/Month	Operating Period: Number of Months

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

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$50,722,404	N/A	$0	$50,722,404
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$0	$351,386,004	$19,008,405	$353,000,000	$723,394,409
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$118,389**	**$402,122,179**	**$19,008,405**	**$353,000,000**	**$774,248,973**

Solution/Water Management - Water Treatment

	Description (required)	ID Code	Water Type (select)	Treatment Type (select)	Treatment Method	Montly Quantity m3	Treatment Labor Crew Size per Shift	Capital Cost $	Consumable Cost/ m3 $	Treatment Operating Cost/m3 $	Operating Period: Number of Months	Operating Period: Hour per Day
1	**Treatment of Plant Decontamination Rinsate**		**Contact Water**	**Active**	**Operating WTP**	**5,253**	**0**			**$0.51**	**4.0**	**12.0**
2	**HDS Treatment (Closure Yr 3-7) TSF Flows**		**Contact Water**	**Active**	**HDS**	**423,953**	**0**	**$5,000,000**	**$0.75**	**$0.08**	**60.0**	**24.0**
3	**HDS treatment (Closure Yr 11-220)**		**Contact Water**	**Active**	**HDS**	**439,213**	**0**	**$348,000,000**		**$0.30**	**2,520.0**	**24.0**
4	**RO treatment (Closure Yr 3-7) TSF Flows**		**Contact Water**	**Active**	**RO**	**423,953**	**0**			**$0.44**	**60.0**	**24.0**

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

Assumes operational WTP will be available at the same operating cost/m3 as during operations
Treatement and pumping Crews under Human Resources
RO Treatment Costs from Summary of Water Treatment Costs for Early Mine Closure (May 3, 2017) see email from J. Fueg.
HDS Capital Cost include $5M to repurpose existing mill componants and 1 full cost rebuild ($87M and 6 replacements at 1/2 rebuild cost)

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$50,722,404	N/A	$0	$50,722,404
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$0	$351,386,004	$19,008,405	$353,000,000	$723,394,409
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$118,389**	**$402,122,179**	**$19,008,405**	**$353,000,000**	**$774,248,973**

Solution/Water Management - User Input - Decontamation

	Description (required)	ID Code	Management Type (select)	Type	Disposal Location	Capital Cost $	Pumping Flow (Q) l/s	Pipeline Length m	Static Head m	Pipe Diameter (ID) mm	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)
1	**Plant decontamination**		**Active**	**Process - Plant & Buildings**			**5.00**	**1,200**	**0.0**	**300**	**HDPE**	**80**	**8**	**122.0**	**12.0**		

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

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$50,722,404	N/A	$0	$50,722,404
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$0	$351,386,004	$19,008,405	$353,000,000	$723,394,409
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$118,389**	**$402,122,179**	**$19,008,405**	**$353,000,000**	**$774,248,973**

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

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$50,722,404	N/A	$0	$50,722,404
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$0	$351,386,004	$19,008,405	$353,000,000	$723,394,409
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$118,389**	**$402,122,179**	**$19,008,405**	**$353,000,000**	**$774,248,973**

Solution/Water Management - Pumping

	Description (required)	Flow l/s	Manning n (see above)	Losses k	Velocity m/sec	Friction Head m	Total Dynamic Head m	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 $
1	**TSF SRS to ACMA Pit (Maintenance)**	56.85	0.009	20	0.357	1	81	80	56.53	76	730	$0	$127,392	$0	$0	$127,392	$0.04
2	**TSF to WTP (Physical Closure)**	161.41	0.009	20	0.486	1	43	80	84.32	114	730	$0	$475,020	$0	$0	$475,020	$0.02
3	**TSF SRS to ACMA Pit (Physical Closure)**	56.85	0.009	20	0.357	1	81	80	56.53	76	730	$0	$318,480	$0	$0	$318,480	$0.04
4	**TSF SRS to ACMA Pit (Pit Lake Fills)**	56.85	0.009	20	0.357	1	81	80	56.53	76	730	$0	$191,088	$0	$0	$191,088	$0.04
5	**TSF Consolidation to Pit (Pit Lake Fills)**	1.26	0.009	20	0.008	0	0	80	0.00	0	730	$0	$0	$0	$0	$0	$0.00
6	**TSF SRS to ACMA Pit (Post Closure)**	56.85	0.009	20	0.357	1	81	80	56.16	76	730	$0	$19,963,020	$0	$0	$19,963,020	$0.05
7	**TSF Consolidation to Pit (Post Closure)**	1.26	0.009	20	0.008	0	0	80	0.00	0	730	$0	$0	$0	$0	$0	$0.00
8	**Pit to WTP (Post Closure 1st 30 yrs - WTP at Mill)**	167.22	0.009	20	0.504	1	197	80	402.82	541	730	$0	$16,223,004	$0	$0	$16,223,004	$0.13
9	**Pit to WTP (Post Closure - WTP at pit)**	167.22	0.009	20	0.504	0	21	80	42.59	58	730	$0	$13,424,400	$0	$0	$13,424,400	$0.01
											6,566	**$0**	**$50,722,404**	**$0**	**$0**	**$50,722,404**	

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

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$50,722,404	N/A	$0	$50,722,404
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$0	$351,386,004	$19,008,405	$353,000,000	$723,394,409
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$118,389**	**$402,122,179**	**$19,008,405**	**$353,000,000**	**$774,248,973**

Solution/Water Management - Forced Evaporation

	Description (required)	Flow l/s	Manning n (see above)	Losses k	Velocity m/sec	Friction Head m	Total Dynamic Head m	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.

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary					
	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$50,722,404	N/A	$0	$50,722,404
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$0	$351,386,004	$19,008,405	$353,000,000	$723,394,409
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$118,389**	**$402,122,179**	**$19,008,405**	**$353,000,000**	**$774,248,973**

Solution/Water Management - Water Treatment

	Description (required)	Total Quantity Treated m3	Capital Cost $	Total Consumables Cost $	Total Labor Cost $	Total Equipment + Operating Cost $	Total Treatment Cost $	Cost/ m3 $
1	**Treatment of Plant Decontamination Rinsate**	21,012	$0	$0	$0	$22,973	$22,973	$1.093
2	**HDS Treatment (Closure Yr 3-7) TSF Flows**	25,437,171	$5,000,000	$19,008,405	$0	$2,114,457	$26,122,862	$0.830
3	**HDS treatment (Closure Yr 11-220)**	1,106,817,144	$348,000,000	$0	$0	$337,933,932	$685,933,932	$0.305
4	**RO treatment (Closure Yr 3-7) TSF Flows**	25,437,171	$0	$0	$0	$11,314,642	$11,314,642	$0.445
		1,157,712,498	**$353,000,000**	**$19,008,405**	**$0**	**$351,386,004**	**$723,394,409**	

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$50,722,404	N/A	$0	$50,722,404
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$0	$351,386,004	$19,008,405	$353,000,000	$723,394,409
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$118,389**	**$402,122,179**	**$19,008,405**	**$353,000,000**	**$774,248,973**

Solution/Water Management - Decontamination

	Description (required)	Flow l/s	Manning n (see above)	Losses k	Velocity m/sec	Friction Head m	Total Dynamic Head m	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 $
1	**Plant decontamination**	5.00	0.009	8	0.071	0	0	80	0.00	0	1,464	$0	$0	$118,389	$13,771	$132,160
											1,464	**$0**	**$0**	**$118,389**	**$13,771**	**$132,160**

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Closure Cost Estimate
Closure Planning

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Closure Plan Management

	Totals
Technical Studies	$0
Engineering	$0
Permitting	$0
TOTALS	**$0**

Closure Plan Studies and Reporting

	Description (required)	ID Code	Type (select type)	Total Cost $	Comments
				$0	

Notes:

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Closure Cost Estimate
Closure Planning

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Closure Plan Management

	Totals
Technical Studies	$0
Engineering	$0
Permitting	$0
TOTALS	**$0**

Closure Plan Engineering

	Description (required)	ID Code	Type (select type)	Total Cost $	Comments
				$0	

Notes:

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Closure Planning

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Closure Plan Management

	Totals
Technical Studies	$0
Engineering	$0
Permitting	$0
TOTALS	**$0**

Closure Plan Permitting

	Description (required)	ID Code	Type (select type)	Total Cost $	Comments
1					
				$0	

Notes:

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Closure Cost Estimate
G & A

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General & Administration	
	Totals
Property Holding Costs	$0
Security & Maintenance	$0
Administration	$0
TOTALS	**$0**

Property Holding Costs

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

Notes:

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Closure Cost Estimate
G & A

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General & Administration	
	Totals
Property Holding Costs	$0
Security & Maintenance	$0
Administration	$0
TOTALS	**$0**

Security and Maintenance

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

Notes:

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Closure Cost Estimate
G & A

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

General & Administration	
	Totals
Property Holding Costs	$0
Security & Maintenance	$0
Administration	$0
TOTALS	**$0**

Administration

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

Notes:

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Closure Cost Estimate
Human Resources

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Human Resources	Totals
Salaries & Benefits	$128,770,832
Severance & Relocation	$0
TOTALS	$128,770,832

Human Resources - Salary & Benefits

	Job Description (required)	Avg. Annual Salary (incl. benefits) $	Tvoe	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 #	Closure Year 14 #	Closure Year 15 #	Closure Year 16 #	Closure Year 17 #	Closure Year 18 #	Closure Year 19 #	Closure Year 20 #	Closure Year 21 #	Closure Year 22 #	Closure Year 23 #	Closure Year 24 #	Closure Year 25 #	Closure Year 26 #	Closure Year 27 #	Closure Year 28 #	Closure Year 29 #	Closure Year 30 #	Closure Year 31 #	Closure Year 32 #	Closure Year 33 #	Closure Year 34 #	Closure Year 35 #	Closure Year 36 #	Closure Year 37 #	Closure Year 38 #	Closure Year 39 #	Closure Year 40 #	Closure Year 41 #	Closure Year 42 #
1	Environmental - Environmental Engineer	$164,000	Monitoring/Regulatory Reporting	1	1	1	1	1																																				
2	Environmental - Environmental Technician	$164,000	Monitoring/Regulatory Reporting	4	4	4	4	4																																				
3	Soln Mgmt Rotation 1 - laborer 1	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Soln Mgmt Rotation 1 - laborer 2	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Soln Mgmt Rotation 1 - laborer 3	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	Soln Mgmt - supervisor	$106,080	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Soln Mgmt Rotation 2 - laborer 1	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	Soln Mgmt Rotation 2 - laborer 2	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	Soln Mgmt Rotation 2 - laborer 3	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	SUBTOTAL			$ 1,386,686	$ 1,386,686	$ 1,386,686	$ 1,386,686	$ 1,386,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686

Notes:

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Closure Cost Estimate
Human Resources

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Human Resources	Totals
Salaries & Benefits	$128,770,632
Severance & Relocation	$0
TOTALS	$128,770,632

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 #	Closure Year 14 #	Closure Year 15 #	Closure Year 16 #	Closure Year 17 #	Closure Year 18 #	Closure Year 19 #	Closure Year 20 #	Closure Year 21 #	Closure Year 22 #	Closure Year 23 #	Closure Year 24 #	Closure Year 25 #	Closure Year 26 #	Closure Year 27 #	Closure Year 28 #	Closure Year 29 #	Closure Year 30 #	Closure Year 31 #	Closure Year 32 #	Closure Year 33 #	Closure Year 34 #	Closure Year 35 #	Closure Year 36 #	Closure Year 37 #	Closure Year 38 #	Closure Year 39 #	Closure Year 40 #	Closure Year 41 #	Closure Year 42 #
1	Environmental - Environmental Engineer	$0						1.0																																		
2	Environmental - Environmental Technician	$0						4.0																																		
3	Soln Mgmt Rotation 1 - laborer 1	$0																																							
4	Soln Mgmt Rotation 1 - laborer 2																																								
5	Soln Mgmt Rotation 1 - laborer 3																																								
6	Soln Mgmt - supervisor																																								
7	Soln Mgmt Rotation 2 - laborer 1																																								
8	Soln Mgmt Rotation 2 - laborer 2																																								
9	Soln Mgmt Rotation 2 - laborer 3																																								
			SUBTOTAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Notes:
1. Assumes Severance + Outplacement

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Closure Cost Estimate
Other User

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

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	LLDPE Liner for WRF Diversion Ditch		Waste Rock Dump	40,500	m2				$12.12	C. Water Management	$490,860	Cost from DGLLC; includes excavation, liner bedding, LLDPE liner, and riprap.
2	Bulk Tank Demolition and Burial (User Sheet 2)		Equipment Removal	1	LS			$342,048.35	$228,340.57	D. Facility & Equipment	$570,389	See User Sheet 2
3	Miscellaneous Hazardous Waste Disposal (see User Sheet 3)		Equipment Removal	1	LS			$909,556.90	$454,778.45	D. Facility & Equipment	$1,364,335	See User Sheet 3
4	Jung Port Sheet Piling Removal. (User Sheet 7)		Off Site Facilities	1	ea.			$99,579.75	$127,022.52	D. Facility & Equipment	$226,602	From "Port Sheet pile estimate.xlsx"
5	Bag House Dust Disposal		Hazardous Materials	1	ls	$20,000				D. Facility & Equipment	$20,000	From June 8, 2011 email from Alexandra J Kozak.
6	Tailings embankment spillway		Surface Channels	579,768	ton		$0.40	$0.20	$0.40	C. Water Management	$579,768	Drilling and blasting costs from costs developed by DGLLC
7	Closure Crew Camp and Transporation Costs		Closure G & A	5	years			$1,004,640.00	$203,320.00	G. Closure Planning, G&	$6,039,800	See User Sheet 8 and 9
8	Solution Mgmt Crew Transportation Costs	LT	Closure G & A	213	years			$305,760.00	$61,880.00	G. Closure Planning, G&	$78,307,320	See User Sheet 8
9	Solution Mgmt Crew 2 year maintenance (Reduced Crew)		Closure G & A	2	yrs			$413,150.40		G. Closure Planning, G&	$826,301	2 Laborers plus one supervisor - 24 hour coverage, costs from Human Resources sheet
10	Tailings causeway Liner (hvy biaxial geogrid)		Tailings Impoundments	400,005	M2		$2.45	$0.27		A. Earthwork	$1,088,014	See Email in User Sheet 11, labor and equipment is estimated, area proportioned for current tailings
11	Equipment Mobilization/Demobilization		Closure G & A	1	ls			$1,404,320.00	$2,808,640.00	Mob/Demob	$4,212,960	See User Sheet 5
12	Crooked Creek span bridge replacement cost every 50 years	LT	Other Facilities	4	ls		$166,000.00	$167,000.00	$167,000.00	D. Facility & Equipment	$2,000,000	e-mail James Fueg 5/27/2015
13	Manholes for TSF consolidation		Tailings Impoundments	1,000	each				$5,774.70	C. Water Management	$5,774,700	Per quote from Plasson USA, April 28, 2016 (SP-7982.pdf)
14	Mine Year 3 - Dredge capex		Tailings Impoundments	5	ea				$619,000.00	C. Water Management	$3,095,000	See User 11
15	Mine Year 3 - Pipe+floats capex		Tailings Impoundments	5	ea				$248,100.00	C. Water Management	$1,240,500	See User 11
16	Mine Year 3 - Dredge opex including depreciation		Tailings Impoundments	2	years				$718,872.55	C. Water Management	$1,437,745	See User 11
17	Mine Year 3 - Booster capex		Tailings Impoundments	5	each				$594,000.00	C. Water Management	$2,970,000	See User 11
18	Mine Year 3 - Booster opex including depreciation		Tailings Impoundments	2	years				$380,811.64	C. Water Management	$761,623	See User 11
19	WTP Crew Camp Construction	LT	Water Treatment - Contac	1	ea.	$1,573,565				C. Water Management	$1,573,565	From Donlin Gold Trust Fund Model, June 3, 2015 excel file
20	Long Term Monitoring and Sampling (User 10)	LT	Monitoring/Regulatory Re	1	ea.		$2,263,961.80		$53,345.00	E. Monitoring	$2,317,307	See User 10
21	Geotechnical Dam Monitoring (TSF and CWD)		Monitoring/Regulatory Re	5	Yrs			$350,000.00		E. Monitoring	$1,750,000	Based on Red Dog Bond Cost
22	Geotechnical Dam Instrumentation (TSF and CWD)		Monitoring/Regulatory Re	5	Yrs				$25,000.00	E. Monitoring	$125,000	Based on Red Dog Bond Cost
23	Long Term Road/Airport Maintenance		Security & Maintenance	213	Yrs			$65,851.48	$80,248.90	F. Construction Mgmt	$31,119,380	See User 1
						$1,593,565	$4,139,881	$90,400,205	$51,757,518		$147,891,169	

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).
Item 10, assumed division of labor, equipment and materials.
Item 6 Tailings embankment spillway excavation costs in 'Sediment and Drainage Control.'

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Closure Cost Estimate
Reclamation Quantities

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Data Cost File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Reclamation Quantity Summary

	Description	Total Regrade or Haul Volume m3	Total Regrade or Haul Cost $	Total Cover Volume m3	Cover Placement Cost $	Total Growth Media Volume m3	Growth Media Placement Cost $	Total Surface Area ha	Total Scarify Cost $	Total Revetation Cost $	TOTALS $	Unit Costs: Regrade Unit Cost $/m3	Material Haul or Backfill Unit Cost $/m3	Cover Unit Cost $/m3	Growth Media Unit Cost $/m3	Scarify Unit Cost $/m3	Area Unit Cost $/Ha
1	Waste Rock Dumps	994,220	$ 318,990	1,158,087	$ 3,510,121	1,347,886	$ 4,671,158	379.69	$ 177,382	$ 334,851	$ 9,012,502	$0.32	N/A	$3.03	$3.47	$467.18	$23,736.47
2	Tailings Impoundments	27,567	$ 30,110	800,698	$ 2,033,707	949,096	$ 2,353,899	275.39	$ 94,695	$ 201,539	$ 4,713,950	$1.09	N/A	$2.54	$2.48	$343.86	$17,117.36
3	Heap Leach Pads		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
5	Open Pits	60,490	$ 139,020					5.2		$ 4,584	$ 143,604	$2.30	N/A				$27,616.15
4	Quarries & Borrow Pits		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
6	Roads	969,304	$ 1,097,115			613,090	$ 1,153,204	175.167089	$ 89,792	$ 119,505	$ 2,459,616	$1.13	N/A		$1.88	$512.61	$14,041.54
7	Landfills		$ -		$ -		$ -		$ -	$ -	$ -		N/A				
8	Buildings			105,372	$ 247,841		$ -	2.88	$ -	$ 11,696	$ 259,537		N/A	$2.35		$0.00	$90,116.90
9	Yards	1,348,127	$ 2,136,927		$ -	1,356,952	$ 2,540,757	718.66	$ 333,401	$ 594,607	$ 5,605,692	$1.59	N/A		$1.87	$463.92	$7,800.20
10	Ponds	45,319	$ 108,671			4,461	$ 11,643	1.25		$ 922	$ 121,236	N/A	$2.40		$2.61		$96,988.80
11	Exploration Roads		$ -				$ -		$ -	$ -	$ -		N/A				
12	Exploration Trenches		$ -							$ -	$ -		N/A				
13	Diversion Ditches		$ 389,748					44		$ 32,374	$ 422,122		N/A				$9,593.68
14	Sediment Ponds		$ -				$ -		$ -	$ -	$ -						
15	Generic Haulage/Backfill	9,512,900	$ 26,936,304		$ -	67,409	$ 303,220	54.8	$ -	$ 19,817	$ 27,259,341	N/A	$2.83		$4.50	$0.00	#########
16	Adit/Decline Backfilling1		$ -								$ -	N/A					
17	Shaft Backfilling		$ -								$ -	N/A					
	TOTALS	12,957,927	$ 31,156,885	2,064,157	$ 5,791,669	4,338,894	$ 11,033,881	1,657.04	$ 695,270	$ 1,319,894	$ 49,997,599						
	Average Costs	per m3	$2.40	per m3	$2.81	per m3	$2.54	per Ha	$419.59	$1.90	$30,173	per Ha					

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Closure Cost Estimate
Labor Rates

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS		
Cost Basis/Project Region	Alaska Davis Bacon 2016	Pamphlet 600 Sept. 2016, 2017 Equip. Rental Quotes
Power Equipment Operators	none	$0.00
Truck Drivers	none	$0.00
Laborers	none	$0.00

INDIRECT COSTS	
Unemployment (%)	0.00%
Retirement/SS/Medicare (%)	0.00%
Workman's Compensation (%)	0.00%
Other Indirects	
State Payroll Tax (13),(15),(17),(	
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	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D6R w/ Winch	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D7R	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D8R	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D9R	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D10R	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D11R	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Wheeled Dozers													
824G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
834G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
844	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
854G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Motor Graders													
120H	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
14G/H	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
16G/H	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
24M	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Track Excavators													
312C	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
320C	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
325C	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
330C	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
345B	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
365BL	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
385BL	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Scrapers													
631G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
637G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Wheeled Loaders													
924G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
928G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
950G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
966G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
972G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
980G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
988G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
990	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
992G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
994D	A1602	$63.15	$0.00	$63.15	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$63.15
L2350	A1602	$63.15	$0.00	$63.15	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$63.15
Shovels													
PC2000					$0.00							$0	
PC3000					$0.00							$0	
PC4000					$0.00							$0	
PC5500					$0.00							$0	
PC8000					$0.00							$0	
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)													

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Closure Cost Estimate
Labor Rates

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
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ZONE ADJUSTMENTS

Cost Basis/Project Region	Alaska Davis Bacon 2016	Pamphlet 600 Sept. 2016, 2017 Equip. Rental Quotes
Power Equipment Operators	none	$0.00
Truck Drivers	none	$0.00
Laborers	none	$0.00

INDIRECT COSTS

Unemployment (%)	0.00%
Retirement/SS/Medicare (%)	0.00%
Workman's Compensation (%)	0.00%
Other Indirects	
State Payroll Tax (13),(15),(17),(	
Total Other Indirects	**0.00%**

HOURLY LABOR RATE TABLE

Other Equipment													
420D 4WD Backhoe	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
428D 4WD Backhoe	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
CS533E Vibratory Roller	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
CS633E Vibratory Roller	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
CP533E Sheepsfoot Compactor	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
CP633E Sheepsfoot Compactor	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Light Truck - 1.5 Ton	A1604	$58.82	$0.00	$58.82	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$58.82
Supervisor's Truck	A1604	$58.82	$0.00	$58.82	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$58.82
Flatbed Truck	A1604	$58.82	$0.00	$58.82	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$58.82
Air Compressor + tools	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Welding Equipment	AO601	$59.58	$0.00	$59.58	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$59.58
Heavy Duty Drill Rig	S1204	$55.96	$0.00	$55.96	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$55.96
Pump (plugging) Drill Rig	S1204	$55.96	$0.00	$55.96	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$55.96
Concrete Pump					$0.00							$0	
Gas Engine Vibrator	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Generator 5KW					$0.00							$0	
HDEP Welder (pipe or liner)					$0.00							$0	
5 Ton Crane	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
20 Ton Crane	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
50 Ton Crane	A1602	$63.15	$0.00	$63.15	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$63.15
120 Ton Crane	A1602	$63.15	$0.00	$63.15	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$63.15

NOTES:

(1) Equipment Type:	Catepillar model or equivalent, LeTourneau
(2) Equipment Operator Source:	Alaska Pamphlet 600
(3) Zone Basis:	

Truck Drivers ($/hr) (4)													
725	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
730	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
735	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
740	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
769D	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
773E	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
777D	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
785C	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
793C	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
797B	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
613E (5,000 gal) Water Wagon	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
621E (8,000 gal) Water Wagon	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
777D Water Truck	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
785C Water Truck	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
Dump Truck (10-12 yd3)	A2105	$56.78	$0.00	$56.78	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$56.78

NOTES:

(4) Truck Driver Source:	
(5) Zone Basis:	

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Closure Cost Estimate
Labor Rates

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS

Cost Basis/Project Region	Alaska Davis Bacon 2016	Pamphlet 600 Sept. 2016, 2017 Equip. Rental Quotes
Power Equipment Operators	none	$0.00
Truck Drivers	none	$0.00
Laborers	none	$0.00

INDIRECT COSTS

Unemployment (%)	0.00%
Retirement/SS/Medicare (%)	0.00%
Workman's Compensation (%)	0.00%
Other Indirects	
State Payroll Tax (13),(15),(17),(	
Total Other Indirects	**0.00%**

HOURLY LABOR RATE TABLE

Laborers ($/hr) (6,7)

General Laborer	S1205	$35.15	$0.00	$35.15	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$35.15
Skilled Laborer	S1202	$50.39	$0.00	$50.39	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$50.39
Driller's Helper	A1605	$50.54	$0.00	$50.54	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$50.54
Rodmen (reinforcing concrete)	SO401	$56.57	$0.00	$56.57	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$56.57
Cement finisher	SO401	$56.57	$0.00	$56.57	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$56.57
Carpenter	AO301	$59.72	$0.00	$59.72	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$59.72

NOTES:

(6) Laborer Source:	Alaska Pamphlet 600
(7) Carpenter Source:	Alaska Pamphlet 600, 090116
(8) Zone Basis:	

Project Management and Technical Labor ($/hr) (9)

Project Manager		$95.03	$0.00	$95.03	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$95.03
Foreman		$51.00	$0.00	$51.00	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$51.00
Field Geologist/Engineer		$48.83	$0.00	$48.83	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$48.83
Field Tech/Sampler		$41.84	$0.00	$41.84	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$41.84
Range Scientist		$48.42	$0.00	$48.42	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$48.42
Senior Planning Engineer		$88.63	$0.00	$88.63	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.63
Project Engineer		$79.30	$0.00	$79.30	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$79.30
Mechanic/Fitter (A2103)		$60.75	$0.00	$60.75	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.75
Electrician (A0702)		$66.23	$0.00	$66.23	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$66.23
Bricklayer (A0201)		$60.03	$0.00	$60.03	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.03
Pipelayer Helper (S2201)		$59.37	$0.00	$59.37	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$59.37
Piperfitter (S1501)		$62.13	$0.00	$62.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.13

NOTES:

(9) Project Manager:	Salary.com 3/2017
(9) Foreman Source:	Salary.com 3/2017
(9) Techical Labor Source:	Salary.com 3/2017
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)	

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Closure Cost Estimate
Equipment Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Monthly Rental Basis: 360 hrs month

EQUIPMENT RENTAL RATE TABLE

EQUIPMENT TYPE (1)	Monthly Owner/Rental Rate	Equipment Hourly Rate	Fuel/Lube/ Wear	Total Rate
Bulldozers				
D6R	$20,300.00	$56.39	$31.96	$88.34
D6R w/ Winch	$20,300.00	$56.39	$31.96	$88.34
D7R	$20,300.00	$56.39	$35.95	$92.34
D8R			$48.13	$48.13
D9R	$52,500.00	$145.83	$70.50	$216.33
D10R	$52,500.00	$145.83	$91.47	$237.31
D11R	$70,000.00	$194.44	$133.61	$328.06
Wheeled Dozers				
824G			$34.32	$34.32
834G			$40.23	$40.23
844			$47.89	$47.89
854G			$60.67	$60.67
Motor Graders				
120H			$35.00	$35.00
14G/H			$50.03	$50.03
16G/H	$31,500.00	$87.50	$59.81	$147.31
24M			$49.49	$49.49
Track Excavators				
312C			$14.00	$14.00
320C			$25.65	$25.65
325C	$12,530.00	$34.81	$32.07	$66.88
330C			$39.18	$39.18
345B	$22,540.00	$62.61	$46.85	$109.46
365BL			$42.15	$42.15
385BL	$43,680.00	$121.33	$77.88	$199.21
Scrapers				
631G			$56.69	$56.69
637G			$84.63	$84.63
Wheeled Loaders				
924G			$20.43	$20.43
928G	$5,810.00	$16.14	$23.83	$39.96
950G			$30.77	$30.77
966G	$23,310.00	$64.75	$43.72	$108.47
972G			$47.31	$47.31
980G	$23,310.00	$64.75	$51.64	$116.39
988G			$76.15	$76.15
990			$54.28	$54.28
992G	$80,500.00	$223.61	$145.88	$369.49
994D	$183,606.00	$510.02	$114.95	$624.96
L2350			$210.74	$210.74
Shovels				
PC2000			$118.14	$118.14
PC3000			$159.65	$159.65
PC4000			$223.51	$223.51
PC5500			$379.96	$379.96
PC8000			$475.75	$475.75
Hydraulic Hammers				
H-120 (fits 325)			$6.00	$6.00
H-160 (fits 345)	$22,540.00	$62.61	$12.00	$74.61
H-180 (fits 365/385)	$27,048.00	$75.13	$14.00	$89.13
Demolition Shears				
S340 (fits 322/325/330)				$0.00
S365 (fits 330/345)	$22,500.00	$62.50	$12.00	$74.50
S390 (fits 365/385)				$0.00
Demolition Grapples				
G315 (fits 322/325)				$0.00
G320 (fits 325/330)				$0.00
G330 (fits 345/365)			$30.00	$30.00
Other Equipment				
420D 4WD Backhoe	$4,900.00	$13.61	$18.26	$31.87
428D 4WD Backhoe	$4,900.00	$13.61	$18.26	$31.87
CS533E Vibratory Roller	$14,843.98	$41.23	$11.97	$53.21
CS633E Vibratory Roller			$15.17	$15.17
CP533E Sheepsfoot Compactor	$14,843.98	$41.23	$11.97	$53.21
CP633E Sheepsfoot Compactor	$14,843.98	$41.23	$15.17	$56.40
Light Truck - 1.5 Ton	$3,290.00	$9.14	$4.97	$14.11
Supervisor's Truck	$3,290.00	$9.14	$3.38	$12.52
Flatbed Truck	$3,290.00	$9.14	$16.02	$25.16
Air Compressor + tools	$2,250.00	$6.25	$3.19	$9.44
Welding Equipment	$5,950.94	$16.53	$6.39	$22.92
Heavy Duty Drill Rig	$116,037.56	$322.33	$38.32	$360.64
Pump (plugging) Drill Rig	$116,037.56	$322.33	$31.93	$354.26
Concrete Pump	$29,562.66	$82.12	$31.93	$114.05
Gas Engine Vibrator	$1,279.04	$3.55	$3.19	$6.75
Generator 5KW	$1,871.00	$5.20	$4.79	$9.99
HDEP Welder (pipe or liner)	$15,280.09	$42.44	$6.39	$48.83
5 Ton Crane	$11,348.60	$31.52	$9.58	$41.10
20 Ton Crane	$13,300.00	$36.94	$12.77	$49.72
50 Ton Crane	$20,440.00	$56.78	$15.01	$71.78
120 Ton Crane	$39,340.00	$109.28	$16.60	$125.88
Trucks				
725	$28,509.82	$79.19	$39.49	$118.68
730			$41.08	$41.08
735			$55.93	$55.93
740			$57.06	$57.06
769D			$46.65	$46.65
773E			$58.18	$58.18
777D	$58,100.00	$161.39	$84.87	$246.26
785C			$77.43	$77.43
793C			$133.31	$133.31
797B			$187.59	$187.59
613E (5,000 gal) Water Wagon	$5,523.00	$15.34	$29.71	$45.06
621E (8,000 gal) Water Wagon	$20,907.20	$58.08	$49.19	$107.27
777D Water Truck	$58,100.00	$161.39	$84.87	$246.26
785C Water Truck			$77.43	$77.43
Dump Truck (10-12 yd^3)	$6,300.00	$17.50	$17.42	$34.92

NOTES:

(1) Power Equipment Source:	
(2) Power Equipment Type:	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels
(3) Drilling Equipment Source:	Nevada Costs
(4) Other Equipment Source:	Various quotes. See Donlin_equipment Materials Cost Buildup_181202017_pl_RI
(5) Drill rig includes support (pipe) truck	

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Closure Cost Estimate
Equipment Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.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 L/hr (4)	Cost@ 0.84/L	Total Hourly Equipment Cost
Bulldozers						
D6R	$6.00		$6.00	23.66	$19.96	$31.96
D6R w/ Winch	$6.00		$6.00	23.66	$19.96	$31.96
D7R	$6.00		$6.00	28.39	$23.95	$35.95
D8R	$6.00		$11.00	36.91	$31.13	$48.13
D9R	$8.00		$17.00	53.94	$45.50	$70.50
D10R	$11.00		$23.00	68.14	$57.47	$91.47
D11R	$14.00		$35.00	100.31	$84.61	$133.61
Wheeled Dozers						
824G		$0.00		40.69	$34.32	$34.32
834G		$0.00		47.69	$40.23	$40.23
844		$0.00		56.78	$47.89	$47.89
854G		$0.00		71.92	$60.67	$60.67
Motor Graders						
120H	$7.00	$3.23	$12.00	15.14	$12.77	$35.00
14G/H	$8.00	$5.07	$17.00	23.66	$19.96	$50.03
16G/H	$6.00	$6.86	$23.00	28.39	$23.95	$59.81
24M				58.67	$49.49	$49.49
Track Excavators						
312C	$4.00		$4.00	7.12	$6.00	$14.00
320C	$5.00		$5.00	18.55	$15.65	$25.65
325C	$5.00		$6.00	24.98	$21.07	$32.07
330C	$6.00		$7.00	31.04	$26.18	$39.18
345B	$6.00		$7.00	40.12	$33.85	$46.85
365BL				49.97	$42.15	$42.15
385BL	$7.00		$15.00	66.24	$55.88	$77.88
Scrapers						
631G		$8.79		56.78	$47.89	$56.69
637G		$8.79		89.90	$75.83	$84.63
Wheeled Loaders						
924G	$4.00	$2.65	$5.00	10.41	$8.78	$20.43
928G	$5.00	$2.65	$5.00	13.25	$11.18	$23.83
950G	$5.00	$3.99	$9.00	15.14	$12.77	$30.77
966G	$7.00	$6.36	$12.00	21.77	$18.36	$43.72
972G	$6.00	$6.36	$15.00	23.66	$19.96	$47.31
980G	$6.00	$6.69	$15.00	28.39	$23.95	$51.64
988G	$11.00	$10.51	$16.00	45.80	$38.64	$76.15
990				64.35	$54.28	$54.28
992G	$13.00	$23.44	$36.00	87.06	$73.44	$145.88
994D				136.27	$114.95	$114.95
L2350				249.83	$210.74	$210.74
Shovels						
PC2000				140.06	$118.14	$118.14
PC3000				189.27	$159.65	$159.65
PC4000				264.97	$223.51	$223.51
PC5500				450.45	$379.96	$379.96
PC8000				564.01	$475.75	$475.75
Hydraulic Hammers						
H-120 (fits 325)	N/A		$6.00			$6.00
H-160 (fits 345)	N/A		$12.00			$12.00
H-180 (fits 365/385)	N/A		$14.00			$14.00
Demolition Shears						
S340 (fits 322/325/330)	N/A					$0.00
S365 (fits 330/345)	N/A		$12.00			$12.00
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		$30.00			$30.00
Other Equipment						
420D 4WD Backhoe	$4.00	$0.68	$4.00	11.36	$9.58	$18.26
428D 4WD Backhoe	$4.00	$0.68	$4.00	11.36	$9.58	$18.26
CS533E Vibratory Roller				14.19	$11.97	$11.97
CS633E Vibratory Roller				17.98	$15.17	$15.17
CP533E Sheepsfoot Compactor				14.19	$11.97	$11.97
CP633E Sheepsfoot Compactor				17.98	$15.17	$15.17
Light Truck - 1.5 Ton		$0.18		5.68	$4.79	$4.97
Supervisor's Truck		$0.18		3.79	$3.19	$3.38
Flatbed Truck		$1.01		17.79	$15.01	$16.02
Air Compressor + tools			N/A	3.79	$3.19	$3.19
Welding Equipment			N/A	7.57	$6.39	$6.39
Heavy Duty Drill Rig				45.42	$38.32	$38.32
Pump (plugging) Drill Rig				37.85	$31.93	$31.93
Concrete Pump			N/A	37.85	$31.93	$31.93
Gas Engine Vibrator			N/A	3.79	$3.19	$3.19
Generator 5KW			N/A	5.68	$4.79	$4.79
HDEP Welder (pipe or liner)			N/A	7.57	$6.39	$6.39
5 Ton Crane				11.36	$9.58	$9.58
20 Ton Crane				15.14	$12.77	$12.77
50 Ton Crane				17.79	$15.01	$15.01
120 Ton Crane				19.68	$16.60	$16.60
Trucks						
725	$8.00	$13.48	$3.00	17.79	$15.01	$39.49
730	$8.00	$13.48	$3.00	19.68	$16.60	$41.08
735	$8.00	$21.46	$3.00	27.82	$23.47	$55.93
740	$8.00	$22.59	$3.00	27.82	$23.47	$57.06
769D	$9.00	$4.12	$4.00	35.01	$29.54	$46.65
773E	$8.00	$8.67	$4.00	44.48	$37.52	$58.18
777D	$11.00	$15.39	$5.00	63.40	$53.48	$84.87
785C				91.79	$77.43	$77.43
793C				158.04	$133.31	$133.31
797B				222.39	$187.59	$187.59
613E (5,000 gal) Water Wagon	$7.00	$3.56		22.71	$19.16	$29.71
621E (8,000 gal) Water Wagon	$8.00	$6.87		40.69	$34.32	$49.19
777D Water Truck	$11.00	$15.39	$5.00	63.40	$53.48	$84.87
785C Water Truck				91.79	$77.43	$77.43
Dump Truck (10-12 yd3) (5)	N/A	$0.81	N/A	19.68	$16.60	$17.42

Notes:

(1) PM Source:	July 2012 Cashman Equipment Rental Rate, Elko, NV (except as noted)
(2) Undercarriage Source:	Cashman Equipment Reno Nevada 2012, 50% added for shipping and handling
(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)

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Closure Cost Estimate
Equipment Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm

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	$1,884.00	$11,304.00	3,500	$3.23
14G/H	20.5R25	6	$2,959.00	$17,754.00	3,500	$5.07
16G/H	23.5R25	6	$4,003.00	$24,018.00	3,500	$6.86
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	$8,793.00	$35,172.00	4,000	$8.79
637G	37.25R35	4	$8,793.00	$35,172.00	4,000	$8.79
Wheeled Loaders						
924G	17.5R25	4	$2,982.00	$11,928.00	4,500	$2.65
928G	17.5R25	4	$2,982.00	$11,928.00	4,500	$2.65
950G	26.5R25	4	$4,493.00	$17,972.00	4,500	$3.99
966G	26.5R25	4	$7,153.00	$28,612.00	4,500	$6.36
972G	26.5R25	4	$7,153.00	$28,612.00	4,500	$6.36
980G	29.5R25	4	$7,531.00	$30,124.00	4,500	$6.69
988G	35/65-33	4	$11,827.00	$47,308.00	4,500	$10.51
990	41.25/70-39	4		$0.00	4,500	
992G	45/65R45	4	$26,371.00	$105,484.00	4,500	$23.44
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	$1,023.00	$2,046.00	3,000	$0.68
428D 4WD Backhoe	340/80R18-16.9R28	2	$1,023.00	$2,046.00	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	138	$552.00	3,000	$0.18
Supervisor's Truck		4	138	$552.00	3,000	$0.18
Flatbed Truck		22	138	$3,036.00	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	$4,493.00	$26,958.00	2,000	$13.48
730	23.5R25	6	$4,493.00	$26,958.00	2,000	$13.48
735	26.5R25	6	$7,153.00	$42,918.00	2,000	$21.46
740	29.5R25	6	$7,531.00	$45,186.00	2,000	$22.59
769D	18.00R33	6	$4,117.00	$24,702.00	6,000	$4.12
773E	24.00R35	6	$7,221.00	$43,326.00	5,000	$8.67
777D	27.00R49	6	$12,821.00	$76,926.00	5,000	$15.39
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	$3,556.00	$21,336.00	6,000	$3.56
621E (8,000 gal) Water Wagon	33.25R29	6	$9,157.00	$54,942.00	8,000	$6.87
777D Water Truck	27.00R49	6	$12,821.00	$76,926.00	5,000	$15.39
785C Water Truck	33.00R51	6		$0.00	4,000	
Dump Truck (10-12 yd3)		10	$487.00	$4,870.00	6,000	$0.81

Notes:

(1) Unit Cost Basis:	Cost per tyre each
(2) Cost Basis:	Cashman Equipment Reno Nevada 2012
(3) Tire Cost Source:	Cashman Equipment Reno Nevada 2012, 50% added for shipping and handling
(4) Tire Wear Source:	Caterpillar Handbook, Edition 37

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Closure Cost Estimate
Material Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamatio
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xls
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Revegetation Materials

Seed Mixes

Seed Mix	Description		Cost/Ha
None			
Mix 1	Basins		$388.85
Mix 2	Low Hills		$238.80
Mix 3	Uplands		
Mix 4	Riparian or Custom		
User Mix 1			
User Mix 2			
User Mix 3			
User Mix 4			
	Cost/lb	kg/Ha	Cost/Ha
User Mix 5 (from Seed Mix sheet	$17.54	$7.42	$130.14
Notes:			

Mulch

Item	Cost/kg	kg/Ha	Cost/Ha
None			
Straw Mulch		2000	
Hydro Mulch		100	
Timber Mulch		100	
Notes:			

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Closure Cost Estimate
Material Costs

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Cost Estimate Type: Surety **Cost Basis: Alaska Davis Bacon 2016**

Amendments			
Item	**Cost/kg**	**kg/Ha**	**Cost/Ha**
None			
Organic Matter		**2000**	
Treated Sludge			
Chemical	$1.46	**100**	$146.00
Notes:			

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Closure Cost Estimate
Material Costs

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Well Abandonment Materials

Description	Cost/20kg bag	Units	Cost/unit*
Cement	$6.79	m3	$42.44
Grout (Low Grade Bentonite)	$7.76	m3	$48.50
Inert Material/Cuttings		m3	
		m3	
		m3	

NDEP 2016 costs converted to metric units and adjusted for location.

* 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.	$2,459.66
Sampling Supplies	ea.	$5.75
Water Analysis (Complete) (1)	ea.	$1,055.00
ABA + S speciation	ea.	
Cyanide - WAD	ea.	
Cyanide - Free	ea.	
Cyanide - Total soils	ea.	
Cyanide - Total water	ea.	
TPH in soils	ea.	$80.00
Humidty Cell (20 wk) (2)	ea.	
Humidty Cell (40 wk)	ea.	
NAG	ea.	
TCLP w/ full analysis	ea.	$185.00
SPLP w/ full analysis	ea.	$150.00
AS4439 Leach test w/ full analysis	ea.	
Methy Hg	ea.	
	ea.	

Pump and consumable costs from Drillers World
AK Lab Rates from SRK Consulting based on similar projects

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Closure Cost Estimate
Material Costs

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Model Version: Version 1.4.1
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Fuel, Etc.

Description	Units	Cost/unit	User Overrides
Off-road Diesel - delivered (1)	$/Litre	$0.844	
Pickup Truck Mileage	$/km	$0.348	
Electical Power	$/kWh	$0.129	
Donlin feasibility 2011 inflated to 2016			
IRS allowance converted to metric			
Donlin feasibility 2011 inflated to 2016			

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Closure Cost Estimate
Material Costs

Revegetation Method				
Slopes				
Disturbance Type	**Seed Application Method**	**Labor** Cost/Ha	**Equipment** Cost/Ha	**Total** Cost/Ha
Waste Rock Dumps	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Heap Leach	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Tailings	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Quarries & Borrow Pits	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Flat Areas and Undifferentiated				
Disturbance Type	**Seed Application Method**	**Labor** Cost/Ha	**Equipment** Cost/Ha	**Total** Cost/Ha
Exploration Trenches	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Exploration Roads	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Waste Rock Dumps	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Heap Leach	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Tailings	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Quarries & Borrow Pits	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Roads	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Pits	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Haul Material	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Foundations & Buildings	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Sediment & Drainge Control	**Hand Broadcast**	$389.34	$144.20	$533.54
Process Ponds	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Landfills	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Yards, Etc.	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Revegetation Maintenance	**Mechanical Broadcast**	$269.16	$77.87	$347.03

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Closure Cost Estimate
Misc. Unit Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Revegetation

	Means Number	Unit	Crew	Daily Output	Daily Output User	Materials	Labor	Equipment	Total	Notes
Seeding - Broadcast Hand (1)		ha					$389.34	$144.20	$533.54	
Seeding - Broadcast Mechanical (1)		ha					$269.16	$77.87	$347.03	
Seeding - Drill (1)		ha		365			$403.76	$288.40	$692.16	
Seeding - Hydroseeding (1)				365			$721.00	$360.50	$1,081.50	
Shrub Planting - bare root 6-10 in (150- 250mm) (2)	02910-400-0561	ea.	1 Clab	365			$0.77	$0.00	$0.77	
Tree Planting - bare root 11-16 in (270- 400mm) (3)	02910-400-0562	ea.	1 Clab	260			$1.08	$0.00	$1.08	
Cactus Planting (4)		ea.	1 Clab						$0.00	
NOTES:										
(1) Seeding Source:	Nevada 2016, NDEP costs converted to metric									
(2) Shrub Source:										
(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	m3	B-8	609		$4.68	$2.10		$6.78	
Lg. concrete	02220-110-0050	m3	B-8	433		$6.59	$2.95		$9.54	
Lg. masonry	02220-110-0080	m3	B-8	569		$5.01	$2.24		$7.25	
Lg. mixed	02220-110-0100	m3	B-8	569		$5.01	$2.24		$7.25	
Sm. steel	02220-110-0500	m3	B-3	419		$5.65	$2.10		$7.75	
Sm. concrete	02220-110-0600	m3	B-3	320		$7.39	$2.75		$10.14	
Sm. masonry	02220-110-0650	m3	B-3	419		$5.65	$2.10		$7.75	
Sm. wood	02220-110-0700	m3	B-3	419		$5.65	$2.10		$7.75	
Wall Demolition										
Block 4 in (100 mm) thick	02220-130-2000	m2	1 Clab	17		$16.54	$0.00	20%	$19.85	
Block 6 in (150 mm) thick	02220-130-2040	m2	1 Clab	16		$17.58	$0.00	20%	$21.10	
Block 8 in (200 mm) thick	02220-130-2080	m2	1 Clab	14		$20.09	$0.00	20%	$24.11	
Block 12 in (300 mm) thick	02220-130-2100	m2	1 Clab	14		$20.09	$0.00	20%	$24.11	
Conc 6 in (150 mm) thick	02220-130-2400	m2	B-9	15		$134.62	$5.03	10%	$153.62	
Conc 8 in (200 mm) thick	02220-130-2420	m2	B-9	13		$155.33	$5.81	10%	$177.25	
Conc 10 in (250 mm) thick	02220-130-2440	m2	B-9	11		$183.57	$6.87	10%	$209.48	
Conc 12 in (300 mm) thick	02220-130-2500	m2	B-9	9		$224.36	$8.39	10%	$256.03	

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Closure Cost Estimate
Misc. Unit Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
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Model Version: Version 1.4.1
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

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.			$64.44				$64.44	
Haul (average for all sizes)	02220-350-0920	ea.			$201.83				$201.83	
Rent per month (average for all sizes)	02220-350-0940	ea.			$68.70				$68.70	
Disposal fee per ton (tonne) (average for all sizes)	02220-350-0950	tonne			$83.11				$83.11	
NOTES:										
Dumpster Cost Source	2016 Means Heavy Construction									
Dumpster Disposal Fee Source:	2016 Means Heavy Construction									
Hazardous Material Handling - Solids (+ Liquids in drums)										
Pickup fees 55 gal (200 L). drums	02110-300-1100	ea.			$299.10				$299.10	
Bulk material (average)	02110-300-1220/1230	tonne			$539.56				$539.56	
Transport - truck load (80 drums, 25 cy (m3), 18 tons)	02110-300-1260/1270	km			$4.15				$4.15	
Dump site solid disposal fee	02110-300-6000/6020	tonne			$381.38				$381.38	
NOTES:										
Solid Handling Cost Source	2016 Means Heavy Construction									
Solid Disposal Fee Source:	2012 Means Heavy Construction, ave. 02 81 0300-6000, 6020									
Hazardous Material Handling - Liquids										
Vacuum Truck Pickup (2200 gal/8300 L)	02110-300-3110	hr.			$168.20				$168.20	
Vacuum Truck Pickup (5000 gal/19000 L)	02110-300-3120	hr.			$244.12				$244.12	
Dump site liquid disposal fee	02110-300-6000/6020	tonne			$381.38				$381.38	
NOTES:										
Liquid Handling Cost Source	2012 Means Heavy Construction									
Liquid Disposal Fee Source:	2012 Means Heavy Construction, ave. 02 11 0300-6000, 6020									
Hydrocarbon Contaminated Soils (HCS)										
Insitu Biotreatment	02115-200-2020/2021	m3			$29.29				$29.29	
HCS disposal fee	02115-200-2050/2055	m3			$73.47				$73.47	
NOTES:										
Insitu Treatment Cost Source	2012 Means Heavy Construction, ave. 02 65 1030-2020, 2021									
HCS Disposal Fee Source:	2012 Means Heavy Construction, ave. 02 65 1030-2050, 2055 plus barging fee of $265/tonne									

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Closure Cost Estimate
Misc. Unit Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

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	m3	C-14D	61.18	$217.74	$194.26	$17.43		$429.43	includes reinforcing
Grade walls - 15 in (400mm) thick, 12 ft (3.7m) high	03310-240-4350	m3	C-14D	39.19	$217.74	$303.26	$27.22		$548.22	includes reinforcing
Elevated conc, 1-way beam & slab - 15ft (4.6m) span	03310-240-2700	m3	C-14B	15.74	$359.20	$780.62	$67.76		$1,207.58	includes reinforcing
Elevated conc, 1-way beam & slab - 25ft (7.5m) span	03310-240-2750	m3	C-14B	21.68	$346.48	$566.74	$49.20		$962.42	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./m3								materials $/cy placed
Production Opening Foam Plug (6)		ea./m3								materials $/cy placed

NOTES:

(5) Bat Gate Source:	Not used
(6) Foam Plug Source:	Not used

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Closure Cost Estimate
Misc. Unit Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Misc. Linear Projects

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	Materials	Labor	Equipment	Premium	Total	Notes
Fencing Installation										
Barbed 3-strand	02820-170-1650	m	B-80A	232	$0.18	$5.66	$0.49		$6.33	
Barbed 4-strand	extrapolated	m	B-80A	174	$0.24	$7.55	$0.65		$8.44	
Barbed 5-strand	02820-130-0920	m	B-80A	139	$0.30	$9.45	$0.81		$10.56	
Chain link 8-10ft (2.5-3m) Install	02820-130-0920	m	B-80C	55	$14.28	$23.89	$2.05		$40.22	
Wood stockade fence 6 ft (2 m) high - Install	02820-510-1240	m	B-80C	46	$5.93	$28.57	$2.45		$36.95	
	user	m							$0.00	
	user	m							$0.00	
	user	m							$0.00	
	user	m							$0.00	
Fencing Removal										
Barbed 3-strand Removal	02220-220-1600	m	2 Clab	131		$7.89	$0.86		$8.75	
Barbed 4-strand Removal	extrapolated	m	2 Clab	108		$9.56	$1.05		$10.61	
Barbed 5-strand Removal	02220-220-1650	m	2 Clab	85		$12.15	$1.33		$13.48	
Chain link 8-10 ft (2.5-3 m) Removal	02220-220-1700	m	B-6	136		$7.71	$2.35		$10.06	
Wood, all types 4-6 ft ("1.5-2 m) high - Removal	02220-220-1775	m	2 Clab	131		$7.89	$0.86		$8.75	
	user	m								
	user	m							$0.00	
	user	m							$0.00	
	user	m							$0.00	
Culvert Removal										
12 in (300 mm) Diameter	02220-220-2900	m	B-6	53		$19.79	$6.03		$25.82	
18 in (450 mm) Diameter	02220-220-2930	m	B-6	46		$22.80	$6.95		$29.75	
24 in (600 mm) Diameter	02220-220-2960	m	B-6	37		$28.35	$8.64		$36.99	
36 in (1m) Diameter	02220-220-3000	m	B-6	27		$38.85	$11.84		$50.69	
Pipeline Removal										
0.75 in (20mm) - 4 in (100 mm) diameter	02220-381-1600	m	B-20	213		$7.34	$0.53		$7.87	
6 in (150 mm) - 8 in (200 mm)	02220-381-1700	m	B-20	152		$10.28	$0.74		$11.02	
10 in (250 mm) - 18 in (450 mm)	02220-381-1800	m	B-20	91		$17.17	$1.24		$18.41	
20 in (500 mm) - 36 in (1 m)	02220-381-1900	m	B-20	61		$25.62	$1.85		$27.47	
Pipe and Drainpipe Installation										
Water 4in (100mm) 40ft (12m) length, welded HDPE	02510-760-0100	m	B-22A	122	$0.84	$19.75	$12.93		$33.52	
Water 6in (150mm) 40ft (12m) length, welded HDPE	02510-760-0200	m	B-22A	116	$2.34	$20.77	$13.60		$36.71	
Water 12in (300mm) 40ft (12m) length, welded HDPE	02510-760-0500	m	B-22A	79		$30.49	$19.96		$50.45	
Drain 4in (100mm) perforated PVC	02620-630-2100	m	B-14	96	$0.48	$25.94	$3.83		$30.25	
Drain 6in (150mm) perforated PVC	02620-630-2110	m	B-14	91	$1.05	$27.36	$4.04		$32.45	
Drain 4in (100mm) corrugated, perf or plain	02620-660-0040	m	2 Clab	366	$0.22	$2.82	$0.31		$3.35	
Drain 6in (150mm) corrugated., perf or plain	02620-660-0060	m	2 Clab	274	$0.51	$3.77	$0.41		$4.69	

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Closure Cost Estimate
Misc. Unit Costs

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
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Drain Rock Preparation										
Crushing		m3							$0.79	
Screening		m3							$0.79	
TOTAL									$1.59	
Misc.										
Backhoe work	02210-700-0120	m3	B-11M	21		$23.17	$12.14		$35.31	
Powerline and Transformer Removal										
Single Pole		km							$30,630.16	
Double Pole		km							$35,005.89	
Transformer (9)		ea.							$35,342.26	
NOTES:										
(7) Single Pole Source:	NVEnergy estimate (2009) Adjusted to 2016									
(8) Double Pole Source:	NVEnergy estimate (2009) Adjusted to 2016									
(9) Transformer Source:	Sierra Pacific Power Company estimate (2004) adjusted to 2016									

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 .
All equipment, labor and material unit costs are from Labor Costs, Equipment Costs and Material Costs spreadsheets

	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	m2	B-13	67	$39.27	$30.42	$8.57		$78.26	assumes on-site source of rip-rap
Rip-Rap 18 in (450 mm) min thick, no grout	02370-450-0200	m2	B-13	44		$46.32	$13.05		$59.37	assumes on-site source of rip-rap
Gabions, 6 in (150 mm) deep	02370-450-0400	m2	B-13	167	$11.20	$12.20	$3.44		$26.84	assumes on-site source rock fill for gabions
Gabions, 9 in (250 mm) deep	02370-450-0500	m2	B-13	136	$14.03	$14.99	$4.22		$33.24	assumes on-site source rock fill for gabions
Gabions, 12 in (300 mm) deep	02370-450-0200	m2	B-13	128	$18.62	$15.92	$4.49		$39.03	assumes on-site source rock fill for gabions
Gabions, 18 in (450 mm) deep	02370-450-0200	m2	B-13	85	$26.18	$23.98	$6.76		$56.92	assumes on-site source rock fill for gabions
Gabions, 36 in (1m) deep	02370-450-0200	m2	B-13	50	$44.36	$40.76	$11.48		$96.60	assumes on-site source rock fill for gabions
HDEP Liner Installation										
Finish grading large area	2310-100-0100	m2	B-11L	5017		$0.15	$0.08		$0.23	
Compaction-riding, vibrating roller - 12in (300mm) lifts	2315-310-5100	m3	B-10Y	242		$3.17	$1.76		$4.93	
1.5mm HDPE	2660-610-0010	m2	3 Skwk	149	$0.80	$11.38	$4.33	10%	$18.16	
80 mil HDPE	user	m2	3 Skwk	149	$9.00	$11.38	$4.33		$24.71	
40 mil VLDPE	user	m2	3 Skwk	150	$7.00	$11.31	$4.30		$22.61	
	user	m2	3 Skwk	149		$11.38	$4.33		$15.71	
	user	m2	3 Skwk	149		$11.38	$4.33		$15.71	

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Closure Cost Estimate
Misc. Unit Costs

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Construction Management Support											
Office Trailer, Furnished, no hook-ups		0150-500-0250	mo.			$235.88				$235.88	
Toilet Portable, chemical		1590-400-6410	mo.			$251.44				$251.44	
TOTAL						$487.32				$487.32	
Pump and Casing Removal											
	Pump Type	**Measurement**	**Unit**				**Labor**	**Equipment**		**Total**	**Notes**
Pump Removal											
Submersible		ft to pump	m				$10.17	$22.08		$32.25	
Line Shaft		ft to pump	m				$23.72	$51.58		$75.30	
NOTES:											
(10) Pump Removal Source:		Nevada 2016, NDEP costs converted to metric									

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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						
D7R				$92.34	$60.81	$153.15
Totals				$92.34	$60.81	$153.15
Medium Dozer w/ multi-shank						
D9R				$216.33	$60.81	$277.14
Totals				$216.33	$60.81	$277.14
Large Dozer w/ multi-shank						
D10R				$237.31	$60.81	$298.12
Totals				$237.31	$60.81	$298.12
Grader w/ multi-shank						
16G/H				$147.31	$60.81	$208.12
Totals				$147.31	$60.81	$208.12
GRADING						
Grading storage and structure areas						
Grading waste rock dumps and heaps						
Grading landfills						
Constructing pit safety berms						
Small Dozer Fleet						
D7R				$92.34	$60.81	$153.15
Totals				$92.34	$60.81	$153.15
Medium Dozer Fleet						
D10R				$237.31	$60.81	$298.12
Totals				$237.31	$60.81	$298.12
Large Dozer Fleet						
D11R				$328.06	$60.81	$388.87
Totals				$328.06	$60.81	$388.87
EXPLORATION GRADING						
Backfilling and grading exploration trenches						
Grading flat exploration roads						
Small Dozer Fleet						
D6R				$88.34	$60.81	$149.15
Totals				$88.34	$60.81	$149.15
Medium Dozer Fleet						
D7R				$92.34	$60.81	$153.15
Totals				$92.34	$60.81	$153.15
Large Dozer Fleet						
D10R				$237.31	$60.81	$298.12
Totals				$237.31	$60.81	$298.12

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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				$66.88	$60.81	$127.69
Totals				$66.88	$60.81	$127.69
Medium Excavator						
345B				$109.46	$60.81	$170.27
Totals				$109.46	$60.81	$170.27
Large Excavator						
385BL				$199.21	$60.81	$260.02
Totals				$199.21	$60.81	$260.02
EXCAVATE AND RECONTOUR						
Recontour large roads (haul roads, access roads, etc.)						
Ponds - Excavate and pull liner and bury						
Small Excavator + Dozer						
325C				$66.88	$60.81	$127.69
D7R				$92.34	$60.81	$153.15
Total Equipment				$159.22	$121.62	$280.84
Medium Excavator + Dozer						
345B				$109.46	$60.81	$170.27
D9R				$216.33	$60.81	$277.14
Totals				$325.79	$121.62	$447.41
Large Excavator + Dozer						
385BL				$199.21	$60.81	$260.02
D10R				$237.31	$60.81	$298.12
Totals				$436.52	$121.62	$558.14
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				$88.34	$60.81	$149.15
Totals				$88.34	$60.81	$149.15
Large Dozer						
D10R				$237.31	$60.81	$298.12
Totals				$237.31	$60.81	$298.12
Grader						
16G/H				$147.31	$60.81	$208.12
Totals				$147.31	$60.81	$208.12
Small Excavator						
320C				$25.65	$60.81	$86.46
Totals				$25.65	$60.81	$86.46
Medium Excavator						
345B				$109.46	$60.81	$170.27
Totals				$109.46	$60.81	$170.27

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

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						
740				$57.06	$62.02	$119.08
988G	**Loader**			$76.15	$60.81	$136.96
D7R		1		$92.34	$60.81	$153.15
Totals				$225.55	$183.64	$409.19
Medium Truck/Loader Fleet						
777D				$246.26	$62.02	$308.28
992G	**Loader**			$369.49	$60.81	$430.30
D9R		1		$216.33	$60.81	$277.14
Totals				$832.08	$183.64	$1,015.72
Large Truck/Loader Fleet						
785C				$77.43	$62.02	$139.45
992G	**Loader**			$369.49	$60.81	$430.30
D10R		1		$237.31	$60.81	$298.12
Totals				$684.23	$183.64	$867.87
Extra Large Truck/Loader Fleet						
793C				$133.31	$62.02	$195.33
994D	**Loader**			$624.96	$63.15	$688.11
D11R		1		$328.06	$60.81	$388.87
Totals				$1,086.33	$185.98	$1,272.31
Scraper/Dozer Fleet						
631G				$56.69	$60.81	$117.50
D10R				$237.31	$60.81	$298.12
D7R		1		$92.34	$60.81	$153.15
Totals				$386.34	$182.43	$568.77
Tandem Scraper Fleet						
637G				$84.63	$60.81	$145.44
D7R		1		$92.34	$60.81	$153.15
Totals				$176.97	$121.62	$298.59
MISC. LOAD AND HAUL AND EARTHWORKS						
Sludge removal						
Drainage controls						
Misc. - Cat 325B Excavator / 10-12 yd3 Truck						
325C				$66.88	$60.81	$127.69
Dump Truck (10-12 yd3)				$34.92	$56.78	$91.70
Totals				$101.80	$117.59	$219.39
Misc. - Cat D9R Dozer/ Loader (5 yd3) / 10-12 yd3 Truck						
D9R				$216.33	$60.81	$277.14
966G				$108.47	$60.81	$169.28
Dump Truck (10-12 yd3)				$34.92	$56.78	$91.70
Totals				$359.72	$178.40	$538.12
Misc. - Cat D6 Dozer / Cat 966 Loader / 10-12 yd3 Truck						
D6R				$88.34	$60.81	$149.15
966G				$108.47	$60.81	$169.28
Dump Truck (10-12 yd3)				$34.92	$56.78	$91.70
Totals				$231.73	$178.40	$410.13

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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				$66.88	$60.81	$127.69
H-120 (fits 325)				$6.00	$0.00	$6.00
D9R				$216.33	$60.81	$277.14
Totals				$289.21	$121.62	$410.83
Medium - Cat 345B Excavator w/ H180D s Hammer						
345B				$109.46	$60.81	$170.27
H-160 (fits 345)				$74.61	$0.00	$74.61
D9R				$216.33	$60.81	$277.14
Totals				$400.40	$121.62	$522.02
Large - Cat 385B Excavator w/ H180D s Hammer						
385BL				$199.21	$60.81	$260.02
H-180 (fits 365/385)				$89.13	$0.00	$89.13
D9R				$216.33	$60.81	$277.14
Totals				$504.67	$121.62	$626.29
DRILL HOLE ABANDONMENT						
Drill Hole - Grout or Cement						
Pump (plugging) Drill Rig				$354.26	$55.96	$410.22
Driller's Helper		2		$0.00	$101.08	$101.08
Totals				$354.26	$157.04	$511.30
Drill Hole - Inert Media (Means Crew B-11M+ 1 Laborer)						
420D 4WD Backhoe				$31.87	$60.81	$92.68
General Laborer		1		$0.00	$35.15	$35.15
Totals				$31.87	$95.96	$127.83
Drill Hole - Casing Perforation or Removal						
Heavy Duty Drill Rig				$360.64	$55.96	$416.60
Driller's Helper		2		$0.00	$101.08	$101.08
Totals				$360.64	$157.04	$517.68
MAINTENANCE FLEET						
Road Grading, Dust Suppression, Clean Up						
Maintenance - Small Water Truck and Cat 14G Grader						
613E (5,000 gal) Water Wagon				$45.06	$62.02	$107.08
120H				$35.00	$60.81	$95.81
Totals				$80.06	$122.83	$202.89
Maintenance - Medium Water Truck and Cat 16G Grader						
621E (8,000 gal) Water Wagon				$107.27	$62.02	$169.29
14G/H				$50.03	$60.81	$110.84
Totals				$157.30	$122.83	$280.13
Maintenance - Large Water Truck and Cat 16G Grader						
785C Water Truck				$77.43	$62.02	$139.45
16G/H				$147.31	$60.81	$208.12
Totals				$224.74	$122.83	$347.57
PROJECT SUPERVISION						
Foreman		1		$0.00	$51.00	$51.00
Supervisor's Truck		1		$12.52	$58.82	$71.34
Totals				$12.52	$109.82	$122.34

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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	$35.15	$35.15
Totals				$0.00	$35.15	$35.15
2 Clab - Barbed Wire/Wood Fence Removal, Drainpipe Installation, Pumping, Evaporation						
General Laborer		2		$0.00	$70.30	$70.30
Light Truck - 1.5 Ton		1		$14.11	$58.82	$72.93
Totals				$14.11	$129.12	$143.23
2 Clab + Excavator - Pond Liner Cut and Fold						
General Laborer		2		$0.00	$70.30	$70.30
325C				$66.88	$60.81	$127.69
Totals				$66.88	$131.11	$197.99
2 Clab + Welder - Bat Gates						
General Laborer		2		$0.00	$70.30	$70.30
Welding Equipment				$22.92	$59.58	$82.50
Light Truck - 1.5 Ton		1		$14.11	$58.82	$72.93
Totals				$37.03	$188.70	$225.73
3 Clab - Foam Adit Plugs						
General Laborer		2		$0.00	$70.30	$70.30
420D 4WD Backhoe				$31.87	$60.81	$92.68
Light Truck - 1.5 Ton		1		$14.11	$58.82	$72.93
Totals				$45.98	$189.93	$235.91
3 Clab + Welder - Culvert Bat Gate						
General Laborer		2		$0.00	$70.30	$70.30
Welding Equipment				$22.92	$59.58	$82.50
420D 4WD Backhoe				$31.87	$60.81	$92.68
Light Truck - 1.5 Ton		1		$14.11	$58.82	$72.93
Totals				$68.90	$249.51	$318.41
3 Clab D - 3 Laborers + Foreman - Decontamination						
General Laborer		3		$0.00	$105.45	$105.45
Foreman		1		$0.00	$51.00	$51.00
Supervisor's Truck		1		$12.52	$58.82	$71.34
Light Truck - 1.5 Ton		1		$14.11	$58.82	$72.93
Totals				$26.63	$274.09	$300.72
3 SKWK - Liner Installation						
Skilled Laborer		3		$0.00	$151.17	$151.17
HDEP Welder (pipe or liner)		1		$48.83	$0.00	$48.83
420D 4WD Backhoe		1		$31.87	$60.81	$92.68
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
Totals				$80.70	$211.98	$292.68

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Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

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	$70.30	$70.30
Foreman		1		$0.00	$51.00	$51.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
EQUIPMENT						
928G		1		$39.96	$60.81	$100.77
Dump Truck (10-12 yd3)		2		$69.84	$113.56	$183.40
				$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				$109.80	$295.67	$405.47
B-6 - Chain Link Fence/Culvert Removal						
General Laborer		2		$0.00	$70.30	$70.30
928G		1		$39.96	$60.81	$100.77
Totals				$39.96	$131.11	$171.07
B-8 - Large Building Demolition						
LABOR						
General Laborer		2		$0.00	$70.30	$70.30
Foreman		1		$0.00	$51.00	$51.00
				$0.00		$0.00
				$0.00		$0.00
				$0.00		$0.00
EQUIPMENT						
928G		1		$39.96	$60.81	$100.77
20 Ton Crane		1		$49.72	$60.81	$110.53
Dump Truck (10-12 yd3)		2		$69.84	$113.56	$183.40
				$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				$159.52	$356.48	$516.00
B-9 - Concrete Wall Demolition						
General Laborer		4		$0.00	$140.60	$140.60
Foreman		1		$0.00	$51.00	$51.00
Air Compressor + tools				$9.44	$60.81	$70.25
Totals				$9.44	$252.41	$261.85

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

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-10Y - General Compaction						
General Laborer		1		$0.00	$35.15	$35.15
CS533E Vibratory Roller		1		$53.21	$60.81	$114.02
Totals				$53.21	$95.96	$149.17
B-11L - Fine Grading for Evaporation Pond Liner Base						
General Laborer		1		$0.00	$35.15	$35.15
14G/H		1		$50.03	$60.81	$110.84
Totals				$50.03	$95.96	$145.99
B-11M - Backhoe Work						
420D 4WD Backhoe		1		$31.87	$60.81	$92.68
Totals				$31.87	$60.81	$92.68
B-12G - Rip-Rap Machine Placed (Modified)						
966G		1		$108.47	$60.81	$169.28
325C		1		$66.88	$60.81	$127.69
Light Truck - 1.5 Ton		1		$14.11	$58.82	$72.93
Totals				$189.46	$180.44	$369.90
B-13 - Grouted Rip-Rap & Gabion Baskets						
General Laborer		4		$0.00	$140.60	$140.60
Foreman		1		$0.00	$51.00	$51.00
50 Ton Crane		1		$71.78	$63.15	$134.93
Totals				$71.78	$254.75	$326.53
B-14 PVC Drain Pipe Installation						
Foreman		1		$0.00	$51.00	$51.00
General Laborer		4		$0.00	$140.60	$140.60
420D 4WD Backhoe		1		$31.87	$60.81	$92.68
Light Truck - 1.5 Ton		1		$14.11	$58.82	$72.93
Totals				$45.98	$311.23	$357.21
B-20 - Remove Pipelines						
Foreman		1		$0.00	$51.00	$51.00
Skilled Laborer		1		$0.00	$50.39	$50.39
General Laborer		1		$0.00	$35.15	$35.15
Light Truck - 1.5 Ton		1		$14.11	$58.82	$72.93
Totals				$14.11	$195.36	$209.47
B-22A - HDEP Installation - Pipe or Liner						
Skilled Laborer		1		$0.00	$50.39	$50.39
General Laborer		2		$0.00	$70.30	$70.30
D7R		1		$92.34	$60.81	$153.15
Light Truck - 1.5 Ton		1		$14.11	$58.82	$72.93
420D 4WD Backhoe		1		$31.87	$60.81	$92.68
Generator 5KW		1		$9.99	$0.00	$9.99
HDEP Welder (pipe or liner)		1		$48.83	$0.00	$48.83
Totals				$197.14	$301.13	$498.27
B-80A - Install Barbed Wire Fence						
General Laborer		3		$0.00	$105.45	$105.45
Light Truck - 1.5 Ton		1		$14.11	$58.82	$72.93
Totals				$14.11	$164.27	$178.38

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Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

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-80C - Install Chain Link Fence (Flatbed truck has small crane)						
General Laborer		3		$0.00	$105.45	$105.45
Light Truck - 1.5 Ton		1		$14.11	$58.82	$72.93
Totals				$14.11	$164.27	$178.38
C-14B - Elevated Concrete Slabs (Reinforced Concrete Shaft Covers)						
Foreman		1		$0.00	$51.00	$51.00
Supervisor's Truck		1		$12.52	$58.82	$71.34
Carpenter		16		$0.00	$955.52	$955.52
General Laborer		2		$0.00	$70.30	$70.30
Rodmen (reinforcing concrete)		4		$0.00	$226.28	$226.28
Cement finisher		2		$0.00	$113.14	$113.14
Gas Engine Vibrator		1		$6.75	$60.81	$67.56
Concrete Pump		1		$114.05	$0.00	$114.05
Totals				$133.32	$1,535.87	$1,669.19
C-14D - Concrete Walls Formed in Place (Reinforced Concrete Adit Bulkheads)						
Foreman		1		$0.00	$51.00	$51.00
Supervisor's Truck		1		$12.52	$58.82	$71.34
Carpenter		18		$0.00	$1,074.96	$1,074.96
General Laborer		2		$0.00	$70.30	$70.30
Rodmen (reinforcing concrete)		2		$0.00	$113.14	$113.14
Cement finisher		1		$0.00	$56.57	$56.57
Gas Engine Vibrator		1		$6.75	$60.81	$67.56
Concrete Pump		1		$114.05	$0.00	$114.05
Totals				$133.32	$1,485.60	$1,618.92

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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

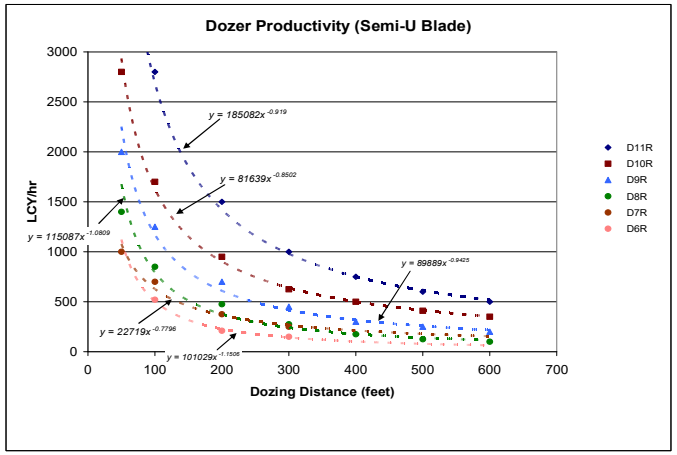
Source: Caterpillar Performance Handbook Edition 35

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



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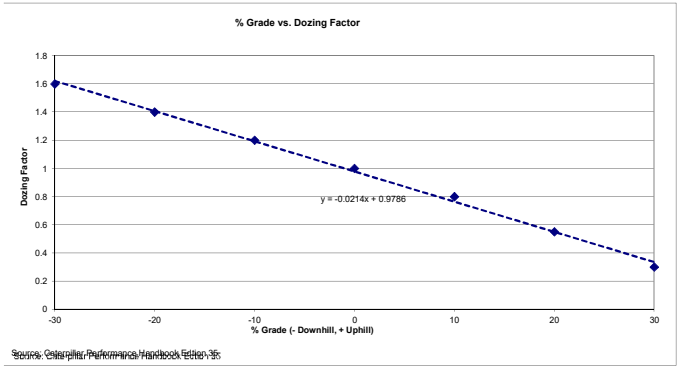
Productivity - Bulldozers (cont.)

% 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)



Source: Caterpillar Performance Handbook Edition 35

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/m^3**
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

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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

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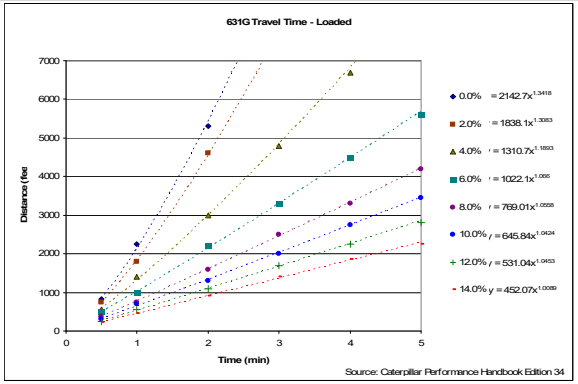
Productivity - Scrapers (cont.)

631G Scraper Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
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



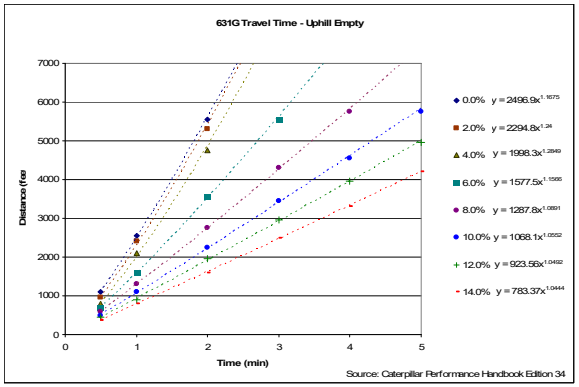
Source: Caterpillar Performance Handbook Edition 34

631G Scraper Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
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

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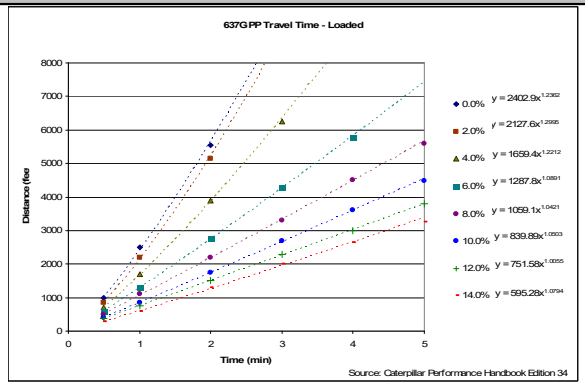
Productivity - Scrapers (cont.)

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) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



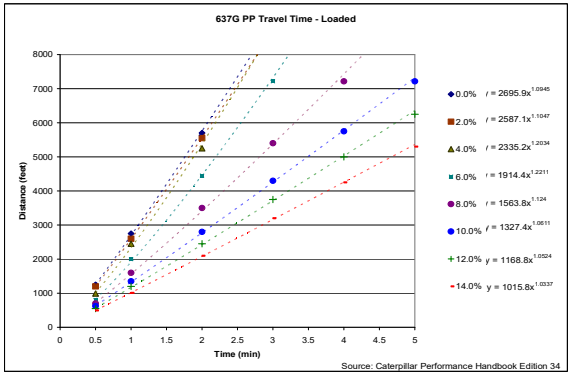
Source: Caterpillar Performance Handbook Edition 34

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) = $\sqrt[p]{\frac{\text{distance}}{k}}$

Source: Caterpillar Performance Handbook Edition 35



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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)

Material	lb/cy	Truck (769D) Load lb	Truck (773E) Load lb	Truck (777D) Load lb	769D Loaded Weight (lbs)	20	15	10	5	773E Loaded Weight (lbs)	20	15	10	5	777D 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)

Material	lb/cy	Truck (785C) Load lb	Truck (793C) Load lb	Truck (797B) Load lb	785C Loaded Weight (lbs)	20	15	10	5	793C Loaded Weight (lbs)	20	15	10	5	797B 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

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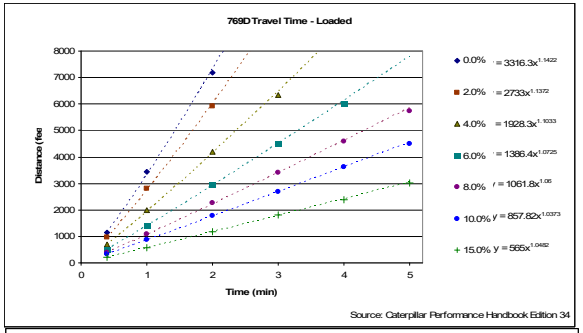
Productivity - Haul Trucks (cont.)

769D Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
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



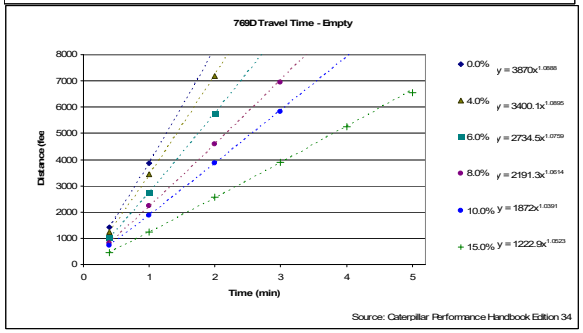
Source: Caterpillar Performance Handbook Edition 34

769D Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
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

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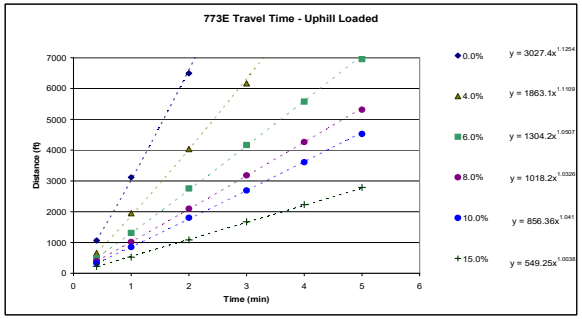
Productivity - Haul Trucks (cont.)

773E Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
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

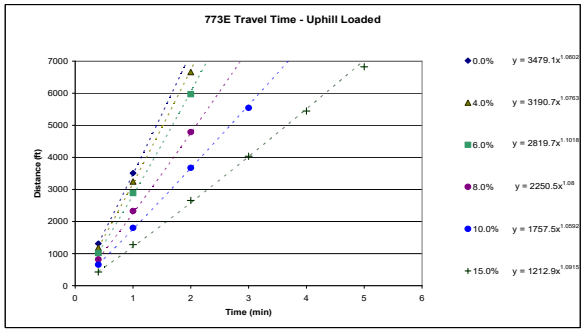


773E Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
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



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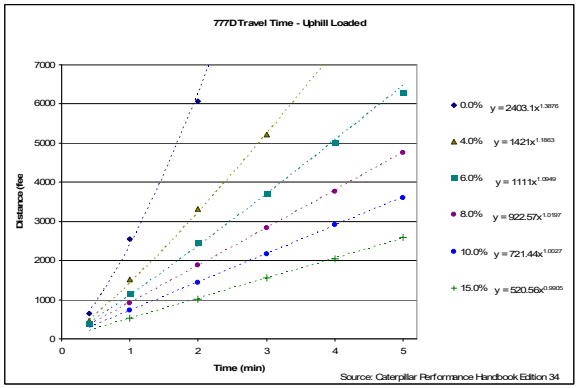
Productivity - Haul Trucks (cont.)

777D Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
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

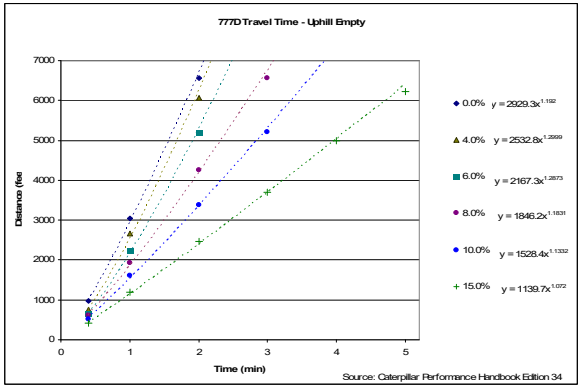


777D Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.4	1	2	3	4	5	k	p
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



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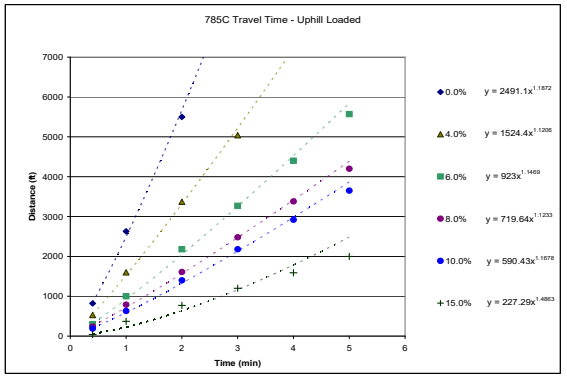
Productivity - Haul Trucks (cont.)

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

$$\text{Travel Time (min)} = \sqrt[p]{\frac{\text{distance}}{k}}$$

Source: Caterpillar Performance Handbook Edition 35

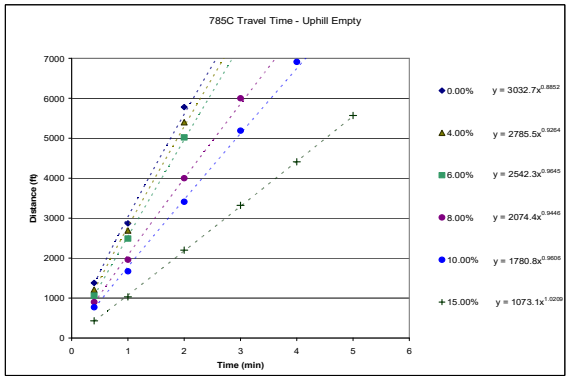


785C Haul Truck Travel Time - Uphill Empty

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

$$\text{Travel Time (min)} = \sqrt[p]{\frac{\text{distance}}{k}}$$

Source: Caterpillar Performance Handbook Edition 35



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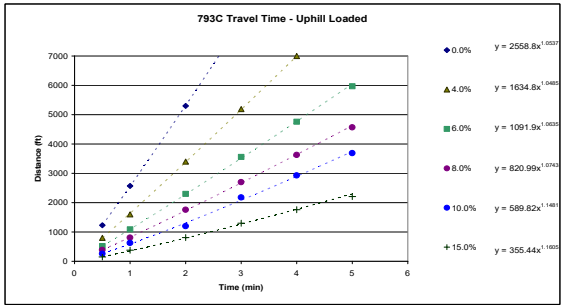
Productivity - Haul Trucks (cont.)

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

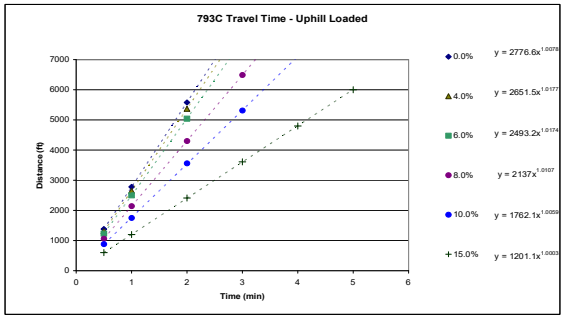


793C Haul Truck Travel Time - Uphill Empty

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



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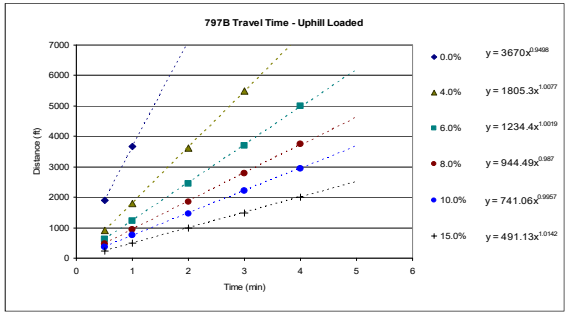
Productivity - Haul Trucks (cont.)

797B Haul Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
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

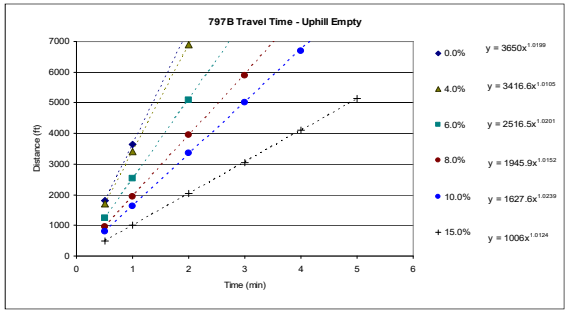


797B Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
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



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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

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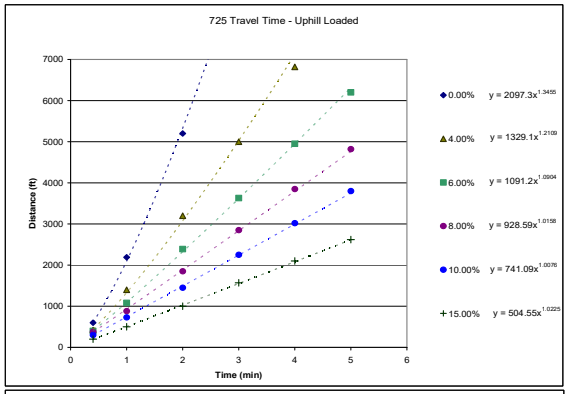
Productivity - Articulated Trucks (cont.)

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

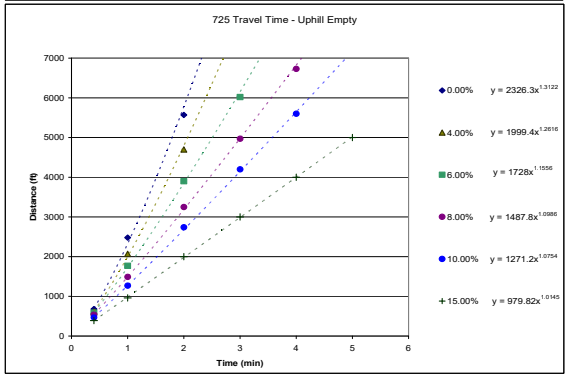


725 Haul Truck Travel Time - Uphill Empty

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



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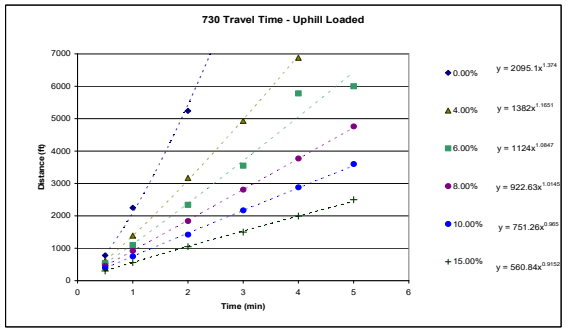
Productivity - Articulated Trucks (cont.)

730 Articulated Truck Travel Time - Uphill Loaded

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
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

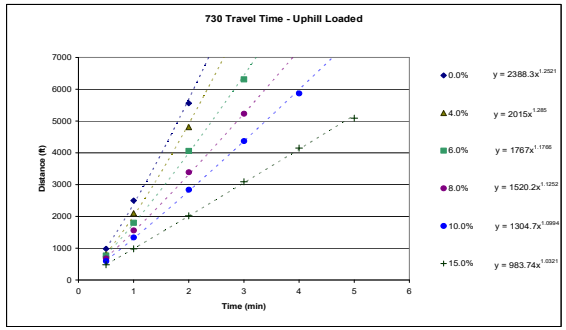


730 Haul Truck Travel Time - Uphill Empty

Total Resistance (%) (rolling + grade)	Time (min) 0.5	1	2	3	4	5	k	p
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



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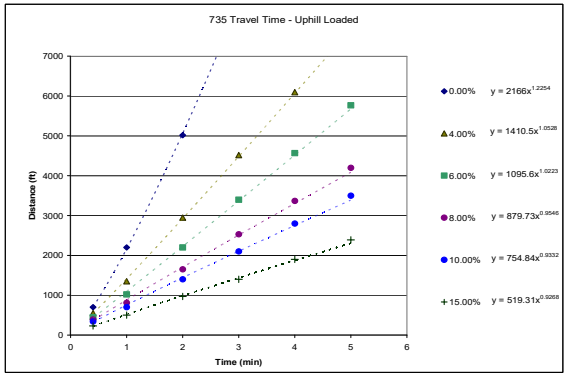
Productivity - Articulated Trucks (cont.)

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

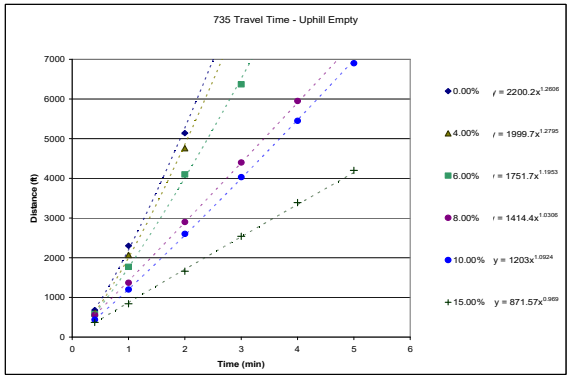


735 Haul Truck Travel Time - Uphill Empty

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



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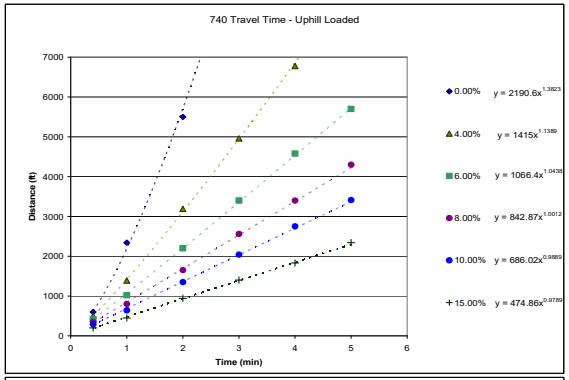
Productivity - Articulated Trucks (cont.)

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

$$\text{Travel Time (min)} = \sqrt[p]{\frac{\text{distance}}{k}}$$

Source: Caterpillar Performance Handbook Edition 35

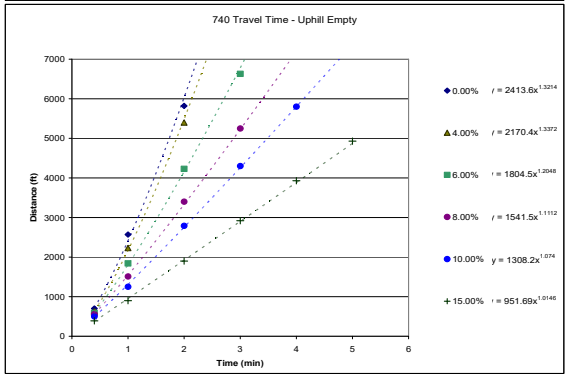


740 Haul Truck Travel Time - Uphill Empty

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

$$\text{Travel Time (min)} = \sqrt[p]{\frac{\text{distance}}{k}}$$

Source: Caterpillar Performance Handbook Edition 35



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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

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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

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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

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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	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
Perforation setup,trip in/out,tear-down	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

Soumce: 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

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Altitude Deration Table

MODEL	Elevation 0-760 m (0-2500') CAT	User	760-1500 m (2500-5000') CAT	User	1500-2300 m (5000-7000') CAT	User	2300-3000 m (7500-10,000') CAT	User	3000-3800 m (10,000-12,000') CAT	User	3800-4600 m (12,500-15,000') 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.

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STANDARDIZED RECLAMATION COST ESTIMATOR
User Tools
Version 1.4.1

These tools allow easy access to some useful VBA routines and macros that are include in this Model Version

Keyboard Shortcuts	
SHORTCUT KEYS	**ACTION**
Ctrl-Shift-C	***Go to Table of Contents***
Ctrl-Shift-O	***Open Toe Offset Calculator***
Ctrl-Shift-P	***Go to Property Information Sheet***
Ctrl-Shift-S	***Show Slope Conversion Table***
Ctrl-Shift-T	***Go to Tools sheet***
Ctrl-Shift-Z	***Paste Formulas -*** *First Use Ctrl-C to copy a range, then use the mouse (or keyboard) to select the paste range and then use this shortcut to paste formulas only from the copy range to the paste range. Equivalent to the Paste Special/Formulas command.*

Closure Cost Estimate
Seed Mixture

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Seed Mixture

Common Name	Scientific Name	Species Number of Seeds / lb	Species % in Mix	PLS/Ha	Cost/Lb	Cost/Ha
Grasses						
Forbs						
Blue Flax				0.62		
Small Burnet	*Sanguisorba minor*	55,000	1.57	1.24		
Forage Kochia	*Kochia prostrata var. Immigrant*	407,700	2.33	0.25		
Palmer Penstemon	*Penstemon palmeri*	610,000	3.49	0.25		
Shrubs						
Fourwing Saltbush	*Atriplex canescens*	52,000	5.95	1.85	9.60	$17.76
Antelope Bitterbrush	*Purshia tridentate*	15,000	0.43	2.47	33.60	$82.99
Winterfat	*Eurotia lanata*	111,000	1.59	0.62	34.62	$21.46
Wyoming Big Sagebrush	*Artemesia tridentata wyomingensis*	2,500,000	7.15	0.12	66.00	$7.92
Total				$7.42		$130.14

Source:

Notes:

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Closure Cost Estimate
User 1

Post Closure Road/Airport Maintenance Costs

This sheet estimates the annual cost for road and airport maintenance. The costs are entered in the Other User Sheet.

Equipment	Qty.	h/day/unit	Total hrs/year	Equip. Unit Costs ($)	Labor Unit Costs ($)	Total Annual Equip ($)	Total Annual Labor ($)	Total Annual Cost ($)
325C Excavator	1	0.5	182.5	$ 66.88	$ 60.81	$ 12,205.60	$ 11,097.83	$ 23,303.43
14G Grader, All-Wheel Drive, Cat 16H or Equivalent, site & off-site roads	1	0.5	182.5	$ 147.31	$ 60.81	$ 26,884.08	$ 11,097.83	$ 37,981.90
Water truck (5000 Gallon)	1	0.5	182.5	$ 45.06	$ 60.81	$ 8,223.45	$ 11,097.83	$ 19,321.28
CS533E Vibratory Roller	1	0.5	182.5	$ 53.21	$ 60.81	$ 9,710.83	$ 11,097.83	$ 20,808.65
Dump Truck, 12 cub yds, yard maintenance, snow removal	1	0.5	182.5	$ 34.92	$ 56.78	$ 6,372.90	$ 10,362.35	$ 16,735.25
Small Dozer D7R	1	0.5	182.5	$ 92.34	$ 60.81	$ 16,852.05	$ 11,097.83	$ 27,949.88
Light Truck (Truck and Foreman included in Water Treatment Crew)	0	0.5	0.0	$ 14.11	$ 30.47	$ -	$ -	$ -
Total Annual Costs (Entered in Other User Sheet)						**$ 80,248.90**	**$ 65,851.48**	**$ 146,100.38**

Closure Cost Estimate
User 2

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 2 - Bulk Fuel Storage Tanks Demolition

This sheet calculates the estimated cost to demolish the bulk steel storage tanks using a shear to cut and fold them. The tanks will then be hauled to the waste rock facility and buried.

	Labor	Equipment	Totals
Totals Added to the Other User sheet >>>	$342,048	$228,341	$570,389

User 2 - Bulk Fuel Storage Tanks Demolition

Demolition Crew			Haulage Crew	
1 Foreman	$ 50.39		Operator	$ 62.02
2 Laborer	$ 124.04		777 Haul Truck	$ 246.26
1 Operator	$ 60.81		Total Crew Cost	$ 308.28
1 Cat Excavator 345	$ 47.89			
1 Demolition Shear	$ 74.50			
Total Crew Cost ($/Hr)	$ 357.63			
Hours per tank	**48**		Includes loading onto 777 Haul Truck	
Number of Tanks	**29**			
Total Cost (Labor)	$ 327,449		Assume 500 gallons of rinse per tank.	
Total Cost (Equip)	$ 170,373		Total gallons	14500.0
			Total M3	54.8
Tons of Steel per Tank	**300**		Total Cost	20.8
Tons of Steel per Load	**20**		Water Treatment cost not added.	
Total Loads	405.0			
Haul Distance (meters)	**8,500**			
Travel Time Uphill (min)	**11**			
Travel Time Downhill (min)	8.8			
Load Dump Time	**15**			
Total Fleet Time (hrs)	235.4			
Total Cost (Labor)	$ 14,599			
Total Cost (Equip)	$ 57,967			

Bulk demolition time from 2/10/2009 tel. call with Fred Glueck of Plant Reclamation (California).
Fred estimated 1 week of crew time per bulk tank. Fred's company had demolished Barrick tanks at Tombo and McClaughlin.
1 day added for each tank to account for rinsing. Pumping and water treatment costs calculated in Solution Mnagement worksheet.
Shear: Genisis GXT 995R, Monthly rental quote from Bejac Equip (2017).

Closure Cost Estimate
User 3

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 3 - Miscellaneous Hazardous Waste Disposal

This sheet calculates the estimated cost to dispose of hazardous waste. Waste is hauled to Jung Port and loaded on barge to Seattle.

	Labor	Materials	Totals
Totals Added to the Other User sheet >>>	**$909,557**	**$454,778.45**	**$1,364,335**

User 3 - Miscellaneous Hazardous Waste Disposal			
	Amount Generated (Metric tonnes)	**Quantity (Real Tons)**	**Quantity (lbs)**
Mercury Contaminated Carbon	16.7	18	36,817
Autoclave Lead Waste - Bricks	200	220	440,920
Autoclave Lead Waste - Backing	50	55	110,230
Assay Lab Lead Waste	27.4	30	60,406
Total	**294.1**	324	648,373

Ave. Weight of drum (lbs)	**700**
# drums required	927

	2011 costs $/drum	Adjusted costs (see User 20)	
Disposal Costs	$ 410.00	$ 442.80	$ 410,475.60
Transportation (Seattle Port to Disposal)		$ 0.32	$ 207,131.79
Federal Tax (6.25%)			$ 12,945.74
Total Disposal Cost			**$ 630,553.12**

Transportation	2011 costs $/tonne (2,204 lbs)	Adjusted costs (see User 20)	
Mine to Jung ($/ton)	$ 20.00	$ 21.60	$ 6,352.56
Jung Handling ($/ton)	$ 20.00	$ 21.60	$ 6,352.56
Jung to Seattle ($/ton)	$ 265.00	$ 286.20	$ 84,171.42
Seattle Handling	$ 20.00	$ 21.60	$ 6,352.56
Total			$ 103,229.10
Grand Total			**$ 733,782.22**

Closure Cost Estimate
User 3

	2011 cost $/tonne (2,204 lbs)	Adjustment factor from 2011 (User	$/tonne (2,204 lbs)
Mine to Jung ($/ton)	$ 50.00	1.08	$ 54.00
Jung Port Handling ($/ton)	$ 20.00	1.08	$ 21.60
Jung to Seattle ($/ton)	$ 265.00	1.08	$ 286.20
Seattle Handling ($/ton)	$ 20.00	1.08	$ 21.60
Total			
	2011 cost	Adjustment factor from 2011 (User 20)	
Spent Antifreeze for Recycle	$ 155.00	1.08	$ 167.40
Spent (Non-regulated) Grease for Landfill	$ 245.00	1.08	$ 264.60
Non-regulated Fuels and Oils for Fuel Blending	$ 52.50	1.08	$ 56.70
Transportation $/lb (to Disp.)	$ 0.29	1.08	$ 0.31
Energy Surcharge (2%)			$ 0.01
Total			$ 0.32
Federal Tax (6.25%)			$ 0.02
Total Transportation ($/lb)			$ 0.34
Notes:			
Red entries area estimated.			
Fuel and oil assumed 7 lbs. per gallon			
Grease assumed 8 lbs per gallon.			
Mine transportation and handling costs from 4/19/2011 email from Les Scovell (AMEC) ("2011 Shipping Costs.docx")			

Closure Cost Estimate
User 4

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 4 - Tank Demolition and Disposal Costs	Labor	Equipment	Totals
Totals Added to the Other Demo & Equip Removal >>>	$90,283	$ 195,080.85	$ 285,364.20

This sheet calculates the cost to demolish and bury various steel tanks onsite except for the bulk diesel tanks which are calculated in User 2. Also vendor owned tanks are not demolished but will be picked up by vendor. A demolition shear is used to cut the tanks into manageable sizes, fold and load onto a truck for transport to the pit.

Demolition Crew	#	Labor	Equipment	Total
1 Foreman	1	$51		
2 Laborer	2	$70		
1 Cat Excavator 385	1	$61	$ 199.21	
1 Demolition Shear	1		$ 74.50	
Total Crew Cost ($/Hr)		**$182**	**$ 273.71**	**$ 455.82**

Shear				Total Rate
				$ 74.50

Haulage Crew	Labor	Equipment	Total
777 Haul Truck	$ 62.02	$ 246.26	
Total Crew Cost ($/hr)	**$ 62.02**	**$ 246.26**	**$ 308.28**
Load Time for Trucks (min)	**10**		
Cost to Load	**$ 10.34**	**$ 41.04**	**$ 51.38**
Demolition Crew Re-position between Tanks (15 Min)	**$ 45.53**	**$ 68.43**	**$ 113.96**
Average Haul Distance (m)	**8,500**		
Travel Time Uphill (min)	**11**		
Travel Time Downhill (min)	**9**		
Load Dump Time (min)	**15**		
Total Fleet Time per Load (min)	34.9		
Haulage Cost Per Load ($/hr)	**$ 36.05**	**$ 143.13**	**$ 179.18**
Total Load and Haul Cost per Load ($/Load)	**$ 153.93**	**$ 498.86**	**$ 652.79**

Notes: from: "Equipment List_RevK_Tanks and Vessels. DemoCost. PL.xls"

Closure Cost Estimate
User 5

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 5 - Equipment Mobilization

	Labor	Equipment	Totals
Totals Added to the Other User sheet >>>	$1,404,320	$2,808,640	$4,212,960

The sheet calculates the estimated cost to mobilize and demobilize equipment. Costs include barging and transport from the port at the mine to the project site. Cost also include assembly and disassemby on the larger pieces of equipment. Assumed 1/3 of total cost is labor.

User 5 - Equipment Mobilization

		Assembly/Disassembly			Equip. Time (2)	Shipping (Barge)		
EQUIPMENT TYPE (1)		Disassembly	Assembly	Total		Equip. Wt (lbs)	Total Tonnes	Shipping costs (3)
Bulldozers	**# of Units**							
D6R		$0.00	$0.00	$0.00	$0.00			
D6R w/ Winch		$0.00	$0.00	$0.00	$0.00			
D7R	4	$0.00	$0.00	$0.00	$40,600.00	55000	110.00	$69,750.00
D8R		$0.00	$0.00	$0.00	$0.00	83000		
D9R		$0.00	$0.00	$0.00	$0.00	109000		
D10R	4	$0.00	$0.00	$0.00	$105,000.00	144000	288.00	$181,320.00
D11R		$0.00	$0.00	$0.00	$0.00			
Wheeled Dozers								
824G		$0.00	$0.00	$0.00	$0.00			
834G		$0.00	$0.00	$0.00	$0.00			
844		$0.00	$0.00	$0.00	$0.00			
854G		$0.00	$0.00	$0.00	$0.00			
Motor Graders								
120H		$0.00	$0.00	$0.00	$0.00			
14G/H		$0.00	$0.00	$0.00	$0.00	41000		
16G/H	2	$0.00	$0.00	$0.00	$31,500.00	54000	$54.00	$45,810.00
24M		$0.00	$0.00	$0.00	$0.00			
Track Excavators								
312C		$0.00	$0.00	$0.00	$0.00			
320C		$0.00	$0.00	$0.00	$0.00			
325C		$0.00	$0.00	$0.00	$0.00	56000		
330C		$0.00	$0.00	$0.00	$0.00			
345B	4	$0.00	$0.00	$0.00	$45,080.00	105000	210.00	$100,730.00
365BL		$0.00	$0.00	$0.00	$0.00			
385BL	1	$0.00	$0.00	$0.00	$21,840.00	183000	91.50	$46,087.50
Scrapers								
631G		$0.00	$0.00	$0.00	$0.00			
637G					$0.00			
Wheeled Loaders								
924G		$0.00	$0.00	$0.00	$0.00			
928G	2	$0.00	$0.00	$0.00	$5,810.00	14000	7.00	$7,665.00
950G		$0.00	$0.00	$0.00	$0.00			
966G		$0.00	$0.00	$0.00	$0.00			
972G		$0.00	$0.00	$0.00	$0.00			
980G	2	$0.00	$0.00	$0.00	$23,310.00		0.00	$23,310.00
988G		$0.00	$0.00	$0.00	$0.00			
990		$0.00	$0.00	$0.00	$0.00			
992G	4	$0.00	$0.00	$0.00	$161,000.00	94000	47.00	$173,455.00
994D		$0.00	$0.00	$0.00	$0.00	191000		
L2350		$0.00	$0.00	$0.00	$0.00			

User 5 - Equipment Mobilization

Unload and Mobilize to site

EQUIPMENT TYPE (1)	Load/Unload (4) (hours)	Load/Unload (4) ($)	RSM Crew No.	RSM Bare Cost ($/hr)	Operator (Truck Driver) ($/Hr)	Total Cost (5)
Bulldozers						
D6R	1		A-3D			
D6R w/ Winch	1		A-3D			
D7R	1	$909.86	B-34N	$103.34	$56.78	$1,069.98
D8R	1		B-34K			
D9R	1		B-34K			
D10R	2	$1,819.72	B-34K	$105.38	$56.78	$2,144.04
D11R	3		B-34K			
Wheeled Dozers						
824G	1		B-34K			
834G	1		B-34K			
844	1		B-34K			
854G	1		B-34K			
Motor Graders						
120H	1		B-34N			
14G/H	1		Self			
16G/H	1	$909.86	Self	$304.06	$56.78	$1,270.70
24M	2		B-34K			
Track Excavators						
312C	1		B-34N			
320C	1		B-34N			
325C	1		B-34N			
330C	1		B-34N			
345B	1	$909.86	B-34K	$105.38	$56.78	$1,072.02
365BL	1		B-34K			
385BL	2	$1,819.72	B-34K	$105.38	$56.78	$2,144.04
Scrapers						
631G	1		B-34K			
637G	1		B-34K			
Wheeled Loaders						
924G	1		Self			
928G	1	$909.86	Self	$304.06	$56.78	$1,270.70
950G	1		Self			
966G	1		Self			
972G	1		Self			
980G	1	$909.86	Self	$304.06	$56.78	$1,270.70
988G	1		Self			
990	1		Self			
992G	2	$1,819.72	Self	$304.06	$56.78	$2,541.40
994D	3		Self			
L2350	4		Self			

Closure Cost Estimate
User 5

EQUIPMENT TYPE (1)		Disassembly	Assembly	Total	Equip. Time (2)	Equip. Wt (lbs)	Total Tonnes	Shipping costs (2)
Shovels								
PC2000		$0.00	$0.00	$0.00				
PC3000		$0.00	$0.00	$0.00				
PC4000		$0.00	$0.00	$0.00				
PC5500		$0.00	$0.00	$0.00				
PC8000		$0.00	$0.00	$0.00				
Hydraulic Hammers								
H-120 (fits 325)		$0.00	$0.00	$0.00	#VALUE!	3476		
H-160 (fits 345)	4	$0.00	$0.00	$0.00	$90,160.00	7784	15.60	$94,294.00
H-180 (fits 365/385)		$0.00	$0.00	$0.00	$0.00	9570		
Demolition Shears								
S340 (fits 322/325/330)		$0.00	$0.00	$0.00		10351		
S365 (fits 330/345)	1	$0.00	$0.00	$0.00	$22,500.00	15145	7.60	$24,514.00
S390 (fits 365/385)		$0.00	$0.00	$0.00		17580		
Demolition Grapples								
G315 (fits 322/325)		$0.00	$0.00	$0.00				
G320 (fits 325/330)		$0.00	$0.00	$0.00				
G330 (fits 345/365)		$0.00	$0.00	$0.00				
Other Equipment								
420D 4WD Backhoe	4	$0.00	$0.00	$0.00	$19,600.00	24251	12.10	$22,806.50
428D 4WD Backhoe		$0.00	$0.00	$0.00				
CS533E Vibratory Roller		$0.00	$0.00	$0.00		23900		
CS633E Vibratory Roller		$0.00	$0.00	$0.00		31901		
CP533E Sheepsfoot Compactor		$0.00	$0.00	$0.00		25750		
CP633E Sheepsfoot Compactor		$0.00	$0.00	$0.00		31901		
Light Truck - 1.5 Ton	4	$0.00	$0.00	$0.00	$13,160.00	20000	10.00	$15,810.00
Supervisor's Truck	2	$0.00	$0.00	$0.00	6,580	6000	3.00	$7,375.00
Flatbed Truck	4	$0.00	$0.00	$0.00	$13,160.00	20000	10.00	$15,810.00
Air Compressor + tools	2	$0.00	$0.00	$0.00	$4,500.00	2500	1.30	$4,844.50
Welding Equipment	2	$0.00	$0.00	$0.00	$11,901.87	1500	0.80	$12,113.90
Heavy Duty Drill Rig	1	$0.00	$0.00	$0.00	$116,037.56	40000	20.00	$121,337.60
Pump (plugging) Drill Rig	1	$0.00	$0.00	$0.00	$116,037.56	40000	20.00	$121,337.60
Concrete Pump	1	$0.00	$0.00	$0.00	$29,562.66	2500	1.30	$29,907.20
Gas Engine Vibrator		$0.00	$0.00	$0.00				
Generator 5KW	4	$0.00	$0.00	$0.00	$7,484.00		0.00	$7,484.00
HDEP Welder (Ram 824)	2	$0.00	$0.00	$0.00	$30,560.18	6600	3.30	$31,434.70
5 Ton Crane		$0.00	$0.00	$0.00	$0.00			
20 Ton Crane	4	$0.00	$0.00	$0.00	$53,200.00	42500	21.30	$58,844.50
50 Ton Crane	1	$0.00	$0.00	$0.00	$20,440.00		0.00	$20,440.00
120 Ton Crane	1	$0.00	$0.00	$0.00	$39,340.00	132000	66.00	$56,830.00
Trucks								
725		$0.00	$0.00	$0.00				
730		$0.00	$0.00	$0.00	#VALUE!			
735		$0.00	$0.00	$0.00	#VALUE!			
740		$0.00	$0.00	$0.00	#VALUE!	72973		
769D		$0.00	$0.00	$0.00				
773E		$0.00	$0.00	$0.00				
777D	10	$0.00	$0.00	$0.00	$581,000.00	175000	87.50	$604,187.50
785C		$0.00	$0.00	$0.00				
793C		$0.00	$0.00	$0.00				
797B		$0.00	$0.00	$0.00				
613E (5,000 gal) Water Wagon		$0.00	$0.00	$0.00				
621E (8,000 gal) Water Wagon		$0.00	$0.00	$0.00				
777D Water Truck	2	$0.00	$0.00	$0.00	$116,200.00	175000	87.50	$139,387.50
785C Water Truck		$0.00	$0.00	$0.00				
Dump Truck (10-12 yd3)	4	$0.00	$0.00	$0.00	$25,200.00	20000	10.00	$27,850.00

EQUIPMENT TYPE (1)	Load/Unload (3) (hours)	Load/Unload (3) ($)	RSM Crew No.		Operator (Truck Driver) ($/Hr)	Total Cost (4)
Shovels						
PC2000						
PC3000						
PC4000						
PC5500						
PC8000						
Hydraulic Hammers						
H-120 (fits 325)	1		NA			
H-160 (fits 345)	1	$909.86	NA	$304.06	$56.78	$1,270.70
H-180 (fits 365/385)	1		NA			
Demolition Shears						
S340 (fits 322/325/330)	1		NA			
S365 (fits 330/345)	1	$909.86	NA	$304.06	$56.78	$1,270.70
S390 (fits 365/385)	1		NA			
Demolition Grapples						
G315 (fits 322/325)			NA			
G320 (fits 325/330)			NA			
G330 (fits 345/365)			NA			
Other Equipment						
420D 4WD Backhoe	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
428D 4WD Backhoe	1		A-3D			
CS533E Vibratory Roller	1		B-34N			
CS633E Vibratory Roller	1		B-34N			
CP533E Sheepsfoot Compactor	1		B-34N			
CP633E Sheepsfoot Compactor	1		B-34N			
Light Truck - 1.5 Ton	1	$909.86	Self	$304.06	$56.78	$1,270.70
Supervisor's Truck	1	$909.86	Self	$304.06	$56.78	$1,270.70
Flatbed Truck	1	$909.86	Self	$304.06	$56.78	$1,270.70
Air Compressor + tools	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
Welding Equipment	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
Heavy Duty Drill Rig	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
Pump (plugging) Drill Rig	1	$909.86	Self	$304.06	$56.78	$1,270.70
Concrete Pump	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
Gas Engine Vibrator	1		A-3D			
Generator 5KW	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
HDEP Welder (Ram 824)	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
5 Ton Crane	1		Self			
20 Ton Crane	1	$909.86	Self	$304.06	$56.78	$1,270.70
50 Ton Crane	2	$1,819.72	Self	$304.06	$56.78	$2,541.40
120 Ton Crane	3	$2,729.58	Self	$304.06	$56.78	$3,812.10
Trucks						
725	1					
730	1					
735	11					
740	1		Self			
769D	1					
773E	1					
777D	2	$1,819.72	Self	$304.06	$56.78	$2,541.40
785C	2					
793C	2					
797B	2					
613E (5,000 gal) Water Wagon	1					
621E (8,000 gal) Water Wagon	1					
777D Water Truck	2	$1,819.72	Self	$304.06	$56.78	$2,541.40
785C Water Truck	2					
Dump Truck (10-12 yd3)	1	$909.86	Self	$304.06	$56.78	$1,270.70

Total Mobilization	**$2,106,480.00**
Total De-mobilization	**$2,106,480.00**
Grand Total	**$4,212,960.00**

1. Equipment barged from Anchorage.
2. Mobilization assumed 2-weeks charged for each piece of equipment.

Closure Cost Estimate
User 7

File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 7 - Remove sheet piling - Jung Port			
	Labor	Equipment	Totals
Totals Added to the Other User sheet >>>	$99,580	$127,023	$226,602
This sheet calculates the estimated time to remove sheet piling at the Jung Port and haul to the project site for burial.			

Remove sheet piling - Jung Port					
Crew		Quantity	Hourly Cost	Hours	Total Cost
Laborers		3	$ 62.02	207	$ 38,590
Foreman		1	$ 50.39	207	$ 10,451
Crane Operator		1	$ 58.82	207	$ 12,200
Oiler Mechanic		1	$ 62.02	207	$ 12,863
Haulage and Burial					
Operator (D8)		1	$ 60.81	207	$ 12,612
Operator (785)		1	$ 62.02	207	$ 12,863
				Total Labor	**$ 99,580**
Equipment					
50 ton crane		1	$ 71.78	207	$ 14,888
Lube Vehicle	Lube Vehicle	1	$ 246.26	207	$ 51,076
Haulage and Burial					
Dozer D10		1	$ 48.13	207	$ 9,983
777 Haul Truck		1	$ 246.26	207	$ 51,076
				Total Equipment	**$ 127,023**

Assumptions:			
Quantity of sheet piling (linear ft)	1400		
Crew Hours	207		
Crew Productivity	54	Linear feet per day	
	6.75	Linear feet per hour	

Note: Oiler labor same rate as skilled tradesman
Lube vehicle assumed same cost as 777.
Crew and productivity from RS Means 2009, 02.41.13.72-0400.

Closure Cost Estimate
User 8

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamatio
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xl
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 1 - Camp Costs

This sheet calculates the estimated cost mobilize the reclamation and closure crew to and from the site. This also includes the man camp cost for them to stay at the project site during their rotation. Labor and materials are assumed to be broken out 50-50.

User 8 Camp and Crew Mobilization Costs	Cost per man/day	Travel Costs per shift/man
Camp Cost per shift* (2 Way)	$ 120.00	$ 340.00
Rotations per season	26	26
Days per Rotation/man	14	
Trips per Rotation		1
Costs per season/man	$ 43,680	$ 8,840
Crew size (Average for 4 years)	23	23

Annual cost	$ 1,004,640	$ 203,320
*Note: The daily camp rate of $120 includeds cost of power generation.		

Water treatment crew costs	Cost per man/day	Travel Costs per shift/man
Camp Cost per shift*	$ 120.00	$ 340.00
Rotations per season	26	26
Days per Rotation/man	14	
Trips per Rotation		1
Costs per season/man	$ 43,680	$ 8,840
Crew size	7	7

Annual costs	$ 305,760	$ 61,880
*Note: The daily camp rate of $120 includeds cost of power generation.		

Closure Cost Estimate
User 9

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 9 - Manpower Estimate

This worksheet sums the fleet hours for each piece of equipment by worksheet and facility. This is used to estimate the number of crew and number of pieces of equipment required to complete the reclamation and closure.

Op Hours/Year	4,320
Total Man-hours over closure period	17,280

Sheet	Activity	Facility	Fleet type	Component 1	Component 2	Component 3	total # Equip.	Fleet hours	Tot. Man-hrs	Grand Total (Man-hrs)	Grand Total (Man-hrs)
Waste Rock Dumps	Grading	WRDF (Operation Year 3 Configuration) - 1	D10R	1			1	128	128		
		WRDF (Operation Year 3 Configuration) - 2	D10R	1			1	135	135		
		WRDF (Operation Year 3 Configuration) - 3	D10R	1			1	427	427		
		WRDF (Operation Year 3 Configuration) - 4	D10R	1			1	124	124		
		WRDF (Operation Year 3 Configuration) - 5	D10R	1			1	102	102		
		WRDF (Operation Year 3 Configuration) - 6	D10R	1			1	97	97		
		Ore Stockpile (Operation Year 3 Configuration) - 1	D10R	1			1	55	55		
		Ore Stockpile (Operation Year 3 Configuration) - 2	D10R	1			1	2	2		
										1,070	1070
	Cover Placement	WRDF (Operation Year 3 Configuration) - 1	777D/992G	1	5	1	7	58	406		
		WRDF (Operation Year 3 Configuration) - 2	777D/992G	1	5	1	7	192	1,344		
		WRDF (Operation Year 3 Configuration) - 3	777D/992G	1	5	1	7	473	3,311		
		WRDF (Operation Year 3 Configuration) - 4	777D/992G	1	5	1	7	175	1,225		
		WRDF (Operation Year 3 Configuration) - 5	777D/992G	1	5	1	7	317	2,219		
		WRDF (Operation Year 3 Configuration) - 6	777D/992G	1	5	1	7	229	1,603		
		Ore Stockpile (Operation Year 3 Configuration) - 1	777D/992G	1	3	1	5	102	510		
		Ore Stockpile (Operation Year 3 Configuration) - 2	777D/992G	1	3	1	5	59	295		
										10,913	10913
	Topsoil Placement	WRDF (Operation Year 3 Configuration) - 1	777D/992G	1	7	1	9	61	549		
		WRDF (Operation Year 3 Configuration) - 2	777D/992G	1	7	1	9	201	1,809		
		WRDF (Operation Year 3 Configuration) - 3	777D/992G	1	7	1	9	495	4,455		
		WRDF (Operation Year 3 Configuration) - 4	777D/992G	1	7	1	9	183	1,647		
		WRDF (Operation Year 3 Configuration) - 5	777D/992G	1	7	1	9	331	2,979		
		WRDF (Operation Year 3 Configuration) - 6	777D/992G	1	7	1	9	240	2,160		
		Ore Stockpile (Operation Year 3 Configuration) - 1	777D/992G	1	4	1	6	112	672		
		Ore Stockpile (Operation Year 3 Configuration) - 2	777D/992G	1	4	1	6	64	384		
										14,655	14655
	Ripping	WRDF (Operation Year 3 Configuration) - 1	D10R	1			1	21	21		
		WRDF (Operation Year 3 Configuration) - 2	D10R	1			1	71	71		
		WRDF (Operation Year 3 Configuration) - 3	D10R	1			1	178	178		
		WRDF (Operation Year 3 Configuration) - 4	D10R	1			1	66	66		
		WRDF (Operation Year 3 Configuration) - 5	D10R	1			1	117	117		
		WRDF (Operation Year 3 Configuration) - 6	D10R	1			1	86	86		
		Ore Stockpile (Operation Year 3 Configuration) - 1	D10R	1			1	35	35		
		Ore Stockpile (Operation Year 3 Configuration) - 2	D10R	1			1	21	21		
										595	595
Tailings	Embankment grad.	Tailings Storage Area (Operation Year 3 Configuration)	D10R	1			1		-	**0**	0
	Surface regrading	Tailings Storage Area (Operation Year 3 Configuration)	D10R	1			1	101	101	**101**	101
	Cover Placement	Tailings Storage Area (Operation Year 3 Configuration)	777D/992G	1	1	4	6	1,048	6,288	**6,288**	6288
	Topsoil Placement	Tailings Storage Area (Operation Year 3 Configuration)	777D/992G	1	1	4	6	1,213	7,278	**7,278**	7278
	Ripping	Tailings Storage Area (Operation Year 3 Configuration)	16G/H	1			1	455	455	**455**	455

Closure Cost Estimate
User 9

Roads	Grading									
		LAH-1-ORIG	345B	**2**			2	119	238	
		LAH-2-ORIG	D10R	**1**			1	28	28	
		LAH-ACCESS-1	D10R	**1**			1	13	13	
		LAH-ACCESS-4	D10R	**1**			1	2	2	
		LAO-1	345B	**2**			2	79	158	
		LCF-1	D10R	**1**			1	25	25	
		LCF-2-DAM	345B				0	112	-	
		LMF-1	345B				0	150	-	
		LMF-2	D10R	**1**			1	299	299	
		LMF-2-OPT	D10R	**1**			1	26	26	
		SCF-1	D10R	**1**			1	66	66	
		SCF-2	D10R	**1**			1	18	18	
		SCF-2-OPT-2	D10R	**1**			1	57	57	
		SCF-3	345B	**2**			2	2	4	
		JUNGJUK	D10R	**1**			1	51	51	
		Other Road - ID16	345B	**2**			2	744	1,488	
		Other Road - ID17	D10R	**1**			1	222	222	
		Other Road - ID18	D10R	**1**			1	109	109	
		Other Road - ID19	D10R	**1**			1	60	60	
		Other Road - ID20	D10R	**1**			1	15	15	
		Other Road - ID21	D10R	**1**			1	27	27	
		Other Road - ID22	D10R	**1**			1	94	94	
		Other Road - ID23	D10R	**1**			1	14	14	
		Other Road - ID24	D10R	**1**			1	35	35	
		Other Road - ID25	D10R	**1**			1	18	18	
		Other Road - ID26	345B	**2**			2	14	28	
		Other Road - ID27	D10R	**1**			1	1	1	
		Other Road - ID28	D10R	**1**			1	3	3	
		Other Road - ID29	D10R	**1**			1	1	1	
		Other Road - ID30	D10R	**1**			1	2	2	
		Other Road - ID31	D10R	**1**			1	21	21	
		Other Road - ID32	D10R	**1**			1	9	9	
		Other Road - ID33	D10R	**1**			1	2	2	
		Other Road - ID34	D10R	**1**			1	7	7	
		Other Road - ID35	D10R	**1**			1	24	24	
		Other Road - ID36	D10R	**1**			1	43	43	
		Other Road - ID37	D10R	**1**			1	9	9	
		Other Road - ID38	D10R	**1**			1	1	1	
										3,218
	Cover Placement	LAH-1-ORIG	777D/992G	**1**	2	1	4	73	292	
		LAH-2-ORIG	777D/992G	**1**	2	1	4	15	60	
		LAH-ACCESS-1	777D/992G	**1**	2	1	4	8	32	
		LAH-ACCESS-4	777D/992G	**1**	2	1	4	1	4	
		LAO-1	777D/992G	**1**	2	1	4	52	208	
		LCF-1	777D/992G	**1**	2	1	4	22	88	
		LCF-2-DAM	777D/992G	**1**	2	1	4	67	268	
		LMF-1	777D/992G	**1**	2	1	4	60	240	
		LMF-2	777D/992G	**1**	2	1	4	150	600	
		LMF-2-OPT	777D/992G	**1**	2	1	4	5	20	
		SCF-1	777D/992G	**1**	2	1	4	29	116	
		SCF-2	777D/992G	**1**	2	1	4	40	160	
		SCF-2-OPT-2	777D/992G	**1**	2	1	4	8	32	
		SCF-3	777D/992G	**1**	2	1	4	77	308	
		JUNGJUK	777D/992G	**1**	2	1	4	32	128	
		Other Road - ID16	777D/992G	**1**	2	1	4	31	124	
		Other Road - ID17	777D/992G	**1**	2	1	4	28	112	

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Closure Cost Estimate
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		Other Road - ID18	777D/992G	1	2	1	4	28	112		
		Other Road - ID19	777D/992G	1	2	1	4	27	108		
		Other Road - ID20	777D/992G	1	2	1	4	9	36		
		Other Road - ID21	777D/992G	1	2	1	4	12	48		
		Other Road - ID22	777D/992G	1	2	1	4	21	84		
		Other Road - ID23	777D/992G	1	2	1	4	7	28		
		Other Road - ID24	777D/992G	1	2	1	4	3	12		
		Other Road - ID25	777D/992G	1	2	1	4	9	36		
		Other Road - ID26	777D/992G	1	2	1	4	22	88		
		Other Road - ID27	777D/992G	1	2	1	4	4	16		
		Other Road - ID28	777D/992G	1	2	1	4	14	56		
		Other Road - ID29	777D/992G	1	2	1	4	1	4		
		Other Road - ID30	777D/992G	1	2	1	4	1	4		
		Other Road - ID31	777D/992G	1	2	1	4	1	4		
		Other Road - ID32	777D/992G	1	2	1	4	1	4		
		Other Road - ID33	777D/992G	1	2	1	4	1	4		
		Other Road - ID34	777D/992G	1	2	1	4	5	20		
		Other Road - ID35	777D/992G	1	2	1	4	1	4		
		Other Road - ID36	777D/992G	1	2	1	4	1	4		
		Other Road - ID37	777D/992G	1	2	1	4	2	8		
		Other Road - ID38	777D/992G	1	2	1	4	3	12		
										3,484	3484
	Ripping	LAH-1-ORIG	Med Dozer	1			1	27	27		
		LAH-2-ORIG	Med Dozer	1			1	6	6		
		LAH-ACCESS-1	Med Dozer	1			1	3	3		
		LAH-ACCESS-4	Med Dozer	1			1	1	1		
		LAO-1	Med Dozer	1			1	20	20		
		LCF-1	Med Dozer	1			1	8	8		
		LCF-2-DAM	Med Dozer	1			1	23	23		
		LMF-1	Med Dozer	1			1	22	22		
		LMF-2	Med Dozer	1			1	54	54		
		LMF-2-OPT	Med Dozer	1			1	1	1		
		SCF-1	Med Dozer	1			1	11	11		
		SCF-2	Med Dozer	1			1	15	15		
		SCF-2-OPT-2	Med Dozer	1			1	3	3		
		SCF-3	Med Dozer	1			1	30	30		
		JUNGJUK	Med Dozer	1			1	11	11		
		Other Road - ID16	Med Dozer	1			1	11	11		
		Other Road - ID17	Med Dozer	1			1	10	10		
		Other Road - ID18	Med Dozer	1			1	10	10		
		Other Road - ID19	Med Dozer	1			1	10	10		
		Other Road - ID20	Med Dozer	1			1	3	3		
		Other Road - ID21	Med Dozer	1			1	4	4		
		Other Road - ID22	Med Dozer	1			1	8	8		
		Other Road - ID23	Med Dozer	1			1	3	3		
		Other Road - ID24	Med Dozer	1			1	1	1		
		Other Road - ID25	Med Dozer	1			1	3	3		
		Other Road - ID26	Med Dozer	1			1	8	8		
		Other Road - ID27	Med Dozer	1			1	2	2		
		Other Road - ID28	Med Dozer	1			1	5	5		
		Other Road - ID29	Med Dozer	1			1	1	1		
		Other Road - ID30	Med Dozer	1			1	1	1		
		Other Road - ID31	Med Dozer	1			1	1	1		
		Other Road - ID32	Med Dozer	1			1	1	1		
		Other Road - ID33	Med Dozer	1			1	1	1		
		Other Road - ID34	Med Dozer	1			1	2	2		
		Other Road - ID35	Med Dozer	1			1	1	1		
		Other Road - ID36	Med Dozer	1			1	1	1		
		Other Road - ID37	Med Dozer	1			1	1	1		
		Other Road - ID38	Med Dozer	1			1	1	1		
										324	324

Closure Cost Estimate
User 9

Pits	Berm construction	Pit 1 (Operation Year 3 Configuration)	777D/992G	1	2	1	4	70	280		
		Pit 2 (Operation Year 3 Configuration)	777D/992G	1	2	1	4	35	140		
Hauling material	Hauling/Crush/Screen/Compact										
		NAG waste rock - 1 M	777D/992G	1	1	5	7	3675	25,725		
		Tailings capillary break layer - 1 Meter	777D/992G	1	1	5	7	3,675	25,725		
		Removal of Contact Pond Dam	777D/992G	1	1	7	9	287	2,583		
		Removal of Rock Groyne (Primary Crusher)	777D/992G	1	1	2	4	502	2,008		
		Reclaimed WRF Runoff Collection Channel - liner bedding	777D/992G	1	1	3	5	22	110		
		Reclaimed WRF Runoff Collection Channel - pea gravel	777D/992G	1	1	3	5	8	40		
		Upper Contact Water Pond Backfill, growth media, reveg	777D/992G	1	1	2	4	4,242	16,968		
		Lower CWD Breach and Slope (not reclaimed in Mine Year		1	1		2		-		
		Snow Gulch Fresh Water Dam Breach	777D/992G	1	1	2	4	498	1,992		
		Primary Channel (WRF) cushion layer	777D/992G	1	1	10	12	346	4,152		
		Primary Channel (WRF) Armor Layer	777D/992G	1	1	10	12	210	2,520		
		Secondary Channel (WRF) Armor Layer	777D/992G	1	1	10	12	90	1,080		
										82,903	82903
Buildings	Slab demolition	Mine Site Washbay	345B	1			1	196	196		
		Mine Site Truck Shop	345B	1			1	2,197	2,197		
		Repair Shop	345B	1			1	162	162		
		Primary Crusher	345B	1			1	158	158		
		Primary Crusher - Concrete	345B	1			1	113	113		
		Primary Crusher - Steel Bldg. Below Ground	345B	1			1	49	49		
		Primary Crusher - Steel Bldg. Above Ground	345B	1			1	76	76		
		Take-up Tower	345B	1			1	55	55		
		Conveyor (Total)	345B	1			1	94	94		
		Drive House	345B	1			1	85	85		
		Ore Stockpile Cover	345B	1			1	0	-		
		Pebble Crusher	345B	1			1	243	243		
		Grinding Building	345B	1			1	2,103	2,103		
		Ball Mill Foundations (two total)	345B	1			1	23	23		
		Ball Mill Foundations (Concr.Piers Above Grade Slab.)	345B	1			1	25	25		
		SAG Mill Foundation	345B	1			1	14	14		
		SAG Mill Foundation (Concr.Piers Above Grade Slab.)	345B	1			1	14	14		
		POX Process Building - High Section	345B	1			1	1,439	1,439		
		POX Process Building - Lower Section	345B	1			1	1,555	1,555		
		POX Process Building - End additioin	345B	1			1	96	96		
		POX Misc. Small Tanks (8)	345B	1			1	8	8		
		Autoclaves (2)	345B	1			1	19	19		
		Stock Tanks Concrete Contain.	345B	1			1	12	12		
		Concrete Thickener Concrete	345B	1			1	12	12		
		Flot./POX Thickener Concrete	345B	1			1	0	-		
		Hot Cure Tanks	345B	1			1	122	122		
		Flotation Building	345B	1			1	5,249	5,249		
		CIL Building	345B	1			1	1,903	1,903		
		Refinery	345B	1			1	352	352		
		Cyanide Reagent Building	345B	1			1	1,404	1,404		
		Water Treatment Plant Building - Construction	345B	1			1	31	31		
		Water Treatment Plant Building - Operation	345B	1			1	212	212		
		Man Camp - Airstrip	345B	1			1	221	221		
		Man Camp - Airstrip	345B	1			1	221	221		
		Man Camp - Airstrip	345B	1			1	334	334		
		Man Camp - Airstrip	345B	1			1	334	334		
		Man Camp - Airstrip	345B	1			1	245	245		
		Man Camp - Airstrip	345B	1			1	353	353		
		STP Building	345B	1			1	20	20		
		Power Station A/B Buildings	345B	1			1	701	701		
		Power Station A Gensets	345B	1			1	55	55		
		Power station A Transformers	345B	1			1	25	25		
		Power Station A Tanks	345B	1			1	78	78		
		Power Station A Building	345B	1			1	112	112		
		Power Station A Building (small)	345B	1			1	45	45		
		Power Station B Gensets	345B	1			1	55	55		

Closure Cost Estimate
User 9

		Power station B Transformers	345B	1			1	25	25		
		Power Station B Tanks	345B	1			1	78	78		
		Power Station B Building (small)	345B	1			1	45	45		
		Cold Storage Building	345B	1			1	114	114		
		Autoclave Feed Tanks	345B	1			1	59	59		
		Quench/Flash/Heaters	345B	1			1	55	55		
		Absorber Towers	345B	1			1	4	4		
		Cooling Towers	345B	1			1	15	15		
		Mercury Scrubbing	345B	1			1	7	7		
		Quench Building (60 m total H)	345B	1			1	545	545		
		Autoclave	345B	1			1	19	19		
		HP cooling tank	345B	1			1	26	26		
		Demin Tank	345B	1			1	7	7		
		Seal Water Tank	345B	1			1	2	2		
		Autoclave Feed Pumps	345B	1			1	1	1		
		LP Column	345B	1			1	19	19		
		HP Column	345B	1			1	19	19		
		Main Heat Exchanger	345B	1			1	25	25		
		Wash Water Tower	345B	1			1	4	4		
		Chilled Water Tower	345B	1			1	4	4		
		Compressors (3)	345B	1			1	71	71		
		Warehouse	345B	1			1	167	167		
		Boiler Room	345B	1			1	99	99		
		STP Building	345B	1			1	93	93		
		Utilidor	345B	1			1	98	98		
		RO plant (not to be demolished, required for treatment)	345B	1			1	0	-		
										22,419	47215.28
	Cover Placement	Mine Site Washbay	777D/992G	1	1		2	1	2		
		Mine Site Truck Shop	777D/992G	1	1		2	13	26		
		Repair Shop	777D/992G	1	1		2	3	6		
		Primary Crusher	777D/992G	1	1		2	1	2		
		Primary Crusher - Concrete	777D/992G	1	1		2	1	2		
		Primary Crusher - Steel Bldg. Below Ground	777D/992G	1	1		2	1	2		
		Primary Crusher - Steel Bldg. Above Ground	777D/992G	1	1		2	1	2		
		Take-up Tower	777D/992G	1	1		2	3	6		
		Conveyor (Total)	777D/992G	1	1		2	6	12		
		Drive House	777D/992G	1	1		2	1	2		
		Ore Stockpile Cover		1			1		-		
		Pebble Crusher	777D/992G	1	1		2	1	2		
		Grinding Building	777D/992G	1	1		2	7	14		
		Ball Mill Foundations (two total)	777D/992G	1	1		2	11	22		
		Ball Mill Foundations (Concr.Piers Above Grade Slab.)	777D/992G	1	1		2	3	6		
		SAG Mill Foundation	777D/992G	1	1		2	7	14		
		SAG Mill Foundation (Concr.Piers Above Grade Slab.)	777D/992G	1	1		2	2	4		
		POX Process Building - High Section	777D/992G	1	1		2	3	6		
		POX Process Building - Lower Section	777D/992G	1	1		2	6	12		
		POX Process Building - End additioin	777D/992G	1	1		2	1	2		
		POX Misc. Small Tanks (8)	777D/992G	1	1		2	1	2		
		Autoclaves (2)	777D/992G	1	1		2	1	2		
		Stock Tanks Concrete Contain.	777D/992G	1	1		2	14	28		
		Concrete Thickener Concrete	777D/992G	1	1		2	15	30		
		Flot./POX Thickener Concrete	777D/992G	1	1		2	54	108		
		Hot Cure Tanks	777D/992G	1	1		2	1	2		
		Flotation Building	777D/992G	1	1		2	18	36		
		CIL Building	777D/992G	1	1		2	6	12		
		Refinery	777D/992G	1	1		2	1	2		
		Cyanide Reagent Building	777D/992G	1	1		2	5	10		
		Water Treatment Plant Building - Construction	777D/992G	1	1		2	1	2		
		Water Treatment Plant Building - Operation	777D/992G	1	1		2	2	4		
		Man Camp - Airstrip	777D/992G	1	1		2	1	2		
		Man Camp - Airstrip	777D/992G	1	1		2	1	2		
		Man Camp - Airstrip	777D/992G	1	1		2	2	4		
		Man Camp - Airstrip	777D/992G	1	1		2	2	4		

Closure Cost Estimate
User 9

		Man Camp - Airstrip	777D/992G	1	1		2	1	2		
		Man Camp - Airstrip	777D/992G	1	1		2	3	6		
		STP Building	777D/992G	1	1		2	1	2		
		Power Station A/B Buildings	777D/992G	1	1		2	6	12		
		Power Station A Gensets	777D/992G	1	1		2	2	4		
		Power station A Transformers	777D/992G	1	1		2	1	2		
		Power Station A Tanks	777D/992G	1	1		2	1	2		
		Power Station A Building	777D/992G	1	1		2	1	2		
		Power Station A Building (small)	777D/992G	1	1		2	1	2		
		Power Station B Gensets	777D/992G	1	1		2	2	4		
		Power station B Transformers	777D/992G	1	1		2	1	2		
		Power Station B Tanks	777D/992G	1	1		2	1	2		
		Power Station B Building (small)	777D/992G	1	1		2	1	2		
		Cold Storage Building	777D/992G	1	1		2	1	2		
		Autoclave Feed Tanks	777D/992G	1	1		2	1	2		
		Quench/Flash/Heaters	777D/992G	1	1		2	1	2		
		Absorber Towers	777D/992G	1	1		2	1	2		
		Cooling Towers	777D/992G	1	1		2	1	2		
		Mercury Scrubbing	777D/992G	1	1		2	1	2		
		Quench Building (60 m total H)	777D/992G	1	1		2	2	4		
		Autoclave	777D/992G	1	1		2	1	2		
		HP cooling tank	777D/992G	1	1		2	1	2		
		Demin Tank	777D/992G	1	1		2	1	2		
		Seal Water Tank	777D/992G	1	1		2	1	2		
		Autoclave Feed Pumps	777D/992G	1	1		2	1	2		
		LP Column	777D/992G	1	1		2	1	2		
		HP Column	777D/992G	1	1		2	1	2		
		Main Heat Exchanger	777D/992G	1	1		2	1	2		
		Wash Water Tower	777D/992G	1	1		2	1	2		
		Chilled Water Tower	777D/992G	1	1		2	1	2		
		Compressors (3)	777D/992G	1	1		2	1	2		
		Warehouse	777D/992G	1	1		2	2	4		
		Boiler Room	777D/992G	1	1		2	1	2		
		STP Building	777D/992G	1	1		2	1	2		
		Utilidor	777D/992G	1	1		2	2	4		
		RO plant (not to be demolished, required for treatment)		1			1		-		
										488	488
Drainage	Construction	Reclaimed WRF RO Collection	345B	1			1	239	239		
		Primary Channel (WRF)	345B	1			1	689	689		
		Secondary Channel (WRF)	345B	1			1	308	308		
		Tailings spillway construction (excavation volume in User 11	345B	1			1	1,053	1,053		
										2,289	2289
Process Ponds	Backfilling	TSF seepage pond (required long-term for water treatment)	777D/992G	1	4		5	56	280		
	Topsoil	TSF seepage pond (required long-term for water treatment)	777D/992G	1	6		7	6	42		
	Liner cut/fold	TSF seepage pond (required long-term for water treatment)		1			1	16	16		
										338	338
Yards	Grading	Permanent Man Camp Yards	Med	1			1	158	158		158
		Material Sites - 1	Med	1			1	119	119		119
		Material Sites - 2	Med	1			1	44	44		44
		Material Sites - 3	Med	1			1	61	61		61
		Material Sites - 4	Med	1			1	896	896		896
		Material Sites - 5	Med	1			1	20	20		20
		Material Sites - 6	Med	1			1	96	96		96
		Material Sites - 7	Med	1			1	94	94		94
		Material Sites - 8	Med	1			1	12	12		12
		Material Sites - 9	Med	1			1	105	105		105
		Material Sites - 10	Med	1			1	45	45		45
		Material Sites - 11	Med	1			1	68	68		68
		Material Sites - 12	Med	1			1	93	93		93
		Material Sites - 13	Med	1			1	158	158		158
		Material Sites - 14	Med	1			1	105	105		105
		Jung Port Disturbance (not reclaimed)	0	1			1		-		0

Closure Cost Estimate
User 9

		Mine Borrow Areas	Med	1			1	789	789		789
		Growth media - TSF Stockpile 1	Med	1			1	581	581		581
		Growth media - TSF Stockpile 2	Med	1			1	453	453		453
		Growth media - TSF Stockpile 2	Med	1			1	453	453		453
		Growth media - North Overburden Stockpile 2028	Med	1			1	505	505		505
		Growth media - Airstrip Overburden Stockpile	Med	1			1	25	25		25
		Growth media - Airstrip Overburden Stockpile	Med	1			1	26	26		26
		Growth media - Jungjuk Port Site Overburden Stockpile	Med	1			1	22	22		22
		Growth media - South Overburden Stockpile 2019	Med	1			1	822	822		822
		Growth media - South Overburden Stockpile 2019	Med	1			1	822	822		822
		Misc. Yards	Med	1			1	1,680	1,680		1680
		Plant Site	Med	1			1	104	104		104
		Primary Crusher	Med	1			1	20	20		20
		Truck Shop	Med	1			1	1	1		1
		Airstrip (Not Reclaimed)	0	1			1		-		0
										5,585	5585
	Topsoil	Permanent Man Camp Yards	777D/992G	1	2		3	64	192		
		Material Sites - 1	777D/992G	1	2		3	48	144		
		Material Sites - 2	777D/992G	1	2		3	18	54		
		Material Sites - 3	777D/992G	1	2		3	25	75		
		Material Sites - 4	777D/992G	1	2		3	363	1,089		
		Material Sites - 5	777D/992G	1	2		3	8	24		
		Material Sites - 6	777D/992G	1	2		3	39	117		
		Material Sites - 7	777D/992G	1	2		3	38	114		
		Material Sites - 8	777D/992G	1	2		3	5	15		
		Material Sites - 9	777D/992G	1	2		3	43	129		
		Material Sites - 10	777D/992G	1	2		3	18	54		
		Material Sites - 11	777D/992G	1	2		3	27	81		
		Material Sites - 12	777D/992G	1	2		3	37	111		
		Material Sites - 13	777D/992G	1	2		3	64	192		
		Material Sites - 14	777D/992G	1	2		3	43	129		
		Jung Port Disturbance (not reclaimed)		1			1		-		
		Mine Borrow Areas	777D/992G	1	2		3	320	960		
		Growth media - TSF Stockpile 1		1			1		-		
		Growth media - TSF Stockpile 2		2			2		-		
		Growth media - TSF Stockpile 2		1			1		-		
		Growth media - North Overburden Stockpile 2028		1			1		-		
		Growth media - Airstrip Overburden Stockpile		1			1		-		
		Growth media - Airstrip Overburden Stockpile		1			1		-		
		Growth media - South Overburden Stockpile 2019		1			1		-		
		Misc. Yards	777D/992G	1	2		3	681	2,043		
		Plant Site	777D/992G	1	2		3	42	126		
		Primary Crusher	777D/992G	1	2		3	8	24		
		Truck Shop	777D/992G	1	2		3	1	3		
		Airstrip (Not Reclaimed)		1			1		-		
										5,676	5676
	Reveg	Permanent Man Camp Yards	Med Dozer	1			1	26	26		
		Material Sites - 1	Med Dozer	1			1	20	20		
		Material Sites - 2	Med Dozer	1			1	8	8		
		Material Sites - 3	Med Dozer	1			1	10	10		
		Material Sites - 4	Med Dozer	1			1	151	151		
		Material Sites - 5	Med Dozer	1			1	3	3		
		Material Sites - 6	Med Dozer	1			1	16	16		
		Material Sites - 7	Med Dozer	1			1	16	16		
		Material Sites - 8	Med Dozer	1			1	2	2		
		Material Sites - 9	Med Dozer	1			1	18	18		
		Material Sites - 10	Med Dozer	1			1	8	8		
		Material Sites - 11	Med Dozer	1			1	11	11		
		Material Sites - 12	Med Dozer	1			1	15	15		
		Material Sites - 13	Med Dozer	1			1	26	26		
		Material Sites - 14	Med Dozer	1			1	19	19		

Closure Cost Estimate
User 9

		Jung Port Disturbance (not reclaimed)	0	**1**			1		-	
		Mine Borrow Areas	Med Dozer	**1**			1	132	132	
		Growth media - TSF Stockpile 1	Med Dozer	**1**			1	97	97	
		Growth media - TSF Stockpile 2	Med Dozer	**2**			2	76	152	
		Growth media - TSF Stockpile 2	Med Dozer	**1**			1	76	76	
		Growth media - North Overburden Stockpile 2028	Med Dozer	**1**			1	84	84	
		Growth media - Airstrip Overburden Stockpile	Med Dozer	**1**			1	4	4	
		Growth media - Airstrip Overburden Stockpile	Med Dozer	**1**			1	4	4	
		Growth media - Jungjuk Port Site Overburden Stockpile	Med Dozer	**2**			2	4	8	
		Growth media - South Overburden Stockpile 2019	Med Dozer	**3**			3	138	414	
		Growth media - South Overburden Stockpile 2019	Med Dozer	**1**			1	138	138	
		Misc. Yards	Med Dozer	**1**			1	281	281	
		Plant Site	Med Dozer	**1**			1	18	18	
		Primary Crusher	Med Dozer	**1**			1	3	3	
		Truck Shop	Med Dozer	**1**			1	1	1	
		Airstrip (Not Reclaimed)	0	**1**			1		-	**1,761**
				Grand Total - Man-hrs					**173,053**	

Operator Crew Size	**9**	Total Man-hours divided by total planned working hours.	
Misc. Crew	**12**	Estimated from misc other tasks.	
Supervisor	**2**	See Const.Mgmt. Worksheet	
G & A Site Crew (excluding solution management)	**0**	(Agency Oversight inc. in Indirects)	
Total Crew	**23**		

Op Hours/Season	4,320
Tot Hours - Seasons	21,600

Closure Cost Estimate
User 10

Long
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 10 - Long Term Monitoring Costs

Samping.monitoring events for long term water treatment plant and site sampling are entered here. The total is entered in the Other User Sheet.

Description	Samples #	Events/Year	No. Years	First Sample Year closure year (1-100)	No. of Samplers	Days/Event	Hrs/Day	Analysis Cost $/sample	Supplies $/sample	Lab Cost $	Material Cost $	Equipment Cost $	Labor Cost $	Cost $
Water Analysis (Complete) (1)	7	4	5	1				$1,055.00	$5.75	$147,700	$840	$3,500		$152,040
Water Analysis (Complete) (1)	9	1	5	6				$1,055.00	$5.75	$47,475	$270	$1,125		$48,870
Water Analysis (Complete) (1)	9	0	35	11				$1,055.00	$5.75	$66,465	$378	$1,575		$68,418
Water Analysis (Complete) (1)	8	0	171	50				$1,055.00	$5.75	$144,324	$821	$3,420		$148,565
Water Analysis (Complete) (1)	8	1	171	50				$1,055.00	$5.75	$1,443,240	$8,208	$34,200		$1,485,648
Water Analysis (Complete) (1)	1	1	171	50				$1,055.00	$5.75	$180,405	$1,026	$4,275		$185,706
Water Analysis (Complete) (1)	1	1	210	18				$1,055.00	$5.75	$221,550	$1,260	$5,250		$228,060
								$1,055.00	$5.75	$0	$0	$0		$0
										$2,251,159.00	$12,802.80	$53,345.00		
													Subtotal Sampling Costs	$2,317,307

Notes and Assumptions 1. WTP staff will collect samples. Costs are already inlcuded in the WTP staff, see Human Resources tab.

Misc. Material Costs (per sample)	$	6.00
Equipment Costs (per sample)	$	25.00

Ground & Surface Water Monitoring

Reporting

Description	Hrs/Event	Rate $/hr	Cost $/Event	Cost $
Field Geologist/Engineer	40	$48.83	$1,953	$410,172

Notes:
Assume 210 years with one report per year
Site staff would compile report and data
Offsite consultant would review and submit.
No cost added for onsite staff to compile.
Costs for WTP staff are in Human Resources worksheet.

Closure Cost Estimate
User 10

Comments
020520146 Post Closure Sampling.docx Yrs 2051-2055
02202015 Post Closure Sampling_Rev01.docx Yrs 2056-2060
02202015 Post Closure Sampling_Rev01.docx Yrs 2061-2095
02202015 Post Closure Sampling_Rev01.docx Yrs 2096-2266
02202015 Post Closure Sampling_Rev01.docx Yrs 2096-2266 WTP
02202015 Post Closure Sampling_Rev01.docx Yrs 2096-2266 WTP
A QA/QC sample is added for each sample event and captured in Sample #

Term (t)(years):					Total From Cost Summary
	From	To	Total (yrs)	Schedule Variance	
020520146 Post Closure Sampling.docx Yrs 2051-2055	10	14	5	TRUE	$152,040
02202015 Post Closure Sampling_Rev01.docx Yrs 2056-2060	10	14	5	TRUE	$48,870
02202015 Post Closure Sampling_Rev01.docx Yrs 2061-2095	15	49	35	TRUE	$68,418
02202015 Post Closure Sampling_Rev01.docx Yrs 2096-2266	50	220	171	TRUE	$148,565
02202015 Post Closure Sampling_Rev01.docx Yrs 2096-2266 WTP	50	220	171	TRUE	$1,485,648
02202015 Post Closure Sampling_Rev01.docx Yrs 2096-2266 WTP	50	220	171	TRUE	$185,706
A QA/QC sample is added for each sample event and captured in Sample #	10	220	211	TRUE	$228,060
				TRUE	$0
					Total

Closure Cost Estimate
User 10

1	2	3	4	5	6	7	8	9	10	11	12	13	14
								$	30,408.00	$ 30,408.00	$ 30,408.00	$ 30,408.00	$ 30,408.00
								$	9,774.00	$ 9,774.00	$ 9,774.00	$ 9,774.00	$ 9,774.00
								$	1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85
$ -	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$**	**41,262.85**	**$ 41,262.85**	**$ 41,262.85**	**$ 41,262.85**	**$ 41,262.85**

Closure Cost Estimate
User 10

	15	16	17	18	19	20	21	22	23	24	25	26	27	28
$	1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80
$	1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85
$	**3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**

Closure Cost Estimate
User 10

	29	30	31	32	33	34	35	36	37	38	39	40	41	42
$	1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80
$	1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85
$	**3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**

Closure Cost Estimate
User 10

	43	44	45	46	47	48	49	50	51	52	53	54	55	56
	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80	$ 1,954.80							
								$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80
								$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00
								$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00
	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85
	$ 3,035.65	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 3,035.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**

Closure Cost Estimate
User 10

	57	58	59	60	61	62	63	64	65	66	67	68	69	70
	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80
	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00
	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00
	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85
	$ 11,723.65	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**

Closure Cost Estimate
User 10

	71	72	73	74	75	76	77	78	79	80	81	82	83	84
	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80
	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00
	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00
	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85
	$ 11,723.65	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**

Closure Cost Estimate
User 10

	85	86	87	88	89	90	91	92	93	94	95	96	97	98
	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80	$ 868.80
	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00	$ 8,688.00
	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00	$ 1,086.00
	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85	$ 1,080.85
	$ 11,723.65	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**	**$ 11,723.65**

Closure Cost Estimate
User 10

	99		100	101		
				$0.00	$152,040.00	$152,040.00
				$0.00	$48,870.00	$48,870.00
				$0.00	$68,418.00	$68,418.00
$	868.80	$	868.80	$104,256.00	$148,564.80	$148,564.80
$	8,688.00	$	8,688.00	$1,042,560.00	$1,485,648.00	$1,485,648.00
$	1,086.00	$	1,086.00	$130,320.00	$185,706.00	$185,706.00
$	1,080.85	$	1,080.85	$129,702.37	$228,060.00	$228,060.00
					$0.00	$0.00
$	**11,723.65**	**$**	**11,723.65**	**$ 1,406,838.37**		**$ 2,317,306.80**

Closure Cost Estimate
User 11

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 11 - Tailings Geotextile Assumptions

This sheet documents assumptions about how the equipment will be used to cover the tailings facility. For bonding the assumed truck size is a CAT 777. The assumptions are used to calculate the square-feet of geotextile required to support the trucks on the tails.

From: Clint Logue
To: Jeffress, Bill

Sent: Wed Aug 24 17:26:21 2011

Subject: Geogrid/geotextile
Bill:

Based on experience with closing tailings facilities in the oil sands, the following are the two main options typically used for getting out on what would otherwise be untrafficable tailings:
1. No heavy haul truck: Nilex 4553 geotextile ($1.27/m2)+Tensar Biaxial type 1 geogrid ($1.18/m2) will do. This only supports our cover and light reclamation equipment. The geotextile is to prevent tailings squeezing through the geogrid.
2. Heavy haul truck: higher strength biaxial geogrid BX1200-BX1500 ($2-3+/m2)+geotextile. We've seen one of the companies go with woven geotextile (strong but will need sewing) in favour of non-woven, but either would work.
Option 1 is what I had in mind for Donlin, but if heavier haul equipment was required, option would be workable.

I hope this helps.

Cheers,

Clint.

GeoGrid Quantity

777 truck has a turning radius of 94 feet. Assumed causeway is 125' (29 meters) wide. Causeways are 100 meters apart. Assume lighter geotextile can be used with smaller truck.

Area of causeway (% of total)	22%
Assume that geogrid will only be required on 2/3 of the causeways.	
Total geogrid needed (m2)	1,446,976

Geotextile Quantity

Area of tailings (ha):	267
Area of tailings (m2):	2,669,000
Area of causeway at 22% (m2):	600,008
Geogrid required on 2/3 of causeway (m2):	
Total used in the Other User worksheet >>>	**400,005**

RS Mean Liner Installation Crew (2 clab) 31 32

Productivity	Units		
2,500	CY/day	(8 hours per day)	
2090	m2/8hrs		
Crew	**Qty**	**Cost/hr ($)**	**Cost/M2 ($)**
General Labor	2	70.30	0.27
This number used in Other User sheet for liner installation labor costs (Doubled because two liners).			^^^^

Closure Cost Estimate
User 11

Dredging Scheduling

		# years		$/year	Year 1	Year 2	
Mine Year 3 - Dredge capex	$ 3,095,000		1	$ 3,095,000	$ 3,095,000		
Mine Year 3 - Pipe+floats capex	$ 1,240,500		1	$ 1,240,500	$ 1,240,500		
Mine Year 3 - Dredge opex including depreciation	$ 1,437,745		2	$ 718,873	$ 718,873	$	718,873
Mine Year 3 - Booster capex	$ 2,970,000		1	$ 2,970,000	$ 2,970,000		
Mine Year 3 - Booster opex including depreciation	$ 761,623		2	$ 380,812	$ 380,812	$	380,812
					$ 8,405,184	$	1,099,684

adapted from "Estimated Operating Cost Worksheet - SRK - rough estimates - UNLOCKED.xlsx"

ESTIMATED YEARLY COST WORKSHEET

Dredge Model:		
Booster Model:		
Work Hrs. per Day:	22	
Work Days per Week:	7	
Work Weeks per Year:	20	
TOTAL HRS./Year:	**3,080**	
Sale Price of Dredge:	**$619,000.00**	**<-Other User**
Sale Price of Pipe + Floats:	**$248,100.00**	**<-Other User**
Price Per Gallon - Diesel:	**$3.19**	**<DieselCost>**
Labor/Hr. - Operator:	**$63.15**	**<maximum of equipment operators>**
Labor/Hr. - Assistant:	**$35.15**	**<general labor rate>**
Labor/Hr. - Mechanic:	**$60.75**	**<from User 10>**

Dredge Price (total)		$619,000.00	
Depreciated (10 yr. life)		$ 61,900.00	Cost per year
Pipe (estimated 3 year life)		$ 82,700.00	Cost per year
Yearly maintenance and			
	consumables estimation	$ 22,331.93	
Yearly Fuel			
	($ /gal x RATED GPH x hr/yr)	$ 202,399.12	
Yearly Labor			
	Operator(hr rate x hrs/yr)	$ 194,502.00	
	Assistant(hr rate x hrs/yr)	$ 108,262.00	
	Mechanic (hr rate x 1/4 hr/yr)	$ 46,777.50	
Est. Yearly Oper. Cost - Dredge			
	Including Depriciation	$ 718,872.55	**<-Other User**
	Excluding Depreciation	$ 574,272.55	
Est. Hourly Cost - Dredge			
	Including Depriciation	$ 233.40	
	Excluding Depreciation	$ 186.45	

Additional costs for Boosters

Sale Price of Booster:	**$594,000.00**	
Labor/Hr. - General:	**$35.15**	

Booster Price		$594,000.00	**<-Other User**
	Depreciated (10 yr. life)	$ 59,400.00	**Cost per year**
Yearly Maintenance and			
	Consumables Estimation	$ 12,116.50	
Yearly Fuel			

METHODOLOGY
(dredge price each + options)
(total dredge price / 10 years)
(total pipe and float price / 3 years)
((cost of consumables for 2000 hr + 25% for fluids)x % of hours over 2000)
(GPH x hours per year x $ per Gallon)
(Estimate Local Rate x hours per year)
(Estimate Local Rate x hours per year)
(Estimate Local Rate x 25% of total hours)
(yr.dredge + yr. pipe + maint. + yr. fuel + yr. labor)
(booster price each)
(total booster price / 10 years)
(cost of spares x # of boosters + 10% for fluids)

	3	2
5012LP	8x10 - Diesel	
5012HP	10x12 - Diesel	
7012	8x10 - Elect.	
8010	10x12 - Elect.	
DM-55	-SELECT-	
-SELECT-		

Comsumable Parts Only	
DREDGE	**CONSUM $**
5012 LP	$ 14,330.00
5012 HP	$ 11,882.00
7012	$ 11,601.00
8010	$ 8,985.00
DM-55**	$ 23,350.00
8x10 - D	$ 11,015.00
10x12 - D	$ 11,015.00
8x10 - E**	$ 6,100.00
10x12 - E**	$ 6,100.00
** Estimation	

Fuel Consumption	
DREDGE	**Gal/Hr**
5012 LP	15.90
5012 HP	15.90
7012	20.60
8010	17.90
DM-55**	31.50
8x10	12.30
10x12	15.70
** Estimation	

Closure Cost Estimate
User 11

	($ /gal x RATED GPH x hr/yr)	$ 154,255.64		(GPH x hours per year x $ per Gallon)
Yearly Labor				
	General (hr rate x hrs/yr)	$ 108,262.00		(Estimate Local Rate x hours per year)
	Mechanic (hr rate x 1/4 hr/yr)	$ 46,777.50		(Estimate Local Rate x 25% of total hours)
Est. Yearly Oper. Cost - Booster				(yr.booster + maint. + yr. fuel + yr. labor)
	Including Depriciation	$ 380,811.64	<-Other User	
	Excluding Depreciation	$ 321,411.64		
Est. Hourly Cost - Booster				
	Including Depriciation	$ 123.64		
	Excluding Depreciation	$ 104.35		
TOTAL ESTIMATED COST/YEAR				
	Including Depriciation	**$1,099,684.19**		
	Excluding Depreciation	**$895,684.19**		
TOTAL ESTIMATED HOURLY COST				
	Including Depriciation	$ 357.04		
	Excluding Depreciation	$ 290.81		

PRODUCTION ANALYSIS:

Project - Total Volume	7,000,000	cubic yards	
Pumping Volume (GPM)	5000		Not to exceed 5000 GPM - 7012 or 3500 GPM - 5012
Average % Solids (by Volume)	20%		Not to exceed 25%.
Dredging Operation Efficiency	75%		Percentage of time in productive cutting
Estimated Production	**222**	**Cubic yd./hr.**	

~~Estimated Cost Per Cubic Meter~~

~~**Including Depriciation**~~	~~$1.50~~	~~/ cubic yard~~
~~**Excluding Depreciation**~~	~~$1.20~~	~~/ cubic yard~~

Estimated Project Completion

1 IMS (7012 + 3 boosters)	1,433	Days*	* Number of days based upon hours per day stated.
5 IMS (7012 + 15 boosters)	287	Days*	* Number of days based upon hours per day stated.

In Summary:

Based upon the information provided by the customer, head and flow calculations were performed. The IMS 7012 with 3 boosters per dredge would average approximately 220 cubic yards per hour. To hit the target removal rate would require 5 systems (1 dredge and 3 boosters per system) for 2 seasons of 5 months each, or 10 systems for one season of 5 months.

There is an advantage over 1-2 larger dredges in that the impact from dredge going down will be much smaller.

Also with financing, capital outlay can be reduced significantly.

IMPORTANT: Due to the many variable that can affect production that are beyond the control of

Embankment Spillway

Quantities from "181202.040spill_tsf.pdf"	CY		
VOL_SPILLWAY_CUT_IN_ROAD		344,579	
VOL_SPILLWAY_CUT_IN_BEDROCK		72,635	
VOL_SPILLWAY_CUT_IN_ROAD		88,324	
	total CY	505,538	<-- Other User excavation volume AND "Sediment and Drainage Control" excavation volume over-ride
	total m3	386,512	
	density (tons to m3)	1.5	

	tons	579,768	<-- Other User blasting quantity
Excavation of spillway in "Sediment and Drainage Control"			

Closure Cost Estimate
User 12

Used 12 - Water Treatment Schedule.

This sheet is used to gather pumping information for use in the Solution Management worksheet. GPM is converted to l/s. Elevations are entered here to assist calculating head and pipeline estimated lengths are entered here.

Item	Water Management Years	Begin Yr	End Yr	Duration (yr)	OP Years	gpm	l/s		Pumping Total cost	Treatment Cost per year	Treatment (m3/mo)
TSF SRS to ACMA Pit (Maintenance)	1-2	**1**	**2**	2	8-9	**901**	57	Q125	$ 127,392		
TSF to WTP (Physical Closure)	3-7	**3**	**7**	5	10-14	**2,558**	161	Q126	$ 475,020	$ 4,224,572	
TSF SRS to ACMA Pit (Physical Closure)	3-7	**3**	**7**	5	10-14	**901**	57	Q127	$ 318,480		
TSF SRS to ACMA Pit (Pit Lake Fills)	8-10	**8**	**10**	3	15-17	**901**	57	Q128	$ 191,088	$ 2,262,928	
TSF Consolidation to Pit (Pit Lake Fills)	8-10	**8**	**10**	3	15-17	**20**	1	Q129	$ -		
TSF SRS to ACMA Pit (Post Closure)	11-213	**11**	**213**	203	18-220	**901**	57	Q130	$ 19,963,020		
TSF Consolidation to Pit (Post Closure)	11-213	**11**	**213**	203	18-220	**20**	1	Q131	$ -		
Pit to WTP (Post Closure 1st 30 yrs - WTP at Mill)	11-33	**11**	**33**	23	18-40	**2,650**	167	Q132	$ 16,223,004		
Pit to WTP (Post Closure - WTP at pit)	34-213	**34**	**213**	180	41-220	**2,650**	167	Q133	$ 13,424,400		
WTP to Crooked Creek (Gravity Flow)	11-213	**11**	**213**	203	18-220	**1,717**	108			$ 14,692,780	

^^^

Linked back to Solution Mgmt. worksheet

^^^

These numbers from James Fueg email May 3, 2017

$ 74,580

Items	elev. (masl)
TSF pond	**253.0**
Seepage collection pond (SRS)	**116.0**
ACMA pit Rim at Haul Road	**196.0**
ACMA pit out (pit lake level)	**99.5**
Water Treatment Plant (Mill Location)	**295.0**
Treatment plant (Long Term)	**120.0**
	Annual cost
Pumping Years - 1-2	$ 127,392
Pumping Years - 3-7	$ 7,472,089
Pumping Years - 11-213	$ 19,963,020
Pumping Years - 11-213	$ 44,340,184

Pipeline	Length (m)
ACMA pit to Treatment plant	**3,500**
Treatment plant to Crooked Creek	**7,874**
TSF pond to Treatment plant	**1,800**
TSF Pond to ACMA Pit	**4,000**
Seepage collection (SRS) to Treatment plant	**2,500**
SRS to ACMA Pit	**5,300**
Note: Measured from "year5 closurepipeline.dwg"	

Closure Cost Estimate
User 13

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Do Not Print - this sheet only to assist in filling out the Cost Schedule worksheet.

This sheet is used to assist with scheduling the physical reclamation. No costs are calculated in this worksheet.

		rentalhrs/mo.	360									
Scheduling costs		hours/year	4320									
Waste Rock Dumps												
		hours	Years	# fleets		Effective years	Y1	Y2	Y3	Y4	Y5	Y6
Grading Costs	**318,990.00**	1,070.00	**0.25**	**1.00**		**0.25**	**318,990.00**					
Cover Placement Cost	3,510,121.00	1,605.00	0.37	1.00		0.37						
Topsoil Placement Cost	4,671,158.00	1,687.00	0.39	1.00		0.39						
Cover+Topsoil same fleet	**8,181,279.00**	3,292.00	**0.76**	**1.00**		**0.76**	**8,181,279.00**					
Ripping/Scarifying Cost	**177,382.00**	484.00	**0.11**	**1.00**		**0.11**		**177,382.00**				
							8,500,269.00	177,382.00	0.00	0.00	0.00	0.00
Tailings												
							Y1	Y2	Y3	Y4		
Embankment Regrading Cost	0.00											
Tailings Surface Grading Cost	**30,110.00**	101.00	**0.02**	**1.00**		**0.02**	**30,110.00**					
Cover Placement Cost	2,033,707.00	1,048.00	0.24	1.00		0.24						
Topsoil Placement Cost	2,353,899.00	1,213.00	0.28	1.00		0.28						
Cover+Topsoil same fleet	**4,387,606.00**	2,261.00	**0.52**	**1.00**		**0.52**			**4,387,606.00**			
Ripping/Scarifying Cost	**94,695.00**	455.00	**0.11**	**1.00**		**0.11**			**94,695.00**			
							30,110.00	0.00	4,482,301.00	0.00		
Foundations and Buildings												
							Y1	Y2	Y3	Y4		
Building Demolition Cost	11,651,435.00	22,580.30	5.23	2.00		2.62	4,458,240.00	4,458,240.00	2,734,955.00			
Wall Demolition Cost	51,910.00		0.00	1.00		0.00	19,862.55	19,862.55	12,184.90			
Slab Demolition	0.00		0.00	1.00		0.00						
							4,478,102.55	4,478,102.55	2,747,139.90			
Yards												
							Y1	Y2	Y3	Y4		
Regrading Cost	2,136,927.00	7,168.00	1.66	3.00		0.55			1,068,463.50	1,068,463.50		
Cover Placement Cost	0.00		0.00	1.00		0.00						
Growth Media Placement Cost	2,540,757.00	1,919.00	0.44	1.00		0.44				2,540,757.00		
Ripping/Scarifying Cost	333,401.00	1,203.00	0.28	1.00		0.28				333,401.00		
							0.00	0.00	1,068,463.50	3,942,621.50		
Haul Material												
							Y1	Y2	Y3	Y4		
NAG waste rock - 1 M	8,264,487.00	3,675.00	0.85	1.00		0.85		8,264,487.00				
Tailings capillary break layer - 1 Meter	8,264,487.00	3,675.00	0.85	1.00		0.85	8,264,487.00					
Removal of Contact Pond Dam	822,370.00	287.00	0.07	1.00		0.07				822,370.00		
Removal of Rock Groyne (Primary Crusher)	664,648.00	502.00	0.12	1.00		0.12				664,648.00		
Reclaimed WRF Runoff Collection Channel - liner bedding	35,910.00	22.00	0.01	1.00		0.01				35,910.00		
Reclaimed WRF Runoff Collection Channel - pea gravel	13,058.00	8.00	0.00	1.00		0.00				13,058.00		
Upper Contact Water Pond Backfill, growth media, reveg	5,919,628.00	4,242.00	0.98	1.00		0.98			5,919,628.00			
Snow Gulch Fresh Water Dam Breach	659,352.00	498.00	0.12	1.00		0.12				659,352.00		
Primary Channel (WRF) cushion layer	1,320,839.88	346.00	0.08	1.00		0.08				1,320,839.88		
Primary Channel (WRF) Armor Layer	892,821.50	210.00	0.05	1.00		0.05				892,821.50		
Secondary Channel (WRF) Armor Layer	381,922.49	90.00	0.02	1.00		0.02				381,922.49		
							8,264,487.00	8,264,487.00	5,919,628.00	4,790,921.87		
Drainage Control - Cost Summary												
							Y1	Y2	Y3	Y4		
Diversion Ditch Construction	389,748.00	2,289.00	0.53	1.00		0.53	389,748.00					

Closure Cost Estimate
User 13

Diversion Ditch Liner	3,629,539.00	7,284.28	1.69	1.00	1.69	2,152,526.40	1,477,012.60		
Diversion Ditch Rip-Rap	24,468,419.00	74,934.67	17.35	4.00	4.34	5,642,438.40	5,642,438.40	5,642,438.40	7,541,103.80
Sed Pond Construct/Regrade	0.00								
Liner Installation	0.00								
Sed Pond Cover	0.00								
						8,184,712.80	7,119,451.00	5,642,438.40	7,541,103.80
						Y1	Y2	Y3	Y4
Rip-rap, rock lining, gabions	2,031,760.00	6,222.00	1.44	1.00	1.44	1,410,672.32	621,087.68		

	Subtotal	Operation							Physical Reclamation				
		1	2	3	4	5	6	7	8	9	10	11	12
		2	3	4	5	6	7	8	9	10	11	12	13
Closure Cost Schedule including physical reclamation only:	$ 229,788,932	0	$ -	$ -	$ -	$ -	$ -	$ 1,047,163.14	$ 1,090,819	$ 78,414,844	$ 45,663,061	$ 56,176,726	$ 47,396,320

Closure Cost Estimate
User 17

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 17 - R.S. Means Crews

This sheet links the equipment and labor costs from the model to the various defined RS Means crews for miscellaneous tasks in the model.

Equipment to be updated:							
Flatbed trailer ($/hr)	$ 11.64		Assumed equal to 1/3rd dump truck hourly cost				
Truck tractor ($/hr)	$ 34.92		Assumed equal to dump truck hourly cost				
Lowbed trailer ($/hr)	$ 11.64		Assumed equal to 1/3rd dump truck hourly cost				
Pipe fitter	$ 60.75						

A-3A

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Pickup truck	Yes	1	$ 58.82	$ 14.11	$ 58.82	$ 14.11	$ 72.93
				Total Crew Cost	**$58.82**	**$14.11**	**$72.93**

A-3D

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Pickup truck	Yes	1	$ 58.82	$ 14.11	$ 58.82	$ 14.11	$ 72.93
Flatbed trailer	No	1		$ 11.64	$ -	$ 11.64	$ 11.64
				Total Crew Cost	**$58.82**	**$25.75**	**$84.57**

B-34K

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Truck tractor	No	1	$ 58.82	$ 34.92	$ 58.82	$ 34.92	$ 93.74
Lowbed trailer	No	1		$ 11.64	$ -	$ 11.64	$ 11.64
				Total Crew Cost	**$58.82**	**$46.56**	**$105.38**

B-34N

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Dump truck	Yes	1	$ 56.78	$ 34.92	$ 56.78	$ 34.92	$ 91.70
Flatbed trailer	No	1		$ 11.64	$ -	$ 11.64	$ 11.64
				Total Crew Cost	**$56.78**	**$46.56**	**$103.34**

B-34Q

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Pipe fitter	No	1	$ 60.75		$ 60.75	$ -	$ 60.75
Dump truck	Yes	1	$ 56.78	$ 34.92	$ 56.78	$ 34.92	$ 91.70
Hydraulic crane, 25 ton	Yes	1	$ 60.81	$ 49.72	$ 60.81	$ 49.72	$ 110.53
Flatbed trailer	No	1		$ 11.64		$ 11.64	$ 11.64
				Total Crew Cost	**$178.34**	**$96.28**	**$274.62**

D-3

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Bricklayer (A0201)	No	3	$ 60.03		$ 180.09	$ -	$ 180.09
Bricklayer helper (S2202)	No	2	$ 54.52		$ 109.04	$ -	$ 109.04
Carpenter	Yes	0.25	$ 59.72		$ 14.93	$ -	$ 14.93
				Total Crew Cost	**$304.06**	**$0.00**	**$304.06**

Closure Cost Estimate
User 18

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

List of sources referenced

#	SRCE Sheet	Reference	File Name
1	Other User	LLDPE Liner for WRF Diversion Ditch includes excavation, liner bedding, LLDPE liner, and riprap.	Cost developed by DGLLC; includes excavation, liner bedding, LLDPE liner, and riprap.
2	Other User	From June 8, 2011 email from Alexandra J Kozak.	FW Additional Information for Closure Costs.pdf
3	Waste Disposal	Liner waste disposal quantities from 1. June 8, 2011 email from Alexandra J. Kozak.	
4	Other User	Miscellaneous Hazardous Waste Disposal (see User Sheet 3)	2011 Shipping Costs.docx
	User 1		
	User 3		
7	Other User	Per quote from Plasson USA, April 28, 2016 (SP-7982.pdf)	SP-7982.pdf
8	Waste Rock Dumps	Inputs per 2016_SRCE_disturbance.xlsx and SRCE_Disturbance_20160331_ML.pdf	SRCE_Disturbance_20160331_ML.pdf
9	Waste Rock Dumps	Inputs per 2016_SRCE_disturbance.xlsx and SRCE_Disturbance_20160331_ML.pdf	2016_SRCE_disturbance.xlsx
	Pits	Inputs from 2016_SRCE_disturbance.xlsx	
11	Tailings	Dimensions from "TSF-DAM-YEAR-3.xls"	TSF-DAM-YEAR-3.xls
12	Roads	Items 1 through 9 from 2016_SRCE_Roads.xlsx	2016_SRCE_Roads.xlsx
13	Haul Material	Snow Gulch FWD, American and Lower CWD breach assumed to be equal to construction quantities listed in “DC11-007_-_American_Creek_and_Snow_Gulch_Contact_and_Fresh_Water_Dam_Design_-_DRAFT_MTOs”	DC11-007_-_American_Creek_and_Snow_Gulch_Contact_and_Fresh_Water_Dam_Design_-_DRAFT_MTOs
14	Foundations and Buildings, Yards	Buildings and Tanks per AMEC drawings.	E5-2 AMEC Civil Drawing Index (FSU2).doc A1-166549-10-13-002(PlantSite_GA).pdf A1-166549-10-13-003(Gen_Site_Plan).pdf A1-166549-10-13-004(Plantsite_Sections).pdf A1-166549-10-13-005(Pipeline_Sections).pdf A1-166549-10-13-006(Overall_GA).pdf A1-166549-10-13-006.pdf A1-166549-10-13-007_(Utility_Plan).pdf A1-166549-10-13-008(PermanentCamp_GA).pdf A1-166549-80-13-020(Airstrip_Plan).pdf A1-166549-80-13-021(Airstrip_Sections).pdf
25	Sediment and Drainage Control	Item 2 and Item 3 diversion lengths and liner area from "DC11-028_Closure_Period_MTOs_for_WRF_Diversion_Channels.pdf"	DC11-028_Closure_Period_MTOs_for_WRF_Diversion_Channels.pdf
26	Wells	See User 15.	wells_revise_v2.xls Table 2 Pit Perimeter Dewatering Wells.pdf
28	User 12		
29	User 15	Sources.	Table 3 In-Pit Dewatering Wells.pdf
30	Monitoring	020520146 Post Closure Sampling.docx Yrs 2051-2055	020520146 Post Closure Sampling.docx
31	User 16	RO treatment costs backup	#REF!

Closure Cost Estimate
User 19

Project Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
Date of Submittal: May 2017
File Name: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Material Required	**Cover (m3)**	**GM (m3)**
Waste Rock Dumps	1,158,087	1,347,886
Tailings Impoundments	800,698	949,096
subtotal	**1,958,785**	**2,296,982**
deficit/surplus	11,321,425	2,149,870
	578%	94%

Pre-Stripping an Concurrent Reclamation Schedule

		2018	2019	2020	2021	2022	2023	2024	2025	Total
	Unit	**Y00**	**Y01**	**Y02**	**Y03**	**Y04**	**Y05**	**Y06**	**Y07**	
Peat @ 11.43%	m3	458,499	322,597	451,117	20,703	543,479	485,714	44,634	22,537	**2,349,280**
Loess @ 10.2%	m3	409,374	288,033	402,783	18,485	485,249	433,674	39,852	20,122	**2,097,572**
Colluvium/Alluvium @ 78.3%	m3	2,593,797	1,824,975	2,552,032	117,120	3,074,536	2,747,756	242,499	127,495	**13,280,210**
Total Mined OVERBURDEN	**m3**	**3,461,670**	**2,435,605**	**3,405,932**	**156,308**	**4,103,263**	**3,667,144**	**336,984**	**170,154**	
	kt	**6,620**	**4,657**	**6,513**	**299**	**7,846**	**7,013**	**644**	**325**	

DGLLC PreStripping.xlsx from Bill Jeffress October 31, 2016

Closure Cost Estimate
User 20

ct Name: Donlin Gold - Reclamation Bond - Operation Year 3 Closure - Reclamation Plan
of Submittal: May 2017
lame: Donlin_RecBond_OpYr_3_181202_017_20181213_REV04_FNL.xlsm
l Version: Version 1.4.1
Data: User Data
Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20181213_pl_REV04.xlsm
Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 20 - Inflation Adjustment Factor

The calculations in this sheet caculate indexes used to adjust quotes to current rates based on Anchorage Consumer Price Index for

http://laborstats.alaska.gov/cpi/cpi.htm
Last retrieved June 8, 2016
Consumer Price Index for Anchorage Municipality & U.S.
Not Seasonally Adjusted
All Items - All.1 Urban Consumers
(CPI-U) 1960-Present

Year	Average	Percent Change From Previous Year
2016	217.830	
2015	216.909	0.500
2014	215.805	1.600
2013	212.381	3.100
2012	205.916	2.200
2011	201.427	3.200
Adjustment factor:	1.1	

Attachment D: Life-of-Mine SRCE Cost Summary

(Full File Provided Electronically)

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:	Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Cost Data File:	Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Data Date:	May 10, 2017
Cost Data Basis:	User Data — Data Cost Units: Metric
Author/Source:	plassiter, Donlin_Equipment Materials Cost Buildup_181202017_pl_REV01.xlsx, Donlin_Lab

PROJECT INFORMATION

Property/Mine Name:	Donlin Gold — Property Code: 1516
Project Name:	Donlin Gold - Reclamation Bond - LOM
Date of Submittal:	July 2017 — Average Altitude: 1000 m
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:	Alaska Davis Bacon 2016
	Pamphlet 600 Sept. 2016, 2017 Equip. Rental Quotes
Cost Basis Description:	

[ ] This project is in the State of Nevada

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Project Name: Donlin Gold - Reclamation Bond - LOM
Project Date: July 2017
Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Reclamation Plan

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Heap Leach Pads
Tailings
Roads
Pits
Quarries & Borrow Pits
Underground Openings
Material Hauling
Foundations and Buildings
Other Demo & Equipment Removal
Sediment & Drainage Control
Process Ponds
Landfills
Yards, Etc.
Waste Disposal
Well Abandonment
Misc. Costs
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Construction Management
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Closure Planning
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User Sheet 3
User Sheet 4
User Sheet 5

Description
Fluid disposal
Bulk fuel storage tanks demolition
Miscellaneous Hazardous Waste Disposal
Tank Demolition and Disposal Costs
Equipment Mobilization

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Closure Cost Estimate
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User Sheet 9	Manpower estimate
User Sheet 10	Labor build-up for cost data file
User Sheet 11	Cover, Growth Media, and Rock Fill Volume Summaries
User Sheet 12	Solution management scheduling - Do Not Print
User Sheet 13	Earthworks and demolition scheduling - Do Not Print
User Sheet 14	Post Closure Road/Airport Maintenance
User Sheet 15	Wells Planning - Do Not Print
User Sheet 16	RO Treatment Backup Documents
User Sheet 17	RS Means Crew Costs
User Sheet 18	Not Used
User Sheet 19	Not Used
User Sheet 20	Inflation Adjustment Factors

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Closure Cost Estimate
Cost Summary

Project Name: Donlin Gold - Reclamation Bond - LOM
Project Date: July 2017
Model Version: Version 1.4.1
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm

A. Earthwork/Recontouring	Labor [1]	Equipment [2]	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$582,916	$2,035,643	$0	$2,618,559
Well Abandonment	$348,840	$766,504	$63,188	$1,178,532
Pits	$30,216	$135,216	N/A	$165,432
Quarries & Borrow Areas	$0	$0	$0	$0
Underground Openings	$0	$0	$0	$0
Process Ponds	$25,019	$99,764	$0	$124,783
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$7,355,953	$30,545,143	$0	$37,901,096
Landfills	$0	$0	$0	$0
Tailings	$2,695,689	$11,665,659	$0	$14,361,348
Foundation & Buildings Areas	$44,822	$208,140	$0	$252,962
Yards, Etc.	$1,624,694	$6,860,774	$0	$8,485,468
Drainage & Sediment Control	$12,413,857	$4,061,293	$12,173,126	$28,648,276
Generic Material Hauling	$14,244,532	$63,652,600	$0	$77,897,132
Other User Costs (from Other User sheet)	$391,783	$0	$3,555,070	$3,946,853
Other**				$0
Subtotal	**$39,758,322**	**$120,030,736**	**$15,791,384**	**$175,580,441**
Mob/Demob if included in Other User sheet	$1,382,569	$2,765,137	$0	$4,147,706
Mob/Demob				$0
Subtotal "A"	**$41,140,890**	**$122,795,873**	**$15,791,384**	**$179,728,147**

B. Revegetation/Stabilization	Labor [1]	Equipment [2]	Materials	Total
Exploration	$0	$0	$0	$0
Exploration Roads & Drill Pads	$0	$0	$0	$0
Roads	$20,131	$5,824	$94,027	$119,982
Well Abandonment				N/A
Pits	$1,624	$470	$3,203	$5,297
Quarries & Borrow Areas	$0	$0	$0	$0
Underground Openings				N/A
Process Ponds	$338	$98	$486	$922
Heaps	$0	$0	$0	$0
Waste Rock Dumps	$360,824	$104,375	$712,138	$1,177,337
Landfills	$0	$0	$0	$0
Tailings	$277,418	$80,248	$394,299	$751,965
Foundation & Buildings Areas	$7,843	$2,269	$1,513	$11,625
Yards, Etc.	$283,066	$81,883	$562,289	$927,238
Drainage & Sediment Control	$11,797	$3,411	$16,885	$32,093
Generic Material Hauling	$6,048	$1,750	$12,019	$19,817
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "B"	**$969,089**	**$280,328**	**$1,796,859**	**$3,046,276**

C. Detoxification/Water Treatment/Disposal of Wastes**	Labor [1]	Equipment [2]	Materials	Total
Process Ponds/Sludge				$0
Heaps				$0
Dumps (Waste & Landfill)				$0
Tailings				$0
Surplus Water Disposal				$0
Monitoring				$0
Miscellaneous				$0
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
Pumping (from Solution Mgmt sheet)	$0	$21,598,860	N/A	$21,598,860
Evaporation (from Solution Mgmt sheet)	$0	$0	$0	$0
Treatment (from Solution Mgmt sheet)	$203,580	$111,368	$0	$314,948
Decontamination (from Solution Mgmt sheet)	$118,389	$13,771	$0	$132,160
Other User Costs (from Other User sheet)	$3,181,548	$306,579,960	$306,136,965	$615,898,473
Other**				$0
Subtotal "C"	**$3,554,043**	**$328,350,027**	**$306,337,065**	**$638,241,135**

D. Structure, Equipment and Facility Removal, and Misc.	Labor [1]	Equipment [2]	Materials	Total
Foundation & Buildings Areas	$8,092,625	$3,610,720	$0	$11,703,345
Other Demolition	$0	$0	$0	$0
Equipment Removal	$88,814	$160,962	$0	$249,776
Fence Removal	$0	$0		$0
Fence Installation	$0	$0	$0	$0
Culvert Removal	$0	$0	N/A	$0
Pipe Removal	$158,323	$11,433	N/A	$169,756
Powerline Removal	$667,447			$667,447
Transformer Removal	$106,026			$106,026
Rip-rap, rock lining, gabions	$1,585,163	$446,597	$0	$2,031,760
Other Misc. Costs	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$2,215,190	$1,484,896	$3,441,696	$7,141,782
Other**				$0
Subtotal "D"	**$12,913,588**	**$5,714,608**	**$3,441,696**	**$22,069,892**

E. Monitoring	Labor [1]	Equipment [2]	Materials	Total
Reclamation Monitoring and Maintenance	$599,745	$1,262,497	$147,062	$2,009,304
Ground and Surface Water Monitoring	$10,377	$3,662	$23,363	$37,402
Other User Costs (from Other User sheet)	$1,750,000	$219,250	$3,999,970	$5,969,220
Subtotal "E"	**$2,360,122**	**$1,485,409**	**$4,170,395**	**$8,015,926**

F. Construction Management & Support	Labor	Equipment [2]	Materials	Total
Construction Management	$3,328,027	$438,460	N/A	$3,766,487
Construction Support	$0	$0	$0	$0
Road Maintenance	$1,586,650	$4,673,203	$0	$6,259,853
Other User Costs (from Other User sheet)	$14,223,919	$17,333,762	$0	$31,557,681
Other**				$0
Subtotal "F"	**$19,138,596**	**$22,445,425**	**$0**	**$41,584,021**

G. Closure Planning, G&A, Human Resources			Include?	Total
Closure Planning				$0
General & Administration				$0
Human Resources				$128,770,832
Other User Costs (from Other User sheet)	$24,526,840	$0	$24,526,840	$49,053,680
Other**				$0

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Closure Cost Estimate
Cost Summary

Project Name: Donlin Gold - Reclamation Bond - LOM
Project Date: July 2017
Model Version: Version 1.4.1
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm

Subtotal "G"	**$24,526,840**	**$0**	**$24,526,840**	**$177,824,512**
Subtotal Operational & Maintenance Costs	**Labor [1]**	**Equipment [2]**	**Materials [3]**	**Total**
Subtotal A through G	**$104,603,168**	**$481,071,669**	**$356,064,240**	**$1,070,509,909**

** Other Operator supplied costs - additional documentation required.

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Closure Cost Estimate
Cost Summary

Project Name: Donlin Gold - Reclamation Bond - LOM
Project Date: July 2017
Model Version: Version 1.4.1
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm

Indirect Costs				Include?	Total
1. Engineering, Design and Construction (ED&C) Plan (7)					$42,820,396
2. Contingency (8)					$42,820,396
3. Insurance (9)	$1,569,048				$1,569,048
4. Performance Bond (10)					$32,115,297
5. Contractor Profit (11)					$107,050,991
6. Contract Administration (12)					$64,230,595
7. Government Indirect Cost (13)					$0
Subtotal Add-On Costs					**$290,606,723**
Total Indirect Costs as % of Direct Cost					27%
GRAND TOTAL					**$1,361,116,632**

Administrative Cost Rates (%)

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

RECLAMATION COST ESTIMATION SUMMARY SHEET FOOTNOTES
NOTE :

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsr Clear Schedule
Cost Estimate Type: Surety **Cost Basis: Alaska Davis Bacon 2016**

Cost Schedule and Financial Analysis

Budget Year:	2038	
First Year of Operation	2009	
Operating Period		years
Closure Year 1:	2046	
Closure Period:	4	years
Post Closure Period	100	years

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

Engineering, Design and Construction Plan (%)	4%
Contingency (%)	4.0%
Contractor OH and Profit (CP)(%):	10%
Contract Administration (%)	6%

Show how many years in schedule (10 to 100) 101 Set Years <<< Set years and click "Set Years" button

	Term (t)(years):		0	1	2	3	4	5	6	7	8	9	10	11
	Schedule Variance	Total From Cost Summary	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
A. Earthwork/Recontouring														
Exploration	$ -	$ -												
Exploration Roads & Drill Pads	$ -	$ -												
Roads	$ -	$ 2,618,559												$ 2,618,559
Well Abandonment	$ -	$ 1,178,532												$ 1,178,532
Pits	$ -	$ 165,432									$ 165,432			
Quarries & Borrow Areas	$ -	$ -												
Underground Openings	$ -	$ -												
Process Ponds	$ -	$ 124,783												
Heaps	$ -	$ -												
Waste Rock Dumps	$ -	$ 37,901,096									$ 11,186,940	$ 11,186,940	$ 11,186,940	$ 4,340,277
Landfills	$ -	$ -												
Tailings	$ -	$ 14,361,348									$ 6,742,401	$ 6,633,587	$ 985,361	$ -
Foundation & Buildings Areas	$ -	$ 252,962												$ 252,962
Yards, Etc.	$ -	$ 8,485,468									$ -	$ -	$ 3,332,683	$ 5,152,785
Drainage & Sediment Control	$ -	$ 28,648,276									$ 5,520,143	$ 4,302,153	$ 2,821,219	$ 16,004,761
Generic Material Hauling	$ -	$ 77,897,132									$ 24,694,171	$ 23,441,244	$ 17,430,941	$ 12,330,777
Other User Costs (from Other User sheet)	$ -	$ 3,946,853									$ 1,973,427	$ 1,973,426		
Other**	$ -	$ -												
Mob/Demob if included in Other User sheet	$ -	$ 4,147,706									$ 2,073,853			$ 2,073,853
Mob/Demob	$ -	$ -												
Subtotal "A"	$ -	$ 179,728,147	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 52,356,365	$ 47,537,349	$ 35,757,143	$ 43,952,506
B. Revegetation/Stabilization														
Exploration	$ -	$ -												
Exploration Roads & Drill Pads	$ -	$ -												
Roads	$ -	$ 119,982												$ 119,982
Well Abandonment		N/A												
Pits	$ -	$ 5,297									$ 5,297			
Quarries & Borrow Areas	$ -	$ -												
Underground Openings		N/A												
Process Ponds	$ -	$ 922												
Heaps	$ -	$ -												
Waste Rock Dumps	$ -	$ 1,177,337									$ 347,504	$ 347,504	$ 347,504	$ 134,824
Landfills	$ -	$ -												
Tailings	$ -	$ 751,965									$ 353,034	$ 347,337	$ 51,594	$ -
Foundation & Buildings Areas	$ -	$ 11,625												$ 11,625
Yards, Etc.	$ -	$ 927,238												$ 927,238
Drainage & Sediment Control	$ -	$ 32,093												$ 32,093
Generic Material Hauling	$ -	$ 19,817												$ 19,817
Other User Costs (from Other User sheet)	$ -	$ -												
Other**	$ -	$ -												
Subtotal "B"	$ -	$ 3,046,276	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 705,836	$ 694,841	$ 399,098	$ 1,245,579
C. Detoxification/Water Treatment/Disposal of Wastes**														
Process Ponds/Sludge	$ -	$ -												
Heaps	$ -	$ -												
Dumps (Waste & Landfill)	$ -	$ -												
Tailings	$ -	$ -												
Surplus Water Disposal	$ -	$ -												
Monitoring	$ -	$ -												
Miscellaneous	$ -	$ -												
Solid Waste - On Site	$ -	$ 78,057									$ 19,514	$ 19,514	$ 19,514	$ 19,514
Solid Waste - Off Site	$ -	$ -												
Hazardous Materials	$ -	$ -												

Hydrocarbon Contaminated Soils	$ -	$ 218,637									$ 54,659	$ 54,659	$ 54,659	$ 54,659
Pumping (from Solution Mgmt sheet)	$ -	$ 21,598,860									$ 33,168	$ 33,168	$ 33,168	$ 33,168
Evaporation (from Solution Mgmt sheet)	$ -	$ -												
Treatment (from Solution Mgmt sheet)	$ -	$ 314,948									$ 104,983	$ 104,983	$ 104,983	
Decontamination (from Solution Mgmt sheet)	$ -	$ 132,160									$ 44,053	$ 44,053	$ 44,053	
Other User Costs (from Other User sheet)	$ -	$ 615,898,473									$ 10,315,908			
Other**	$ -	$ -												
Subtotal "C"	$ -	$ 638,241,135	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,572,285	$ 256,378	$ 256,378	$ 107,342
D. Structure, Equipment and Facility Removal, and Misc.														
Foundation & Buildings Areas	$ -	$ 11,703,345									$4,478,103	$4,478,103	$2,747,140	$0
Other Demolition	$ -	$ -												
Equipment Removal	$ -	$ 249,776										$249,776		
Fence Removal	$ -	$ -												
Fence Installation	$ -	$ -												
Culvert Removal	$ -	$ -												
Pipe Removal	$ -	$ 169,756												$169,756
Powerline Removal	$ -	$ 667,447												$667,447
Transformer Removal	$ -	$ 106,026												$106,026
Rip-rap, rock lining, gabions	$ -	$ 2,031,760									$1,410,672	$621,088		
Other Misc. Costs	$ -	$ -												
Other User Costs (from Other User sheet)	$ -	$ 7,141,782									$3,150,076	$1,786,142	$205,564	
Other**	$ -	$ -												
Subtotal "D"	$ -	$ 22,069,892	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,038,851	$ 7,135,108	$ 2,952,703	$ 943,229
E. Monitoring														
Reclamation Monitoring and Maintenance	$ -	$ 2,009,304									$502,326	$502,326	$502,326	$502,326
Ground and Surface Water Monitoring (calculated from user input in Monitoring Sheet)	$ -	$ 37,402									$ 37,402	$ -	$ -	$ -
Other User Costs (from Other User sheet)	$ -	$ 5,969,220									$375,000	$375,000	$375,000	$375,000
Subtotal "E"	$ -	$ 8,015,926	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 914,728	$ 877,326	$ 877,326	$ 877,326
F. Construction Management & Support														
Construction Management	$ -	$ 3,766,487									$941,622	$941,622	$941,622	$941,622
Construction Support	$ -	$ -												
Road Maintenance	$ -	$ 6,259,853									$1,564,963	$1,564,963	$1,564,963	$1,564,963
Other User Costs (from Other User sheet)	$ -	$ 31,557,681												
Other**	$ -	$ -												
Subtotal "F"	$ -	$ 41,584,021	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,506,585	$ 2,506,585	$ 2,506,585	$ 2,506,585
G. Closure Planning, G&A, Human Resources														
Closure Planning	$ -	$ -												
General & Administration	$ -	$ -												
Human Resources	$ -	$ 128,770,832									$1,386,686	$1,386,686	$1,386,686	$1,386,686
Other User Costs (from Other User sheet)	$ -	$ 49,053,680									$2,337,140	$2,337,140	$2,337,140	$2,337,140
Other**	$ -	$ -												
Subtotal "G"	$ -	$ 177,824,512	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,723,826	$ 3,723,826	$ 3,723,826	$ 3,723,826
Subtotal Operational & Maintenance Costs														
Subtotal A through G	$ -	$ 1,070,509,909	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 79,818,476	$ 62,731,413	$ 46,473,059	$ 53,356,392
Indirect Costs														
1. Engineering, Design and Construction (ED&C) Plan (7)	$ -	$ 42,820,396									$3,192,739	$2,509,256	$1,858,922	$2,134,256
2. Contingency (8)		$ 42,820,396	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,192,739	$ 2,509,257	$ 1,858,922	$ 2,134,256
3. Insurance (9)	$ -	$ 1,569,048									$116,990	$91,946	$68,116	$78,205
4. Performance Bond (10)	$ -	$ 32,115,297									$2,394,554	$1,881,942	$1,394,192	$1,600,692
5. Contractor Profit (11)		$ 107,050,991	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,981,848	$ 6,273,141	$ 4,647,306	$ 5,335,639
6. Contract Administration (12)		$ 64,230,595	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,789,109	$ 3,763,885	$ 2,788,384	$ 3,201,384
7. Government Indirect Cost (13)	$ -	$ -												
Subtotal Add-On Costs	$ -	$ 290,606,723	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 21,667,978	$ 17,029,427	$ 12,615,842	$ 14,484,430
Grand Total (Undiscounted)	$ -	$ 1,361,116,632	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 101,486,454	$ 79,760,839	$ 59,088,901	$ 67,840,823

Inflation Adjustment (Future Value = FV)	**FV = $Se^{(rt)}$**		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 101,486,454	$ 79,760,839	$ 59,088,901	$ 67,840,823
Market Risk Adjustment	**(MR x FV)**		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Future Value (Fv_{adj})	**Fv_{adj} = (FV + MR)**		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 101,486,454	$ 79,760,839	$ 59,088,901	$ 67,840,823
Net Present Value (PV)	**$PV = Fv_{adj}/(1+i)^t$**	$ 1,361,116,631	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 101,486,454	$ 79,760,839	$ 59,088,901	$ 67,840,823

Grand Total (Undiscounted)		$ 1,361,116,631
Grand Total (Inflation Adjusted) (FV)		$ 1,361,116,631
Grand Total Market Risk Adjusted (Fv_{adj})		$ 1,361,116,631
Grand Total Net Present Value (NPV)		$ 1,361,116,631

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

$ 33,168	$ 35,472	$ 35,472	$ 35,472	$ 35,472	$ 35,472	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924
	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 33,168	$ 35,472	$ 35,472	$ 35,472	$ 35,472	$ 35,472	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924

$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$375,000						$10,860	$10,860	$10,860	$10,860	$10,860	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204
$ 375,000	$ -	$ -	$ -	$ -	$ -	$ 10,860	$ 10,860	$ 10,860	$ 10,860	$ 10,860	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204

$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100
$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100

$1,386,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686
$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820
$ 1,570,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506

$ 2,124,774	$ 932,078	$ 932,078	$ 932,078	$ 932,078	$ 932,078	$ 956,390	$ 956,390	$ 956,390	$ 956,390	$ 956,390	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734

$84,991	$37,283	$37,283	$37,283	$37,283	$37,283	$38,256	$38,256	$38,256	$38,256	$38,256	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429
$ 84,991	$ 37,283	$ 37,283	$ 37,283	$ 37,283	$ 37,283	$ 38,256	$ 38,256	$ 38,256	$ 38,256	$ 38,256	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429
$3,114	$1,366	$1,366	$1,366	$1,366	$1,366	$1,402	$1,402	$1,402	$1,402	$1,402	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408
$63,743	$27,962	$27,962	$27,962	$27,962	$27,962	$28,692	$28,692	$28,692	$28,692	$28,692	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822
$ 212,477	$ 93,208	$ 93,208	$ 93,208	$ 93,208	$ 93,208	$ 95,639	$ 95,639	$ 95,639	$ 95,639	$ 95,639	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073
$ 127,486	$ 55,925	$ 55,925	$ 55,925	$ 55,925	$ 55,925	$ 57,383	$ 57,383	$ 57,383	$ 57,383	$ 57,383	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644
$ 576,803	$ 253,027	$ 253,027	$ 253,027	$ 253,027	$ 253,027	$ 259,627	$ 259,627	$ 259,627	$ 259,627	$ 259,627	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806

$ 2,701,577	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540

$ 2,701,577	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 2,701,577	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540
$ 2,701,577	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,185,105	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,216,017	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540

33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924

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$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204	$15,204
$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 15,204

$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100
$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100

$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686
$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820
$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506

$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734	$ 960,734

$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429	$38,429
$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429	$ 38,429
$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408	$1,408
$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822	$28,822
$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073	$ 96,073
$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644	$ 57,644
$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806	$ 260,806

$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540

$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540
$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,221,540

54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

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$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 88,658,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000
$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 48,924	$ 162,600	$ 162,600	$ 162,600	$ 88,820,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600

			$500,000																	
$ -	$ -	$ -	$ 500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

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$15,204	$15,204	$15,204	$15,204	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634
$ 15,204	$ 15,204	$ 15,204	$ 15,204	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634

$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100
$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100

$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686
$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820
$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506

$ 960,734	$ 960,734	$ 960,734	$ 1,460,734	$ 966,164	$ 1,079,840	$ 1,079,840	$ 1,079,840	$ 89,737,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840

$38,429	$38,429	$38,429	$58,429	$38,647	$43,194	$43,194	$43,194	$3,589,514	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754
$ 38,429	$ 38,429	$ 38,429	$ 58,429	$ 38,647	$ 43,194	$ 43,194	$ 43,194	$ 3,589,514	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754
$1,408	$1,408	$1,408	$2,141	$1,416	$1,583	$1,583	$1,583	$131,529	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168
$28,822	$28,822	$28,822	$43,822	$28,985	$32,395	$32,395	$32,395	$2,692,135	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315
$ 96,073	$ 96,073	$ 96,073	$ 146,073	$ 96,616	$ 107,984	$ 107,984	$ 107,984	$ 8,973,784	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384
$ 57,644	$ 57,644	$ 57,644	$ 87,644	$ 57,970	$ 64,790	$ 64,790	$ 64,790	$ 5,384,270	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630
$ 260,806	$ 260,806	$ 260,806	$ 396,539	$ 262,280	$ 293,140	$ 293,140	$ 293,140	$ 24,360,746	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005

$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,857,273	$ 1,228,444	$ 1,372,979	$ 1,372,979	$ 1,372,979	$ 114,098,586	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845

$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,857,273	$ 1,228,444	$ 1,372,979	$ 1,372,979	$ 1,372,979	$ 114,098,586	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,857,273	$ 1,228,444	$ 1,372,979	$ 1,372,979	$ 1,372,979	$ 114,098,586	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845
$ 1,221,540	$ 1,221,540	$ 1,221,540	$ 1,857,273	$ 1,228,444	$ 1,372,979	$ 1,372,979	$ 1,372,979	$ 114,098,586	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845

75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

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$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 162,600
$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 45,211,000	$ 1,764,000	$ 1,764,000	$ 1,764,000
$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 45,373,600	$ 1,926,600	$ 1,926,600	$ 1,926,600

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$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634	$20,634
$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 20,634

$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100	$146,100
$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 146,100

$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686	$566,686
$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820	$183,820
$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 750,506

$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 46,290,840	$ 2,843,840	$ 2,843,840	$ 2,843,840

$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$113,754	$1,851,634	$113,754	$113,754	$113,754
$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 1,851,634	$ 113,754	$ 113,754	$ 113,754
$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$4,168	$67,849	$4,168	$4,168	$4,168
$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$85,315	$1,388,725	$85,315	$85,315	$85,315
$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 4,629,084	$ 284,384	$ 284,384	$ 284,384
$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 2,777,450	$ 170,630	$ 170,630	$ 170,630
$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 12,566,375	$ 772,005	$ 772,005	$ 772,005

$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 58,857,215	$ 3,615,845	$ 3,615,845	$ 3,615,845

$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 58,857,215	$ 3,615,845	$ 3,615,845	$ 3,615,845
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 58,857,215	$ 3,615,845	$ 3,615,845	$ 3,615,845
$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 58,857,215	$ 3,615,845	$ 3,615,845	$ 3,615,845

96	97	98	99	100	TOTAL	Comments
2134	2135	2136	2137	2138		
					$ -	
					$ -	
					$ 2,618,559	
					$ 1,178,532	
					$ 165,432	
					$ -	
					$ -	
				$ 124,783	$ 124,783	
					$ -	
					$ 37,901,096	
					$ -	
					$ 14,361,348	
					$ 252,962	
					$ 8,485,468	
					$ 28,648,276	
					$ 77,897,132	
					$ 3,946,853	
					$ -	
					$ 4,147,706	
					$ -	
$ -	$ -	$ -	$ -	$ 124,783	$ 179,728,147	

					$ -	
					$ -	
					$ 119,982	
					$ -	
					$ 5,297	
					$ -	
					$ -	
				$ 922	$ 922	
					$ -	
					$ 1,177,337	
					$ -	
					$ 751,965	
					$ 11,625	
					$ 927,238	
					$ 32,093	
					$ 19,817	
					$ -	
					$ -	
$ -	$ -	$ -		$ 922	$ 3,046,276	

					$ -	
					$ -	
					$ -	
					$ -	
					$ -	
					$ -	
					$ -	
					$ 78,057	
					$ -	
					$ -	

					$ 218,637	
$ 162,600	$ 162,600	$ 162,600	$ 162,600	$ 12,583,176	$ 21,598,860	
					$ -	
					$ 314,948	
					$ 132,160	
$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 1,764,000	$ 408,209,565	$ 615,898,473	See User 12 for HDS Schedule out to 200 years. Truncated here
					$ -	at 100 years.
$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 1,926,600	$ 420,792,741	$ 638,241,135	

					$ 11,703,345	
					$ -	
					$ 249,776	
					$ -	
					$ -	
					$ -	
					$ 169,756	
					$ 667,447	
					$ 106,026	
					$ 2,031,760	
					$ -	
				$1,500,000	$ 7,141,782	
					$ -	
$ -	$ -	$ -	$ -	$ 1,500,000	$ 22,069,892	

					$ 2,009,304	
$ -	$ -	$ -	$ -	$ -	$ 37,402	
$20,634	$20,634	$20,634	$20,634	$2,641,152	$ 5,969,220	
$ 20,634	$ 20,634	$ 20,634	$ 20,634	$ 2,641,152	$ 8,015,926	

					$ 3,766,487	
					$ -	
					$ 6,259,853	
$146,100	$146,100	$146,100	$146,100	$18,700,848	$ 31,557,681	
					$ -	
$ 146,100	$ 146,100	$ 146,100	$ 146,100	$ 18,700,848	$ 41,584,021	

					$ -	
					$ -	
$566,686	$566,686	$566,686	$566,686	$72,535,757	$ 128,770,832	
$183,820	$183,820	$183,820	$183,820	$23,528,960	$ 49,053,680	
					$ -	
$ 750,506	$ 750,506	$ 750,506	$ 750,506	$ 96,064,717	$ 177,824,512	

$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 2,843,840	$ 539,825,163	$ 1,070,509,909	

$113,754	$113,754	$113,754	$113,754	$21,593,006	$ 42,820,396	
$ 113,754	$ 113,754	$ 113,754	$ 113,754	$ 21,593,007	$ 42,820,396	$0
$4,168	$4,168	$4,168	$4,168	$791,223	$ 1,569,048	
$85,315	$85,315	$85,315	$85,315	$16,194,755	$ 32,115,297	
$ 284,384	$ 284,384	$ 284,384	$ 284,384	$ 53,982,516	$ 107,050,991	$0
$ 170,630	$ 170,630	$ 170,630	$ 170,630	$ 32,389,510	$ 64,230,595	$0
					$ -	
$ 772,005	$ 772,005	$ 772,005	$ 772,005	$ 146,544,016	$ 290,606,723	

$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 686,369,180	$ 1,361,116,632	

$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 686,369,180	$ 1,361,116,631	
$ -	$ -	$ -	$ -	$ -	$ -	
$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 686,369,180	$ 1,361,116,631	
$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 3,615,845	$ 686,369,180	$ 1,361,116,631	

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Model Version: Version 1.4.1
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$21,598,860	N/A	$0	$21,598,860
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$203,580	$61,368	$0	$50,000	$314,948
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$321,969**	**$21,674,000**	**$0**	**$50,000**	**$22,045,968**

Solution/Water Management - User Input - Pumping

	Description (required)	ID Code	Water Type (select)	Management Type (select)	Capital Cost $	Flow (Q) l/s	Pipeline Length m	Static Head m	Pipe Diameter (ID) mm	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)
1	Yrs 1-5 - TSF to ACMA pit		Contact Water	Active		131.56	6,096	0.0	650	HDPE	80	20	24.0	30.4	60	0	
2	Yrs 1-5 - TSF SRS to ACMA pit		Contact Water	Active		28.27	2,500	80.0	450	HDPE	80	20	24.0	30.4	60	0	
3	Yrs 6-10 - TSF to ACMA pit		Contact Water	Active		90.80	6,096	0.0	450	HDPE	80	20	24.0	30.4	60	0	
4	Yrs 6-10 - TSF SRS to ACMA pit		Contact Water	Active		28.27	5,300	80.0	450	HDPE	80	20	24.0	30.4	60	0	
5	Yrs 11-51 - TSF to ACMA pit		Contact Water	Active		30.04	6,096	0.0	450	HDPE	80	20	24.0	30.4	492	0	0.2
6	Yrs 11-51 - TSF SRS to ACMA pit		Contact Water	Active		28.27	5,300	80.0	450	HDPE	80	20	24.0	30.4	492	0	0.2
7	Yrs 52-220 - ACMA pit to Treatment plant		Contact Water	Active		184.00	3,500	20.5	450	HDPE	80	20	24.0	30.4	2,028	0	0.2

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

Assumes that tailings return line and pumps will be available for pumping surplus decant water to pit at end of mine life
Where destination elevation is less than start, head is set to zero.
Seepage from WRD passively drains to pit bottom. Crews under Human Resources
Elevation for pit lake for Yrs 52-220 - ACMA pit to Treatment plant from 'EOP_Y04_2022_Pit_Vol_imperial.pdf'
Elevations for static head obtained from 'Figure 3-9 Mine Water Management Features Closure (PER0291)_R09.pdf'

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$21,598,860	N/A	$0	$21,598,860
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$203,580	$61,368	$0	$50,000	$314,948
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$321,969**	**$21,674,000**	**$0**	**$50,000**	**$22,045,968**

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) l/s	Pipeline Length m	Static Head m	Pipe Diameter (ID) mm	Pipe Material (select)	Pump Efficiency %	Total Concentated Losses [1]	Required Pressure at Outlet mH2O	Operating Period: Hrs/Day	Operating Period: Days/Month	Operating Period: Number of Months

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

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$21,598,860	N/A	$0	$21,598,860
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$203,580	$61,368	$0	$50,000	$314,948
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$321,969**	**$21,674,000**	**$0**	**$50,000**	**$22,045,968**

Solution/Water Management - Water Treatment

	Description (required)	ID Code	Water Type (select)	Treatment Type (select)	Treatment Method	Montly Quantity m3	Treatment Labor Crew Size per Shift	Capital Cost $	Consumable Cost/ m3 $	Treatment Operating Cost/m3 $	Operating Period: Number of Months	Operating Period: Hour per Day
1	**Treatment of Plant Decontamination Rinsate**		**Contact Water**	**Active**	**Operating WTP**	**5,253**	**3**	**$50,000**		**$0.38**	**4.0**	**12.0**

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

Assumes operational WTP will be available at the same operating cost/m3 as during operations
Includes rinseate water from rinsing bulk tanks, demolishing costs in User 2

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$21,598,860	N/A	$0	$21,598,860
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$203,580	$61,368	$0	$50,000	$314,948
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$321,969**	**$21,674,000**	**$0**	**$50,000**	**$22,045,968**

Solution/Water Management - User Input - Decontamation

	Description (required)	ID Code	Management Type (select)	Type	Disposal Location	Capital Cost $	Pumping Flow (Q) l/s	Pipeline Length m	Static Head m	Pipe Diameter (ID) mm	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)
1	**Plant decontamination**		**Active**	**Process - Plant & Buildings**			**5.00**	**1,200**	**0.0**	**300**	**HDPE**	**80**	**8**	**122.0**	**12.0**		

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

Includes tank rinsing for bulk tanks demolished in User 2

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$21,598,860	N/A	$0	$21,598,860
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$203,580	$61,368	$0	$50,000	$314,948
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$321,969**	**$21,674,000**	**$0**	**$50,000**	**$22,045,968**

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

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$21,598,860	N/A	$0	$21,598,860
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$203,580	$61,368	$0	$50,000	$314,948
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$321,969**	**$21,674,000**	**$0**	**$50,000**	**$22,045,968**

Solution/Water Management - Pumping

	Description (required)	Flow l/s	Manning n (see above)	Losses k	Velocity m/sec	Friction Head m	Total Dynamic Head m	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 $
1	**Yrs 1-5 - TSF to ACMA pit**	131.56	0.009	20	0.396	1	1	80	1.67	3	730	$0	$9,420	$0	$0	$9,420	$0.00
2	**Yrs 1-5 - TSF SRS to ACMA pit**	28.27	0.009	20	0.178	0	80	80	27.77	38	730	$0	$156,420	$0	$0	$156,420	$0.04
3	**Yrs 6-10 - TSF to ACMA pit**	90.80	0.009	20	0.571	3	3	80	3.67	5	730	$0	$20,700	$0	$0	$20,700	$0.00
4	**Yrs 6-10 - TSF SRS to ACMA pit**	28.27	0.009	20	0.178	0	80	80	27.81	38	730	$0	$156,660	$0	$0	$156,660	$0.04
5	**Yrs 11-51 - TSF to ACMA pit**	30.04	0.009	20	0.189	0	0	80	0.13	1	730	$0	$9,348	$0	$0	$9,348	$0.00
6	**Yrs 11-51 - TSF SRS to ACMA pit**	28.27	0.009	20	0.178	0	80	80	27.81	38	730	$0	$1,996,536	$0	$0	$1,996,536	$0.05
7	**Yrs 52-220 - ACMA pit to Treatment plant**	184.00	0.009	20	1.157	8	29	80	65.05	88	730	$0	$19,249,776	$0	$0	$19,249,776	$0.02
											5,107	**$0**	**$21,598,860**	**$0**	**$0**	**$21,598,860**	

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

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Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$21,598,860	N/A	$0	$21,598,860
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$203,580	$61,368	$0	$50,000	$314,948
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$321,969**	**$21,674,000**	**$0**	**$50,000**	**$22,045,968**

Solution/Water Management - Forced Evaporation

	Description (required)	Flow l/s	Manning n (see above)	Losses k	Velocity m/sec	Friction Head m	Total Dynamic Head m	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.

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Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$21,598,860	N/A	$0	$21,598,860
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$203,580	$61,368	$0	$50,000	$314,948
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$321,969**	**$21,674,000**	**$0**	**$50,000**	**$22,045,968**

Solution/Water Management - Water Treatment

	Description (required)	Total Quantity Treated m3	Capital Cost $	Total Consumables Cost $	Total Labor Cost $	Total Equipment + Operating Cost $	Total Treatment Cost $	Cost/ m3 $
1	**Treatment of Plant Decontamination Rinsate**	21,012	$50,000	$0	$203,580	$61,368	$314,948	$12.609
		21,012	**$50,000**	**$0**	**$203,580**	**$61,368**	**$314,948**	

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Closure Cost Estimate
Solution Mgmt

Solution/Water Management - Cost Summary

	Labor	Equipment + Operating + Power	Materials	Capital	Totals
Pumping	$0	$21,598,860	N/A	$0	$21,598,860
Forced Evaporation	$0	$0		$0	$0
Water Treatment	$203,580	$61,368	$0	$50,000	$314,948
Decontamination	$118,389	$13,771		$0	$132,160
TOTALS	**$321,969**	**$21,674,000**	**$0**	**$50,000**	**$22,045,968**

Solution/Water Management - Decontamination

	Description (required)	Flow l/s	Manning n (see above)	Losses k	Velocity m/sec	Friction Head m	Total Dynamic Head m	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 $
1	**Plant decontamination**	5.00	0.009	8	0.071	0	0	80	0.00	0	1,464	$0	$0	$118,389	$13,771	$132,160
											1,464	**$0**	**$0**	**$118,389**	**$13,771**	**$132,160**

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Closure Cost Estimate
Other User

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

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	Pipeline - TSF pond to ACMA pit		Water Treatment - Contac	6,096	m			$242.91		C. Water Management	$1,480,779	8-inch pipe, @ $74.04/ft = $242.91/m; 6000 m length (seepage system to pit) per "Donlin Creek Budg
2	Pipeline - Seepage collection to ACMA pit		Water Treatment - Contac	2,286	m			$648.98		C. Water Management	$1,483,568	24-inch pipe, @ $197.81/ft = $648.98/m; (from plant to pit) per "Donlin Creek Budgetary HDPE 24 and
3	Drain Fluids from Equipment (User Sheet 6)		Equipment Removal	1				$1,205,328.80	$417,643.20	D. Facility & Equipment	$1,622,972	See User Sheet 6
4	Equipment Fluid Disposal Costs (See User 1)		Equipment Removal	1			$1,949,311.79			D. Facility & Equipment	$1,949,312	See User Sheet 1
5	LLDPE Liner for WRF Diversion Ditch		Waste Rock Dump	40,500	m2				$12.12	C. Water Management	$490,860	Cost from DGLLC; includes excavation, liner bedding, LLDPE liner, and riprap.
6	Bulk Tank Demolition and Burial (User Sheet 2)		Equipment Removal	1				$258,723.89	$276,826.02	D. Facility & Equipment	$535,550	See User Sheet 2
7	Miscellaneous Hazardous Waste Disposal (see User Sheet 3)		Equipment Removal	1			$808,384.68			D. Facility & Equipment	$808,385	See User Sheet 3
8	Jung Port Sheet Piling Removal. (User Sheet 7)		Off Site Facilities	1	ea.			$83,137.19	$122,426.37	D. Facility & Equipment	$205,564	Measured from GA from BGC/
9	Bag House Dust Disposal		Hazardous Materials	1	ls	$20,000				D. Facility & Equipment	$20,000	From June 8, 2011 email from Alexandra J Kozak.
10	American Creek Spillway drilling and blasting		Surface Channels	1,086,000	tonnes		$0.40	$0.20	$0.40	C. Water Management	$1,086,000	Drilling and blasting costs from DGLLC
11	Closure Crew Camp and Transportation Costs		Closure G & A	4	years		$1,076,660.00	$1,076,660.00		G. Closure Planning, G	$8,613,280	See User Sheet 8 and 9
12	Solution Mgmt Crew Transportation Costs		Closure G & A	220	years		$91,910.00	$91,910.00		G. Closure Planning, G	$40,440,400	See User Sheet 8
13	Tailings causeway Liner (Lite biaxial geogrid)		Tailings Impoundments	1,451,049	M2		$2.45	$0.27		A. Earthwork	$3,946,853	See Email in User Sheet 11, labor and equipment is estimated, area proportioned for current tailings
14	Equipment Mobilization/Demobilization		Closure G & A	1	ls			$1,382,568.53	$2,765,137.05	Mob/Demob	$4,147,706	See User Sheet 5
15	HDS capex (Initital Construction)		Water Treatment - Contac	1	ls	$86,894,000				C. Water Management	$86,894,000	AMEC Water Treatment Plant - Closure Estimate
16	HDS replacement costs (assume 30-year replacement schedule)		Water Treatment - Contac	5	ea.		$43,447,000.00			C. Water Management	$217,235,000	James Fueg, 3/20/2017 email, replacement every 30 yr = to 1/2 capex. Yr 80, 110, 140, 170
17	HDS treatment operations		Water Treatment - Contac	170	yrs				$1,764,000.00	C. Water Management	$299,880,000	Per Attachment 2 of October 18, 2016 "Technical Memorandum: Early Closure Water Volumes and T
18	Crooked Creek span bridge replacement cost every 50 years		Other Facilities	4	ls		$166,000.00	$167,000.00	$167,000.00	D. Facility & Equipment	$2,000,000	e-mail James Fueg 5/27/2015
19	Manholes for TSF consolidation		Tailings Impoundments	1,000	each				$5,774.70	C. Water Management	$5,774,700	Per quote from Plasson USA, April 28, 2016 (SP-7982.pdf)
20	WTP Capital Construction		Water Treatment - Contac	1	each	$1,573,565				C. Water Management	$1,573,565	From Donlin Gold Trust Fund Model, June 3, 2015 excel file
21	Long Term Monitoring and Sampling		Monitoring/Regulatory Re	1	ea.		$3,999,970.00		$94,250.00	E. Monitoring	$4,094,220	See User Sheet 10.
22	Geotechnical Dam Monitoring (TSF and CWD)		Monitoring/Regulatory Re	5	Yrs			$350,000.00		E. Monitoring	$1,750,000	Based on Red Dog Bond Cost
23	Geotechnical Dam Instrumentation (TSF and CWD)		Monitoring/Regulatory Re	5	Yrs				$25,000.00	E. Monitoring	$125,000	Based on Red Dog Bond Cost
24	Long Term Road/Airport Maintenance		Security & Maintenance	216	Yrs			$65,851.48	$80,248.90	F. Construction Mgmt	$31,557,681	See User 1
						$88,487,565	$253,172,977	$47,671,848	$328,383,005		$717,715,394	

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).
Item 10, assumed division of labor, equipment and materials.
HDS plant 30 year periodic replacement assumes replacement of mechanical, piping, electrical, instrumentation and instrumentation and coatings.
HDS Plant replaced 5 times over 170 years (yr 80, 110, 140, 170, & 200).

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Closure Cost Estimate
Human Resources

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Human Resources	Totals
Salaries & Benefits	$128,770,832
Severance & Relocation	$0
TOTALS	$128,770,832

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 #	Closure Year 14 #	Closure Year 15 #	Closure Year 16 #	Closure Year 17 #	Closure Year 18 #	Closure Year 19 #
1	Environmental - Environmental Engineer	$164,000	Monitoring/Regulatory Reporting	1	1	1	1	1														
2	Environmental - Environmental Technician	$164,000	Monitoring/Regulatory Reporting	4	4	4	4	4														
3	Soln Mgmt Rotation 1 - laborer 1	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	Soln Mgmt Rotation 1 - laborer 2	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Soln Mgmt Rotation 1 - laborer 3	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	Soln Mgmt - supervisor	$106,080	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Soln Mgmt Rotation 2 - laborer 1	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	Soln Mgmt Rotation 2 - laborer 2	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	Soln Mgmt Rotation 2 - laborer 3	$76,768	H2O Treat Sys Constr - Active	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	SUBTOTAL			$ 1,386,686	$ 1,386,686	$ 1,386,686	$ 1,386,686	$ 1,386,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686

Notes:
Solution management crew, 3 laborers on 12 hour days, 14 day rotations for 13 shifts per year. 2 crews for full coverage. Supervisor is salary and not onsite at all times.
Construction management staff is in "Const. Mgmt" worksheet.

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Closure Cost Estimate
Human Resources

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Human Resources	
	Totals
Salaries & Benefits	$128,770,832
Severance & Relocation	$0
TOTALS	$128,770,832

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 #	Closure Year 14 #	Closure Year 15 #	Closure Year 16 #	Closure Year 17 #	Closure Year 18 #	Closure Year 19 #
1	**Environmental - Environmental Engineer**	**$0**						1.0														
2	**Environmental - Environmental Technician**	**$0**						4.0														
3	**Soln Mgmt Rotation 1 - laborer 1**	**$0**																				
4	**Soln Mgmt Rotation 1 - laborer 2**																					
5	**Soln Mgmt Rotation 1 - laborer 3**																					
6	**Soln Mgmt - supervisor**																					
7	**Soln Mgmt Rotation 2 - laborer 1**																					
8	**Soln Mgmt Rotation 2 - laborer 2**																					
9	**Soln Mgmt Rotation 2 - laborer 3**																					
			SUBTOTAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Notes:
1. Assumes Severance + Outplacement

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Closure Cost Estimate
Human Resources

Closure Year 20 #	Closure Year 21 #	Closure Year 22 #	Closure Year 23 #	Closure Year 24 #	Closure Year 25 #	Closure Year 26 #	Closure Year 27 #	Closure Year 28 #	Closure Year 29 #	Closure Year 30 #	Closure Year 31 #	Closure Year 32 #	Closure Year 33 #	Closure Year 34 #	Closure Year 35 #	Closure Year 36 #	Closure Year 37 #	Closure Year 38 #	Closure Year 39 #	Closure Year 40 #	Closure Year 41 #	Closure Year 42 #
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686	$ 566,686

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Closure Cost Estimate
Human Resources

Closure Year 20 #	Closure Year 21 #	Closure Year 22 #	Closure Year 23 #	Closure Year 24 #	Closure Year 25 #	Closure Year 26 #	Closure Year 27 #	Closure Year 28 #	Closure Year 29 #	Closure Year 30 #	Closure Year 31 #	Closure Year 32 #	Closure Year 33 #	Closure Year 34 #	Closure Year 35 #	Closure Year 36 #	Closure Year 37 #	Closure Year 38 #	Closure Year 39 #	Closure Year 40 #	Closure Year 41 #	Closure Year 42 #
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

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Closure Cost Estimate
Waste Rock Dumps

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$875,177	$3,415,366	N/A	$4,290,543
Cover Placement Cost	$3,002,078	$12,593,306	N/A	$15,595,384
Topsoil Placement Cost	$3,349,781	$14,033,374	N/A	$17,383,155
Ripping/Scarifying Cost	$128,917	$503,097	N/A	$632,014
Subtotal Earthworks	**$7,355,953**	**$30,545,143**	**$0**	**$37,901,096**
Revegetation Cost	$360,824	$104,375	$712,138	$1,177,337
TOTALS	**$7,716,777**	**$30,649,518**	**$712,138**	**$39,078,433**

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 m	Mid-Bench Length m	Average Flat Area Long Dimension (ripping distance) m	Final (Regraded) Dump Footprint ha	Regrade Volume (1) (if calculated elsewhere) m3	Cover Thickness Slopes mm	Cover Thickness Flat Areas mm	Distance from Cover Borrow m	Slope from Dump to Cover Borrow % grade	Slope Growth Media Thickness mm	Flat Area Growth Media Thickness mm	Distance from Growth Media Stockpile m	Slope from Dump to Stockpile % grade
1	**WRDF - Full Buildout**		Waste Rock Dur	0.0	1.4	3.0	0.0	30	59,380	4,000	1017.30		305.0	305.0	6,500	-5.0	356.0	356.0	6,500	-5.0
2	**Mine Site Laydown A**		Waste Rock Dur	18.0	2.0	3.0	0.0	10	900	500	28.50		350.0	350.0	3,000	-2.0	300.0	300.0	3,000	-2.0
3	**Mine Site Laydown B**		Waste Rock Dur	18.0	2.0	3.0	0.0	12	650	200	30.80		350.0	350.0	3,000	-2.0	300.0	300.0	3,000	-2.0
4	**Mine Site - Laydown C**		Waste Rock Dur	18.0	2.0	3.0	0.0	9	400	500	11.70		350.0	350.0	3,000	-2.0	300.0	300.0	3,000	-2.0
5	**Mine Site - Laydown D**		Waste Rock Dur	18.0	2.0	3.0	0.0	12	440	500	29.50		350.0	350.0	3,000	-2.0	300.0	300.0	3,000	-2.0
6	**Process Plant Pad**		Waste Rock Dur	20.0	2.0	3.0	0.0	15	600	100	41.80		350.0	350.0	4,000	-2.0	300.0	300.0	4,000	-2.0
7	**Ore Stockpile Pad**		Ore Stockpile	0.0	3.0	3.0	0.0	1	1	500	83.40		350.0	350.0	2,500	-2.0	300.0	300.0	2,500	-2.0
8	**Fuel storage area pad**		Waste Rock Dur	15.0	2.0	3.0	0.0	5	1,870	900	35.70		350.0	350.0	5,000	-3.0	300.0	300.0	5,000	-3.0
9	**Primary Crusher Pad and Ore stockpile**		Ore Stockpile	15.0	2.0	3.0	0.0	12	450	500	25.00		350.0	350.0	2,500	-1.0	300.0	300.0	2,500	-1.0
10	**Truck Shop Pad**		Waste Rock Dur	10.0	2.0	3.0	0.0	5	1,000	500	7.80		350.0	350.0	4,000	-1.0	300.0	300.0	4,000	-1.0

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)

Haul distances and dump dimensions per AMEC mining and reclamation schedule. R. Ulansky.
For reclamation bonding cover is assumed to be placed with rental 777 trucks.

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Closure Cost Estimate
Waste Rock Dumps

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$875,177	$3,415,366	N/A	$4,290,543
Cover Placement Cost	$3,002,078	$12,593,306	N/A	$15,595,384
Topsoil Placement Cost	$3,349,781	$14,033,374	N/A	$17,383,155
Ripping/Scarifying Cost	$128,917	$503,097	N/A	$632,014
Subtotal Earthworks	**$7,355,953**	**$30,545,143**	**$0**	**$37,901,096**
Revegetation Cost	$360,824	$104,375	$712,138	$1,177,337
TOTALS	**$7,716,777**	**$30,649,518**	**$712,138**	**$39,078,433**

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	**WRDF - Full Buildout**	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	User Mix 1	User Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
2	**Mine Site Laydown A**	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	User Mix 1	User Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
3	**Mine Site Laydown B**	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	User Mix 1	User Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
4	**Mine Site - Laydown C**	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	User Mix 1	User Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
5	**Mine Site - Laydown D**	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	User Mix 1	User Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
6	**Process Plant Pad**	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	User Mix 1	User Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
7	**Ore Stockpile Pad**	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	User Mix 1	User Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
8	**Fuel storage area pad**	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	User Mix 1	User Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
9	**Primary Crusher Pad and Ore stockpile**	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	User Mix 1	User Mix 1			Chemical	Chemical	Yes	Yes	Large Dozer
10	**Truck Shop Pad**	1	LS - broken	Med		Alluvium	Med Truck	Alluvium	Med Truck	User Mix 1	User Mix 1			Chemical	Chemical	Yes	Yes	Large 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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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety **Cost Basis: Alaska Davis Bacon 2016**

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$875,177	$3,415,366	N/A	$4,290,543
Cover Placement Cost	$3,002,078	$12,593,306	N/A	$15,595,384
Topsoil Placement Cost	$3,349,781	$14,033,374	N/A	$17,383,155
Ripping/Scarifying Cost	$128,917	$503,097	N/A	$632,014
Subtotal Earthworks	**$7,355,953**	**$30,545,143**	**$0**	**$37,901,096**
Revegetation Cost	$360,824	$104,375	$712,138	$1,177,337
TOTALS	**$7,716,777**	**$30,649,518**	**$712,138**	**$39,078,433**

Waste Rock Dumps - Calculations

Regrading Volume Calculation

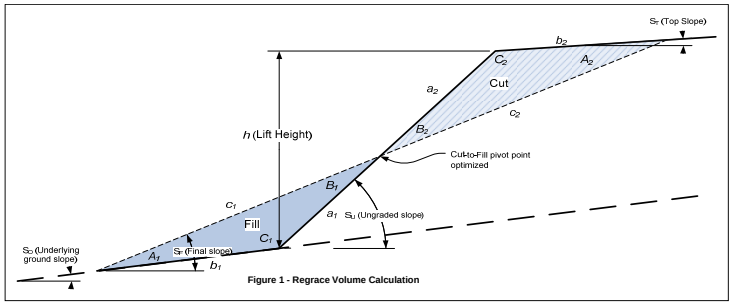

Figure 1 - Regrace Volume Calculation

Regrading Push Distance Calculation

dozing distance: based on 2/3 final cut slope + 2/3 final fill slope (minimum = 15 m)

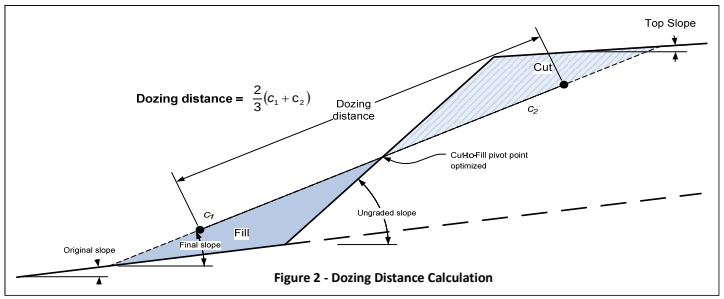

Figure 2 - Dozing Distance Calculation

Final Slope Area and Footprint Area Calculations

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

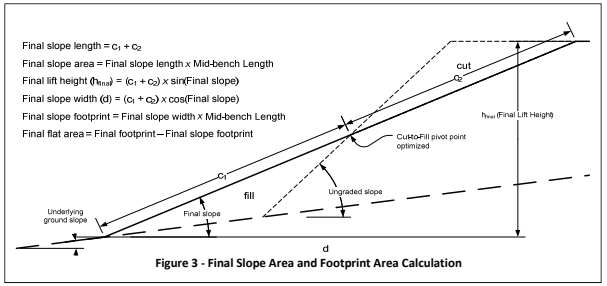

Figure 3 - Final Slope Area and Footprint Area Calculation

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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TOTALS	**$7,716,777**	**$30,649,518**	**$712,138**	**$39,078,433**

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 m3	Dozing Distance (see above) m	Regrading Fleet	Uncorrected Dozer Productivity m3/hr	Grade Correction	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity m3/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**WRDF - Full Buildout**	10,597,340	48	D10R	843	1.6	1.0	0.88	1.0	739	14,334	$871,651	$3,401,602	$4,273,253
2	**Mine Site Laydown A**	13,296	20	D10R	1,794	1.6	1.0	0.88	1.0	1,573	8	$486	$1,898	$2,384
3	**Mine Site Laydown B**	13,469	23	D10R	1,554	1.6	1.0	0.88	1.0	1,362	10	$608	$2,373	$2,981
4	**Mine Site - Laydown C**	4,904	18	D10R	1,921	1.6	1.0	0.88	1.0	1,684	3	$182	$712	$894
5	**Mine Site - Laydown D**	9,118	23	D10R	1,554	1.6	1.0	0.88	1.0	1,362	7	$426	$1,661	$2,087
6	**Process Plant Pad**	20,295	30	D10R	1,244	1.6	1.0	0.88	1.0	1,090	19	$1,155	$4,509	$5,664
7	**Ore Stockpile Pad**	0		D10R								$0	$0	$0
8	**Fuel storage area pad**	6,254	15	D10R	2,243	1.6	1.0	0.88	1.0	1,966	3	$182	$712	$894
9	**Primary Crusher Pad and Ore stockpile**	8,945	23	D10R	1,589	1.6	1.0	0.88	1.0	1,392	6	$365	$1,424	$1,789
10	**Truck Shop Pad**	3,159	15	D10R	2,243	1.6	1.0	0.88	1.0	1,966	2	$122	$475	$597
		10,676,780									14,392	**$875,177**	**$3,415,366**	**$4,290,543**

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Closure Cost Estimate
Waste Rock Dumps

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Topsoil Placement Cost	$3,349,781	$14,033,374	N/A	$17,383,155
Ripping/Scarifying Cost	$128,917	$503,097	N/A	$632,014
Subtotal Earthworks	**$7,355,953**	**$30,545,143**	**$0**	**$37,901,096**
Revegetation Cost	$360,824	$104,375	$712,138	$1,177,337
TOTALS	**$7,716,777**	**$30,649,518**	**$712,138**	**$39,078,433**

Waste Rock Dumps - Cover and Growth Media Costs

		Cover (lower layer)								Growth Media Placement							
	Description (required)	Cover Volume m3	Cover Replacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Cover Labor Cost $	Cover Equipment Cost $	Total Cover Cost $	Growth Media Volume m3	Growth Media Replacement Fleet	Fleet Productivity BCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**WRDF - Full Buildout**	3,191,207	777D/992G	787	8	4,056	$2,505,716	$10,451,825	$12,957,541	3,724,847	777D/992G	787	8	4,735	$2,925,188	$12,201,527	$15,126,715
2	**Mine Site Laydown A**	99,633	777D/992G	794	4	126	$46,582	$200,572	$247,154	85,396	777D/992G	794	4	108	$39,928	$171,919	$211,847
3	**Mine Site Laydown B**	107,791	777D/992G	794	4	136	$50,279	$216,490	$266,769	92,390	777D/992G	794	4	116	$42,885	$184,653	$227,538
4	**Mine Site - Laydown C**	41,601	777D/992G	794	4	52	$19,224	$82,776	$102,000	35,657	777D/992G	794	4	45	$16,637	$71,633	$88,270
5	**Mine Site - Laydown D**	103,132	777D/992G	794	4	130	$48,061	$206,939	$255,000	88,396	777D/992G	794	4	111	$41,037	$176,694	$217,731
6	**Process Plant Pad**	146,730	777D/992G	838	5	176	$75,983	$323,506	$399,489	125,764	777D/992G	838	5	150	$64,758	$275,715	$340,473
7	**Ore Stockpile Pad**	291,789	777D/992G	659	3	443	$136,302	$596,092	$732,394	250,095	777D/992G	659	3	379	$116,611	$509,975	$626,586
8	**Fuel storage area pad**	124,690	777D/992G	726	5	172	$74,256	$316,153	$390,409	106,873	777D/992G	726	5	147	$63,463	$270,201	$333,664
9	**Primary Crusher Pad and Ore stockpile**	87,409	777D/992G	794	3	110	$33,845	$148,014	$181,859	74,919	777D/992G	794	3	94	$28,922	$126,485	$155,407
10	**Truck Shop Pad**	27,012	777D/992G	846	4	32	$11,830	$50,939	$62,769	23,152	777D/992G	846	4	28	$10,352	$44,572	$54,924
		4,220,994				5,433	**$3,002,078**	**$12,593,306**	**$15,595,384**	4,607,489				5,913	**$3,349,781**	**$14,033,374**	**$17,383,155**

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Closure Cost Estimate
Waste Rock Dumps

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Rock Dumps - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$875,177	$3,415,366	N/A	$4,290,543
Cover Placement Cost	$3,002,078	$12,593,306	N/A	$15,595,384
Topsoil Placement Cost	$3,349,781	$14,033,374	N/A	$17,383,155
Ripping/Scarifying Cost	$128,917	$503,097	N/A	$632,014
Subtotal Earthworks	**$7,355,953**	**$30,545,143**	**$0**	**$37,901,096**
Revegetation Cost	$360,824	$104,375	$712,138	$1,177,337
TOTALS	**$7,716,777**	**$30,649,518**	**$712,138**	**$39,078,433**

Waste Rock Dumps - Scarifying/Revegetation Costs

	Description (required)	Slope Area ha	Flat Area ha	Total Surface Area ha	Final Slope Length m	Flat Area Long Dimension m	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	**WRDF - Full Buildout**	561.07	485.22	1046.29	94	4,000	D10R	886	762	$100,215	$391,087	$491,302	$281,631	$81,466	$555,831	$918,928
2	**Mine Site Laydown A**	3.38	25.09	28.47	37	500	D10R	5	40	$2,736	$10,679	$13,415	$7,662	$2,217	$15,124	$25,003
3	**Mine Site Laydown B**	2.87	27.92	30.79	44	200	D10R	4	45	$2,980	$11,628	$14,608	$8,289	$2,398	$16,357	$27,044
4	**Mine Site - Laydown C**	1.36	10.52	11.88	34	500	D10R	2	17	$1,155	$4,509	$5,664	$3,199	$925	$6,312	$10,436
5	**Mine Site - Laydown D**	1.95	27.52	29.47	44	500	D10R	3	44	$2,858	$11,154	$14,012	$7,931	$2,295	$15,656	$25,882
6	**Process Plant Pad**	3.48	38.45	41.93	58	100	D10R	6	64	$4,257	$16,612	$20,869	$11,284	$3,264	$22,275	$36,823
7	**Ore Stockpile Pad**	0.00	83.37	83.37	3	500	D10R	0	133	$8,088	$31,562	$39,650	$22,440	$6,491	$44,289	$73,220
8	**Fuel storage area pad**	3.25	32.37	35.62	17	900	D10R	5	51	$3,405	$13,289	$16,694	$9,589	$2,774	$18,923	$31,286
9	**Primary Crusher Pad and Ore stockpile**	1.91	23.07	24.98	42	500	D10R	3	37	$2,432	$9,492	$11,924	$6,722	$1,944	$13,270	$21,936
10	**Truck Shop Pad**	1.65	6.07	7.72	16	500	D10R	3	10	$791	$3,085	$3,876	$2,077	$601	$4,101	$6,779
		580.92	759.60	1,340.52				917	1,203	**$128,917**	**$503,097**	**$632,014**	**$360,824**	**$104,375**	**$712,138**	**$1,177,337**

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.)

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Bond Calculation
Tailings

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Model Version: Version 1.4.1
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$22,196	$86,618	N/A	$108,814
Cover Placement Cost	$849,247	$3,800,349	N/A	$4,649,596
Topsoil Placement Cost	$1,722,085	$7,531,211	N/A	$9,253,296
Ripping/Scarifying Cost	$102,161	$247,481	N/A	$349,642
Subtotal Earthworks	**$2,695,689**	**$11,665,659**	**$0**	**$14,361,348**
Revegetation Cost	$277,418	$80,248	$394,299	$751,965
TOTALS	**$2,973,107**	**$11,745,907**	**$394,299**	**$15,113,313**

Tailings - User Input

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

	Facility Description		Physical - MANDATORY								Cover				Growth Media			
	Description (required)	ID Code	Underlying Ground Slope % Grade	Ungraded Slope _H:1V	Final (Regraded) Embankment Slope _H:1V	Final Embankment Height m	Final Tailings Surface Area ha	Mid-Embankment or Ripping Length m	Embankment Regrade Volume (if calculated elsewhere) m3	Surface Regrade Volume (calculated elsewhere) m3	Embankment Cover Thickness mm	Tailings Surface Cover Thickness mm	Distance from Cover Borrow m	Slope from Tailings to Borrow % grade	Embankment Growth Media Thickness mm	Tailings Surface Growth Media Thickness mm	Distance from Growth Material Stockpile m	Slope from Tailings to Stockpile % grade
1	**Tailings Storage Area**		**0.0**	**1.7**	**1.7**	**80**	**968.20**	**3,962**		**100,000**	**0.0**	**300.0**	**500**	**0.0**	**300.0**	**350.0**	**2,000**	**-4.0**

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)

Rock fill included in Haul Material sheet. Cover layer (colluvium) will be (300mm) and growth media (peat) will be (350mm). - BGC
Embankment height actual 125 meters. Average height conservatively estimated at 80 meters, with average mid-bench length at about 1100 meters.

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Tailings - User Input (cont.) — You must fill in ALL green cells and relevant blue cells in this section for each tailings impoundment

		Grading				Cover		Growth Media		Revegetation								
	Description (required)	Dozing Material Condition (select)	Embankment 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 Embankment Slope (select)	Seed Mix Tailings Surface (select)	Mulch Embankment Slopes (select)	Mulch Tailings Surface (select)	Fertilizer Embankment Slopes (select)	Fertilizer Tailing Surface (select)	Embankment Slope Scarify/ Rip? (select)	Tailings Surface Scarify/ Rip? (select)	Scarifying/ Ripping Fleet (select)
1	**Tailings Storage Area**	**1**	**Alluvium**	**Med**	**No**	**Gravel**	**Med Truck**	**Alluvium**	**Med Truck**	**User Mix 2**	**User Mix 2**	**None**	**None**	**Chemical**	**Chemical**	**Yes**	**Yes**	**Grader**

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

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Tailings - Calculations

Surface Area Calculations

Top Surface Area provided by user

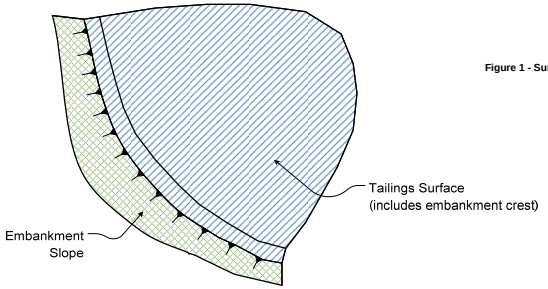

Figure 1 - Surface Areas

Final Slope Area and Footprint Area Calculations

$$\text{Overall slope length (c)} = \frac{\text{Embankment height}}{\cos(\text{Overal l slope angle})}$$

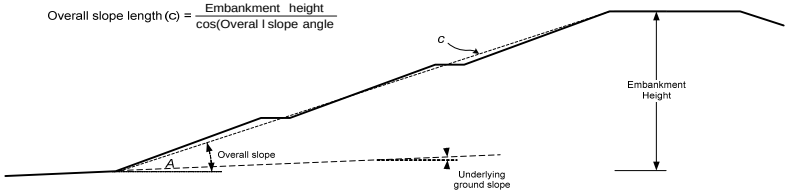

Figure 2 - Final Slope Area and Footprint Area Calculation

Grading Calculations

Grading assumed on impoundment surface only, not embankment
Average push distance assumed to be 2/3 of the 180 m maximum from Catepillar Handbook or 120 m
Material assumed to be loose stockile (1.2 productivity factor)
Dozing density correction based on dry sand = 2300/2400 = 0.96
Slope assumed to be 0 to 5% (1.0 productivity factor)

Ripping/Scarifying/Revegetation Calculation

Minimum 1 hr ripping/scarifying per area
Minimum 1 acre revegetation crew time per area

Regrading Volume Calculation

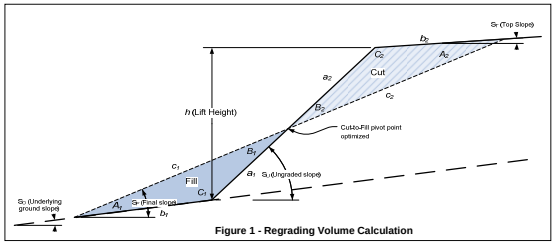

Figure 1 - Regrading Volume Calculation

Regrading Push Distance Calculation

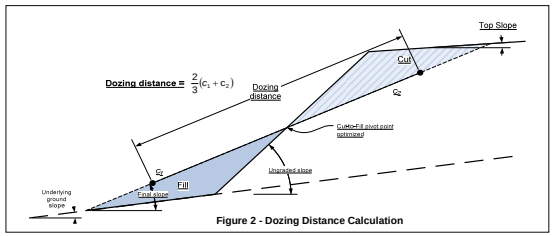

Figure 2 - Dozing Distance Calculation

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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$22,196	$86,618	N/A	$108,814
Cover Placement Cost	$849,247	$3,800,349	N/A	$4,649,596
Topsoil Placement Cost	$1,722,085	$7,531,211	N/A	$9,253,296
Ripping/Scarifying Cost	$102,161	$247,481	N/A	$349,642
Subtotal Earthworks	**$2,695,689**	**$11,665,659**	**$0**	**$14,361,348**
Revegetation Cost	$277,418	$80,248	$394,299	$751,965
TOTALS	**$2,973,107**	**$11,745,907**	**$394,299**	**$15,113,313**

Tailings - Embankment 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 m3	Dozing Distance (see above) m	Regrading Fleet	Uncorrected Dozer Productivity m3/hr	Grade Correction	Dozing Material Condition	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity m3/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Tailings Storage Area**	0		D10R								$0	$0	$0
												$0	**$0**	**$0**

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Bond Calculation
Tailings

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$22,196	$86,618	N/A	$108,814
Cover Placement Cost	$849,247	$3,800,349	N/A	$4,649,596
Topsoil Placement Cost	$1,722,085	$7,531,211	N/A	$9,253,296
Ripping/Scarifying Cost	$102,161	$247,481	N/A	$349,642
Subtotal Earthworks	**$2,695,689**	**$11,665,659**	**$0**	**$14,361,348**
Revegetation Cost	$277,418	$80,248	$394,299	$751,965
TOTALS	**$2,973,107**	**$11,745,907**	**$394,299**	**$15,113,313**

Tailings - Surface 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 m3	Dozing Distance (see above) m	Regrading Fleet	Uncorrected Dozer Productivity m3/hr	Grade Correction	Density Correction	Dozing Material	Side-by-Side or Slot Dozing	Total Hourly Productivity m3/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Tailings Storage Area**	100,000	122	D10R	383	1.00	0.96	1.20	1.00	274	365	$22,196	$86,618	$108,814
		100,000									365	**$22,196**	**$86,618**	**$108,814**

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Bond Calculation
Tailings

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Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$22,196	$86,618	N/A	$108,814
Cover Placement Cost	$849,247	$3,800,349	N/A	$4,649,596
Topsoil Placement Cost	$1,722,085	$7,531,211	N/A	$9,253,296
Ripping/Scarifying Cost	$102,161	$247,481	N/A	$349,642
Subtotal Earthworks	**$2,695,689**	**$11,665,659**	**$0**	**$14,361,348**
Revegetation Cost	$277,418	$80,248	$394,299	$751,965
TOTALS	**$2,973,107**	**$11,745,907**	**$394,299**	**$15,113,313**

Tailings - Cover and Growth Media Costs

		Cover Placement								Growth Media Placement							
	Description (required)	Cover Volume m3	Cover Placement Fleet	Cover Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Placement Cost $	Growth Media Volume m3	Growth Media Placement Fleet	Growth Media Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoil Placement Cost $
1	**Tailings Storage Area**	2,904,594	777D/992G	840	2	3,457	$849,247	$3,800,349	$4,649,596	3,633,220	777D/992G	649	3	5,597	$1,722,085	$7,531,211	$9,253,296
		2,904,594				3,457	**$849,247**	**$3,800,349**	**$4,649,596**	3,633,220				5,597	**$1,722,085**	**$7,531,211**	**$9,253,296**

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Bond Calculation
Tailings

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$22,196	$86,618	N/A	$108,814
Cover Placement Cost	$849,247	$3,800,349	N/A	$4,649,596
Topsoil Placement Cost	$1,722,085	$7,531,211	N/A	$9,253,296
Ripping/Scarifying Cost	$102,161	$247,481	N/A	$349,642
Subtotal Earthworks	**$2,695,689**	**$11,665,659**	**$0**	**$14,361,348**
Revegetation Cost	$277,418	$80,248	$394,299	$751,965
TOTALS	**$2,973,107**	**$11,745,907**	**$394,299**	**$15,113,313**

Tailings - Scarifying/Revegetation Costs

	Description (required)	Embankment Slope Area ha	Tailings Surface Area ha	Total Surface Area ha	Final Slope Length m	Ripping/ Scarifying Fleet	Slope Scarifying/ Ripping Hours hrs	Flat Area 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	**Tailings Storage Area**	62.43	968.20	1030.63	158	16G/H	101	1,579	$102,161	$247,481	$349,642	$277,418	$80,248	$394,299	$751,965
		62.43	968.20	1,030.63			101	1,579	**$102,161**	**$247,481**	**$349,642**	**$277,418**	**$80,248**	**$394,299**	**$751,965**

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Closure Cost Estimate
Roads

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$354,037	$1,019,549	N/A	$1,373,586
Cover Placement Cost	$214,708	$960,805	N/A	$1,175,513
Ripping/Scarifying Cost	$14,171	$55,289	N/A	$69,460
Subtotal Earthworks	**$582,916**	**$2,035,643**		**$2,618,559**
Revegetation Cost	$20,131	$5,824	$94,027	$119,982
TOTALS	**$603,047**	**$2,041,467**	**$94,027**	**$2,738,541**

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 m	Road Length m	Slope Replacement Percent %	Regrade Volume (if calculated elsewhere) m3	Disturbed Area (if calculated elsewhere) ha	Growth Media Thickness mm	Haul Distance from Growth Media Stockpile m	Slope from Road to Stockpile % grade
1	LAH-1-ORIG		Project Road	26.0	1.4	35.0	9.0	3,800			14.81	350.0	1,000	0%
2	LAH-2-ORIG		Project Road	20.0	1.4	35.0	9.0	990			3.05	350.0	1,000	0%
3	LAH-ACCESS-1		Project Road	14.0	1.4	35.0	9.0	645			1.53	350.0	1,000	0%
4	LAH-ACCESS-4		Project Road	2.0	1.4	35.0	5.0	193			0.28	350.0	1,000	0%
5	LAO-1		Project Road	22.0	1.4	35.0	5.0	3,846			10.57	350.0	1,000	0%
6	LCF-1		Project Road	7.0	1.4	35.0	22.0	1,124			4.43	350.0	1,000	0%
7	LCF-2-DAM		Project Road	17.0	1.4	35.0	22.0	1,965			13.47	350.0	1,000	0%
8	LMF-1		Project Road	11.0	1.4	35.0	32.0	2,243			12.21	350.0	1,000	0%
9	LMF-2		Project Road	11.0	1.4	35.0	32.0	4,941			30.22	350.0	1,000	0%
10	LMF-2-OPT		Project Road	5.0	1.4	35.0	32.0	310			0.96	350.0	1,000	0%
11	SCF-1		Project Road	13.0	1.4	35.0	13.0	2,016			5.77	350.0	1,000	0%
12	SCF-2		Project Road	16.0	1.4	35.0	13.0	2,821			8.14	350.0	1,000	0%
13	SCF-2-OPT-2		Project Road	12.0	1.4	35.0	13.0	627			1.57	350.0	1,000	0%
14	SCF-3		Project Road	28.0	1.4	35.0	13.0	2,666			15.57	350.0	1,000	0%
15	JUNGJUK		Access Road	3.0	1.4	35.0	9.0	3,631			6.41	350.0	1,000	0%
16	Other Road - ID16		Project Road	35.0	1.4	35.0	45.0	1,403			6.36	350.0	1,000	0%
17	Other Road - ID17		Project Road	13.0	1.4	35.0	45.0	1,263			5.67	350.0	1,000	0%
18	Other Road - ID18		Project Road	10.0	1.4	35.0	45.0	1,262			5.71	350.0	1,000	0%
19	Other Road - ID19		Project Road	12.0	1.4	35.0	45.0	969			5.44	350.0	1,000	0%
20	Other Road - ID20		Project Road	2.0	1.4	35.0	45.0	417			1.75	350.0	1,000	0%
21	Other Road - ID21		Project Road	2.0	1.4	35.0	45.0	522			2.39	350.0	1,000	0%
22	Other Road - ID22		Project Road	17.0	1.4	35.0	45.0	964			4.19	350.0	1,000	0%
23	Other Road - ID23		Project Road	7.0	1.4	35.0	45.0	375			1.48	350.0	1,000	0%
24	Other Road - ID24		Project Road	5.0	1.4	35.0	45.0	184			0.58	350.0	1,000	0%
25	Other Road - ID25		Project Road	2.0	1.4	35.0	35.0	530			1.81	350.0	1,000	0%
26	Other Road - ID26		Project Road	27.0	1.4	35.0	25.0	1,761			4.41	350.0	1,000	0%
27	Other Road - ID27		Project Road	13.0	1.4	35.0	25.0	352			0.87	350.0	1,000	0%
28	Other Road - ID28		Project Road	13.0	1.4	35.0	25.0	1,107			2.80	350.0	1,000	0%
29	Other Road - ID29		Project Road	7.0	1.4	35.0	25.0	116			0.26	350.0	1,000	0%
30	Other Road - ID30		Project Road	1.0	1.4	35.0	6.0	67			0.03	350.0	1,000	0%
31	Other Road - ID31		Project Road	5.0	1.4	35.0	6.0	57			0.03	350.0	1,000	0%
32	Other Road - ID32		Project Road	4.0	1.4	35.0	6.0	36			0.03	350.0	1,000	0%
33	Other Road - ID33		Project Road	15.0	1.4	35.0	6.0	113			0.05	350.0	1,000	0%
34	Other Road - ID34		Project Road	6.0	1.4	35.0	6.0	1,733			1.06	350.0	1,000	0%
35	Other Road - ID35		Project Road	10.0	1.4	35.0	25.0	95			0.24	350.0	1,000	0%
36	Other Road - ID36		Project Road	15.0	1.4	35.0	6.0	92			0.05	350.0	1,000	0%
37	Other Road - ID37		Project Road	9.0	1.4	35.0	6.0	581			0.41	350.0	1,000	0%
38	Other Road - ID38		Project Road	5.0	1.4	35.0	14.0	229			0.56	350.0	1,000	0%
39	Other Road - ID39		Project Road	1.0	1.4	35.0	37.0	179			0.63	350.0	1,000	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. 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.

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Closure Cost Estimate
Roads

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary				
	Labor	Equipment	Materials	Totals
Grading Costs	$354,037	$1,019,549	N/A	$1,373,586
Cover Placement Cost	$214,708	$960,805	N/A	$1,175,513
Ripping/Scarifying Cost	$14,171	$55,289	N/A	$69,460
Subtotal Earthworks	**$582,916**	**$2,035,643**		**$2,618,559**
Revegetation Cost	$20,131	$5,824	$94,027	$119,982
TOTALS	**$603,047**	**$2,041,467**	**$94,027**	**$2,738,541**

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	Labor	Equipment	Materials	Totals
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TOTALS	**$603,047**	**$2,041,467**	**$94,027**	**$2,738,541**

Roads - User Input (cont.)

		Haul Road Safety Berms				
	Description (required)	Berm Length m	Berm Height m	Berm Base Width m	Berm Sideslope Angle _H:1V	Number of Berms (2) (1 or 2 sides)
1	LAH-1-ORIG	3,800.0	1.5	8.0	2.5	1
2	LAH-2-ORIG	990.0	1.5	8.0	2.5	1
3	LAH-ACCESS-1	645.0	1.5	8.0	2.5	1
4	LAH-ACCESS-4	193.0	1.5	8.0	2.5	1
5	LAO-1	3,846.0	1.5	8.0	2.5	1
6	LCF-1	1,124.0	1.5	8.0	2.5	1
7	LCF-2-DAM	1,965.0	1.5	8.0	2.5	1
8	LMF-1	2,243.0	1.5	8.0	2.5	1
9	LMF-2	4,941.0	1.5	8.0	2.5	1
10	LMF-2-OPT	310.0	1.5	8.0	2.5	1
11	SCF-1	2,016.0	1.5	8.0	2.5	1
12	SCF-2	2,821.0	1.5	8.0	2.5	1
13	SCF-2-OPT-2	627.0	1.5	8.0	2.5	1
14	SCF-3	2,666.0	1.5	8.0	2.5	1
15	JUNGJUK	3,631.0	1.5	8.0	2.5	1
16	Other Road - ID16	1,403.0	1.5	8.0	2.5	1
17	Other Road - ID17	1,263.0	1.5	8.0	2.5	1
18	Other Road - ID18	1,262.0	1.5	8.0	2.5	1
19	Other Road - ID19	969.0	1.5	8.0	2.5	1
20	Other Road - ID20	417.0	1.5	8.0	2.5	1
21	Other Road - ID21	522.0	1.5	8.0	2.5	1
22	Other Road - ID22	964.0	1.5	8.0	2.5	1
23	Other Road - ID23	375.0	1.5	8.0	2.5	1
24	Other Road - ID24	184.0	1.5	8.0	2.5	1
25	Other Road - ID25	530.0	1.5	8.0	2.5	1
26	Other Road - ID26	1,761.0	1.5	8.0	2.5	1
27	Other Road - ID27	352.0	1.5	8.0	2.5	1
28	Other Road - ID28	1,107.0	1.5	8.0	2.5	1
29	Other Road - ID29	116.0	1.5	8.0	2.5	1
30	Other Road - ID30	67.0	1.5	8.0	2.5	1
31	Other Road - ID31	57.0	1.5	8.0	2.5	1
32	Other Road - ID32	36.0	1.5	8.0	2.5	1
33	Other Road - ID33	113.0	1.5	8.0	2.5	1
34	Other Road - ID34	1,733.0	1.5	8.0	2.5	1
35	Other Road - ID35	95.0	1.5	8.0	2.5	1
36	Other Road - ID36	92.0	1.5	8.0	2.5	1
37	Other Road - ID37	581.0	1.5	8.0	2.5	1
38	Other Road - ID38	229.0	1.5	8.0	2.5	1
39	Other Road - ID39	179.0	1.5	8.0	2.5	1

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

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Closure Cost Estimate
Roads

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	Labor	Equipment	Materials	Totals
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TOTALS	**$603,047**	**$2,041,467**	**$94,027**	**$2,738,541**

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	LAH-1-ORIG	1	Alluvium	Med Excavator	2	Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
2	LAH-2-ORIG	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
3	LAH-ACCESS-1	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
4	LAH-ACCESS-4	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
5	LAO-1	1	Alluvium	Med Excavator	2	Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
6	LCF-1	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
7	LCF-2-DAM	1	Alluvium	Med Excavator		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
8	LMF-1	1	Alluvium	Med Excavator		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
9	LMF-2	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
10	LMF-2-OPT	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
11	SCF-1	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
12	SCF-2	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
13	SCF-2-OPT-2	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
14	SCF-3	1	Alluvium	Med Excavator	2	Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
15	JUNGJUK	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
16	Other Road - ID16	1	Alluvium	Med Excavator	2	Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
17	Other Road - ID17	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
18	Other Road - ID18	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
19	Other Road - ID19	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
20	Other Road - ID20	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
21	Other Road - ID21	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
22	Other Road - ID22	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
23	Other Road - ID23	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
24	Other Road - ID24	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
25	Other Road - ID25	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
26	Other Road - ID26	1	Alluvium	Med Excavator	2	Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
27	Other Road - ID27	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
28	Other Road - ID28	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
29	Other Road - ID29	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
30	Other Road - ID30	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
31	Other Road - ID31	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
32	Other Road - ID32	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
33	Other Road - ID33	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
34	Other Road - ID34	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
35	Other Road - ID35	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
36	Other Road - ID36	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
37	Other Road - ID37	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
38	Other Road - ID38	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
39	Other Road - ID39	1	Alluvium	Med Dozer		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer

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.

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Closure Cost Estimate
Roads

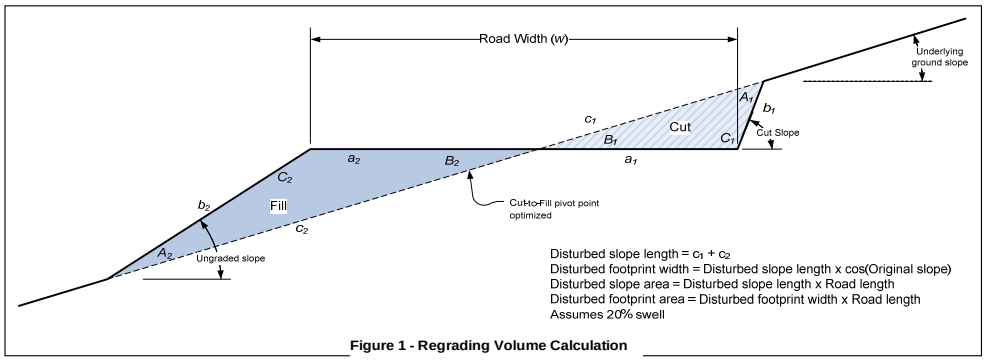
Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$354,037	$1,019,549	N/A	$1,373,586
Cover Placement Cost	$214,708	$960,805	N/A	$1,175,513
Ripping/Scarifying Cost	$14,171	$55,289	N/A	$69,460
Subtotal Earthworks	**$582,916**	**$2,035,643**		**$2,618,559**
Revegetation Cost	$20,131	$5,824	$94,027	$119,982
TOTALS	**$603,047**	**$2,041,467**	**$94,027**	**$2,738,541**

Roads - Calculations

Regrading Volume and Footprint Volume



Disturbed slope length = $c_1 + c_2$
Disturbed footprint width = Disturbed slope length x cos(Original slope)
Disturbed slope area = Disturbed slope length x Road length
Disturbed footprint area = Disturbed footprint width x Road length
Assumes 20% swell

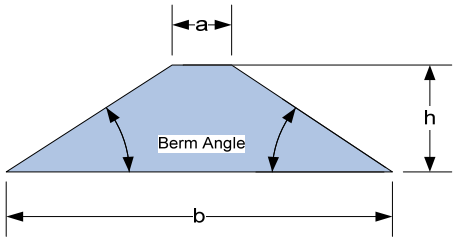
Figure 1 - Regrading Volume Calculation

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 30 m

Safety Berm Volume Calculation

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

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

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Closure Cost Estimate
Roads

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$354,037	$1,019,549	N/A	$1,373,586
Cover Placement Cost	$214,708	$960,805	N/A	$1,175,513
Ripping/Scarifying Cost	$14,171	$55,289	N/A	$69,460
Subtotal Earthworks	**$582,916**	**$2,035,643**		**$2,618,559**
Revegetation Cost	$20,131	$5,824	$94,027	$119,982
TOTALS	**$603,047**	**$2,041,467**	**$94,027**	**$2,738,541**

Roads - Regrading Costs

	Description (required)	Regrading Volume m3	Recontouring Fleet	Fleet Productivity m3/hr	Total Fleet Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**LAH-1-ORIG**	41,677	345B	367	114	$20,797	$52,010	$72,807
2	**LAH-2-ORIG**	9,362	D10R	337	28	$1,703	$6,645	$8,348
3	**LAH-ACCESS-1**	5,330	D10R	424	13	$791	$3,085	$3,876
4	**LAH-ACCESS-4**	1,222	D10R	587	2	$122	$475	$597
5	**LAO-1**	28,110	345B	367	77	$14,047	$35,130	$49,177
6	**LCF-1**	12,796	D10R	520	25	$1,520	$5,933	$7,453
7	**LCF-2-DAM**	41,261	345B	367	112	$13,621	$38,838	$52,459
8	**LMF-1**	54,956	345B	367	150	$18,243	$52,016	$70,259
9	**LMF-2**	121,062	D10R	447	271	$16,480	$64,311	$80,791
10	**LMF-2-OPT**	4,278	D10R	525	8	$486	$1,898	$2,384
11	**SCF-1**	20,178	D10R	437	46	$2,797	$10,916	$13,713
12	**SCF-2**	31,380	D10R	395	79	$4,804	$18,747	$23,551
13	**SCF-2-OPT-2**	6,059	D10R	451	13	$791	$3,085	$3,876
14	**SCF-3**	45,720	345B	367	125	$22,804	$57,029	$79,833
15	**JUNGJUK**	24,071	D10R	574	42	$2,554	$9,967	$12,521
16	**Other Road - ID16**	279,032	345B	367	760	$138,647	$346,735	$485,382
17	**Other Road - ID17**	63,859	D10R	313	204	$12,405	$48,411	$60,816
18	**Other Road - ID18**	48,778	D10R	343	142	$8,635	$33,698	$42,333
19	**Other Road - ID19**	45,013	D10R	323	139	$8,453	$32,986	$41,439
20	**Other Road - ID20**	5,001	D10R	421	12	$730	$2,848	$3,578
21	**Other Road - ID21**	6,262	D10R	421	15	$912	$3,560	$4,472
22	**Other Road - ID22**	66,034	D10R	273	242	$14,716	$57,429	$72,145
23	**Other Road - ID23**	10,450	D10R	372	28	$1,703	$6,645	$8,348
24	**Other Road - ID24**	3,908	D10R	392	10	$608	$2,373	$2,981
25	**Other Road - ID25**	5,156	D10R	521	10	$608	$2,373	$2,981
26	**Other Road - ID26**	76,684	345B	367	209	$38,128	$95,352	$133,480
27	**Other Road - ID27**	6,994	D10R	437	16	$973	$3,797	$4,770
28	**Other Road - ID28**	21,992	D10R	437	50	$3,041	$11,866	$14,907
29	**Other Road - ID29**	1,499	D10R	520	3	$182	$712	$894
30	**Other Road - ID30**	424	D10R	600	1	$61	$237	$298
31	**Other Road - ID31**	372	D10R	547	1	$61	$237	$298
32	**Other Road - ID32**	232	D10R	560	1	$61	$237	$298
33	**Other Road - ID33**	819	D10R	409	2	$122	$475	$597
34	**Other Road - ID34**	11,396	D10R	534	21	$1,277	$4,984	$6,261
35	**Other Road - ID35**	1,542	D10R	479	3	$182	$712	$894
36	**Other Road - ID36**	666	D10R	409	2	$122	$475	$597
37	**Other Road - ID37**	3,947	D10R	493	8	$486	$1,898	$2,384
38	**Other Road - ID38**	1,767	D10R	547	3	$182	$712	$894
39	**Other Road - ID39**	1,460	D10R	511	3	$182	$712	$894
		1,110,749			2,990	**$354,037**	**$1,019,549**	**$1,373,586**

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Closure Cost Estimate
Roads

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$354,037	$1,019,549	N/A	$1,373,586
Cover Placement Cost	$214,708	$960,805	N/A	$1,175,513
Ripping/Scarifying Cost	$14,171	$55,289	N/A	$69,460
Subtotal Earthworks	**$582,916**	**$2,035,643**		**$2,618,559**
Revegetation Cost	$20,131	$5,824	$94,027	$119,982
TOTALS	**$603,047**	**$2,041,467**	**$94,027**	**$2,738,541**

Roads - Growth Media Costs

	Description (required)	Growth Media Volume m3	Growth Media Replacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**LAH-1-ORIG**	51,840	777D/992G	707	2	73	$17,933	$80,250	$98,183
2	**LAH-2-ORIG**	10,687	777D/992G	707	2	15	$3,685	$16,490	$20,175
3	**LAH-ACCESS-1**	5,345	777D/992G	707	2	8	$1,965	$8,795	$10,760
4	**LAH-ACCESS-4**	969	777D/992G	707	2	1	$246	$1,099	$1,345
5	**LAO-1**	37,000	777D/992G	707	2	52	$12,774	$57,165	$69,939
6	**LCF-1**	15,517	777D/992G	707	2	22	$5,405	$24,185	$29,590
7	**LCF-2-DAM**	47,139	777D/992G	707	2	67	$16,459	$73,654	$90,113
8	**LMF-1**	42,724	777D/992G	707	2	60	$14,740	$65,959	$80,699
9	**LMF-2**	105,782	777D/992G	707	2	150	$36,849	$164,898	$201,747
10	**LMF-2-OPT**	3,352	777D/992G	707	2	5	$1,228	$5,497	$6,725
11	**SCF-1**	20,194	777D/992G	707	2	29	$7,124	$31,880	$39,004
12	**SCF-2**	28,502	777D/992G	707	2	40	$9,826	$43,973	$53,799
13	**SCF-2-OPT-2**	5,478	777D/992G	707	2	8	$1,965	$8,795	$10,760
14	**SCF-3**	54,503	777D/992G	707	2	77	$18,916	$84,648	$103,564
15	**JUNGJUK**	22,421	777D/992G	707	2	32	$7,861	$35,178	$43,039
16	**Other Road - ID16**	22,249	777D/992G	707	2	31	$7,615	$34,079	$41,694
17	**Other Road - ID17**	19,836	777D/992G	707	2	28	$6,878	$30,781	$37,659
18	**Other Road - ID18**	19,981	777D/992G	707	2	28	$6,878	$30,781	$37,659
19	**Other Road - ID19**	19,051	777D/992G	707	2	27	$6,633	$29,682	$36,315
20	**Other Road - ID20**	6,129	777D/992G	707	2	9	$2,211	$9,894	$12,105
21	**Other Road - ID21**	8,352	777D/992G	707	2	12	$2,948	$13,192	$16,140
22	**Other Road - ID22**	14,663	777D/992G	707	2	21	$5,159	$23,086	$28,245
23	**Other Road - ID23**	5,195	777D/992G	707	2	7	$1,720	$7,695	$9,415
24	**Other Road - ID24**	2,032	777D/992G	707	2	3	$737	$3,298	$4,035
25	**Other Road - ID25**	6,329	777D/992G	707	2	9	$2,211	$9,894	$12,105
26	**Other Road - ID26**	15,419	777D/992G	707	2	22	$5,405	$24,185	$29,590
27	**Other Road - ID27**	3,059	777D/992G	707	2	4	$983	$4,397	$5,380
28	**Other Road - ID28**	9,815	777D/992G	707	2	14	$3,439	$15,390	$18,829
29	**Other Road - ID29**	901	777D/992G	707	2	1	$246	$1,099	$1,345
30	**Other Road - ID30**	119	777D/992G	707	2	1	$246	$1,099	$1,345
31	**Other Road - ID31**	119	777D/992G	707	2	1	$246	$1,099	$1,345
32	**Other Road - ID32**	92	777D/992G	707	2	1	$246	$1,099	$1,345
33	**Other Road - ID33**	177	777D/992G	707	2	1	$246	$1,099	$1,345
34	**Other Road - ID34**	3,709	777D/992G	707	2	5	$1,228	$5,497	$6,725
35	**Other Road - ID35**	851	777D/992G	707	2	1	$246	$1,099	$1,345
36	**Other Road - ID36**	169	777D/992G	707	2	1	$246	$1,099	$1,345
37	**Other Road - ID37**	1,440	777D/992G	707	2	2	$491	$2,199	$2,690
38	**Other Road - ID38**	1,948	777D/992G	707	2	3	$737	$3,298	$4,035
39	**Other Road - ID39**	2,210	777D/992G	707	2	3	$737	$3,298	$4,035
		615,298				874	**$214,708**	**$960,805**	**$1,175,513**

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Closure Cost Estimate
Roads

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Roads - Cost Summary

	Labor	Equipment	Materials	Totals
Grading Costs	$354,037	$1,019,549	N/A	$1,373,586
Cover Placement Cost	$214,708	$960,805	N/A	$1,175,513
Ripping/Scarifying Cost	$14,171	$55,289	N/A	$69,460
Subtotal Earthworks	**$582,916**	**$2,035,643**		**$2,618,559**
Revegetation Cost	$20,131	$5,824	$94,027	$119,982
TOTALS	**$603,047**	**$2,041,467**	**$94,027**	**$2,738,541**

Roads - Scarifying/Revegetation Costs

	Description (required)	Total Surface Area ha	Final Slope Length m	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	**LAH-1-ORIG**	14.81	39.0	19	$1,155	$4,509	$5,664	$1,613	$467	$7,923	$10,003
2	**LAH-2-ORIG**	3.05	31.0	4	$243	$949	$1,192	$333	$96	$1,633	$2,062
3	**LAH-ACCESS-1**	1.53	24.0	2	$122	$475	$597	$166	$48	$817	$1,031
4	**LAH-ACCESS-4**	0.28	14.0	1	$61	$237	$298	$109	$32	$148	$288
5	**LAO-1**	10.57	27.0	14	$851	$3,322	$4,173	$1,152	$333	$5,654	$7,139
6	**LCF-1**	4.43	39.0	6	$365	$1,424	$1,789	$483	$140	$2,371	$2,994
7	**LCF-2-DAM**	13.47	69.0	17	$1,034	$4,034	$5,068	$1,467	$424	$7,203	$9,094
8	**LMF-1**	12.21	55.0	15	$912	$3,560	$4,472	$1,330	$385	$6,529	$8,244
9	**LMF-2**	30.22	61.0	40	$2,432	$9,492	$11,924	$3,292	$952	$16,165	$20,409
10	**LMF-2-OPT**	0.96	31.0	1	$61	$237	$298	$109	$32	$512	$652
11	**SCF-1**	5.77	29.0	8	$486	$1,898	$2,384	$629	$182	$3,086	$3,897
12	**SCF-2**	8.14	29.0	11	$669	$2,610	$3,279	$887	$257	$4,356	$5,500
13	**SCF-2-OPT-2**	1.57	25.0	2	$122	$475	$597	$170	$49	$838	$1,057
14	**SCF-3**	15.57	59.0	20	$1,216	$4,746	$5,962	$1,696	$491	$8,329	$10,516
15	**JUNGJUK**	6.41	18.0	9	$547	$2,136	$2,683	$698	$202	$3,426	$4,326
16	**Other Road - ID16**	6.36	45.0	8	$486	$1,898	$2,384	$692	$200	$3,400	$4,292
17	**Other Road - ID17**	5.67	45.0	7	$426	$1,661	$2,087	$617	$179	$3,031	$3,827
18	**Other Road - ID18**	5.71	45.0	7	$426	$1,661	$2,087	$622	$180	$3,053	$3,855
19	**Other Road - ID19**	5.44	56.0	7	$426	$1,661	$2,087	$593	$172	$2,912	$3,677
20	**Other Road - ID20**	1.75	42.0	2	$122	$475	$597	$191	$55	$937	$1,183
21	**Other Road - ID21**	2.39	46.0	3	$182	$712	$894	$260	$75	$1,276	$1,611
22	**Other Road - ID22**	4.19	44.0	5	$304	$1,187	$1,491	$456	$132	$2,241	$2,829
23	**Other Road - ID23**	1.48	40.0	2	$122	$475	$597	$162	$47	$794	$1,003
24	**Other Road - ID24**	0.58	31.0	1	$61	$237	$298	$109	$32	$311	$451
25	**Other Road - ID25**	1.81	34.0	2	$122	$475	$597	$197	$57	$967	$1,221
26	**Other Road - ID26**	4.41	25.0	5	$304	$1,187	$1,491	$480	$139	$2,356	$2,975
27	**Other Road - ID27**	0.87	25.0	1	$61	$237	$298	$109	$32	$468	$608
28	**Other Road - ID28**	2.80	25.0	3	$182	$712	$894	$305	$88	$1,499	$1,892
29	**Other Road - ID29**	0.26	22.0	1	$61	$237	$298	$109	$32	$138	$278
30	**Other Road - ID30**	0.03	5.0	1	$61	$237	$298	$109	$32	$18	$158
31	**Other Road - ID31**	0.03	6.0	1	$61	$237	$298	$109	$32	$18	$158
32	**Other Road - ID32**	0.03	7.0	1	$61	$237	$298	$109	$32	$14	$154
33	**Other Road - ID33**	0.05	5.0	1	$61	$237	$298	$109	$32	$27	$167
34	**Other Road - ID34**	1.06	6.0	1	$61	$237	$298	$115	$33	$567	$715
35	**Other Road - ID35**	0.24	26.0	1	$61	$237	$298	$109	$32	$130	$270
36	**Other Road - ID36**	0.05	5.0	1	$61	$237	$298	$109	$32	$26	$166
37	**Other Road - ID37**	0.41	7.0	1	$61	$237	$298	$109	$32	$220	$360
38	**Other Road - ID38**	0.56	24.0	1	$61	$237	$298	$109	$32	$297	$437
39	**Other Road - ID39**	0.63	35.0	1	$61	$237	$298	$109	$32	$337	$477
		175.80		233	**$14,171**	**$55,289**	**$69,460**	**$20,131**	**$5,824**	**$94,027**	**$119,982**

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Closure Cost Estimate
Pits

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Pits - Cost Summary

	Labor	Equipment	Materials	Totals
Safety Berm Construction Cost	$30,216	$135,216	N/A	$165,432
Safety Berm Revegetation Cost	$1,624	$470	$3,203	$5,297
TOTALS	**$31,840**	**$135,686**	**$3,203**	**$170,729**

Pits - User Input

	Facility Description			Pit Berms					Berm Construction		Excavate or Doze	Hauling (if selected method)				Revegetation		
	Description (required)	ID Code	Type	Berm (or Highwall) Length m	Berm Height m	Berm Base Width m	Berm Sideslope Angle _H:1V	Volume (if calculated elsewhere) m3	Construction Method (select)	Berm Material Type (select)	Berm Construction Equipment Fleet (select)	Berm Hauling Fleet (select)	Distance to Borrow Source m	Slope to Borrow Source % grade	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)
1	**Final Pit**		**Pit**	**9,900.0**	**2.0**	**6.0**	**1.3**		**Haul & Place**	**Sandstone**	**Med**	**Med Truck**	**1,800**	**0.0**		**User Mix 1**		**Chemical**

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

Data derived from CAD drawing.

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Pits - Cost Summary

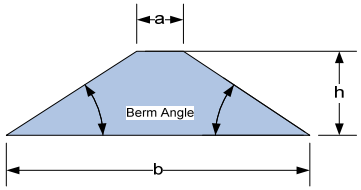
	Labor	Equipment	Materials	Totals
Safety Berm Construction Cost	$30,216	$135,216	N/A	$165,432
Safety Berm Revegetation Cost	$1,624	$470	$3,203	$5,297
TOTALS	**$31,840**	**$135,686**	**$3,203**	**$170,729**

Pits - Calculations

Safety Berm Volume Calculation

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

Berm Volume = Berm Length x Cross Sectional Area



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

Revegetation Calculations

Minimum 1 acre revegetation crew time per area

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Cost Estimate Type: Surety **Cost Basis: Alaska Davis Bacon 2016**

Pits - Cost Summary

	Labor	Equipment	Materials	Totals
Safety Berm Construction Cost	$30,216	$135,216	N/A	$165,432
Safety Berm Revegetation Cost	$1,624	$470	$3,203	$5,297
TOTALS	**$31,840**	**$135,686**	**$3,203**	**$170,729**

Pits - Safety Berm Construction Costs

		Safety Berm							
	Description (required)	Safety Berm Volume m3	Selected Fleet	Number of Trucks/ Scrapers	Corrected Fleet Productivity m3/hr	Total Hours	Safety Berm Labor Cost $	Safety Berm Equipment Cost $	Total Safety Berm Cost $
1	**Final Pit**	70,175	777D/992G	2	571	123	$30,216	$135,216	$165,432
		70,175				123	**$30,216**	**$135,216**	**$165,432**

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Pits - Cost Summary

	Labor	Equipment	Materials	Totals
Safety Berm Construction Cost	$30,216	$135,216	N/A	$165,432
Safety Berm Revegetation Cost	$1,624	$470	$3,203	$5,297
TOTALS	**$31,840**	**$135,686**	**$3,203**	**$170,729**

Pits - Safety Berms - Revegetation Costs

	Description (required)	Flat Area ha	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Final Pit**	6.03	$1,624	$470	$3,203	$5,297
		6.03	**$1,624**	**$470**	**$3,203**	**$5,297**

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Closure Cost Estimate
Haul Material

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Generic Material Hauling - Cost Summary

	Labor	Equipment	Materials	Totals
Hauling/Crush/Screen/Compact	$14,185,186	$63,407,048	N/A	$77,592,234
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$59,346	$245,552	N/A	$304,898
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$14,244,532**	**$63,652,600**	**$0**	**$77,897,132**
Revegetation Cost	$6,048	$1,750	$12,019	$19,817
TOTALS	**$14,250,580**	**$63,654,350**	**$12,019**	**$77,916,949**

Generic Material Hauling - User Input

	Facility Description			Physical		Hauled Material			Crushing & Screening					Cover			Growth Media		
	Description (required)	ID Code	Type	Final Surface Area ha	Average Ripping Distance m	Material Volume Required m3	Distance from Borrow Source (1) m	Slope to Borrow Source % grade	Crush Material	Screen Material	Loss to Crushing/ Screening %	Distance to Placement Location (2) m	Slope to Placement % grade	Cover Thickness mm	Distance to Cover Borrow m	Slope to Borrow % grade	Growth Media Thickness mm	Distance to Growth Material Stockpile m	Slope to Stockpile % grade
1	NAG rock fill (Capillary Break Fill)		Tailings Impo	0.00	0	9,373,000	1,200	0.0											
2	NAG rock fill (Capillary Break/Consolidation Fill)		Tailings Impo	0.00	0	22,697,000	1,200	0.0											
3	Tailings Spillway (Excavate and Fill)		Tailings Impo	0.00	0	724,000	3,000	-5.0											
4	Removal of Contact Pond Dam		Sediment Con	0.00	0	240,000	5,000	-5.0											
5	Removal of Rock Groyne (Primary Crusher)		Process - Cru	0.00	0	355,000	1,000	0.0											
6	Reclaimed WRF Runoff Collection Channel - liner bedding		Waste Rock D	0.00	0	16,800	1,500	-5.0											
7	Reclaimed WRF Runoff Collection Channel - pea gravel		Waste Rock D	0.00	0	6,100	1,500	-5.0											
8	Upper Contact Water Pond Backfill, growth media, reveg		Ponds	22.47	0	3,000,000	1,000	0.0									300	8,000	-5.0
9	Lower CWD Breach and Slope		Ponds	30.39	0	172,500	1,000	0.0											
10	Snow Gulch Fresh Water Dam Breach		Sediment Con	31.93	0	352,200	1,000	0.0											
11	Primary Channel (WRF) cushion layer		Surface Chan	0.00	0	83,700	10,000	0.0		Yes	70%	1,000	0.0						
12	Primary Channel (WRF) Armor Layer		Surface Chan	0.00	0	84,900	10,000	0.0		Yes	50%	1,000	0.0						
13	Secondary Channel (WRF) Armor Layer		Surface Chan	0.00	0	36,200	10,000	0.0		Yes	50%	1,000	0.0						

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)

Snow Gulch FWD, American and Lower CWD breach assumed to be equal to construction quantities listed in "DC11-007_-_American_Creek_and_Snow_Gulch_Contact_and_Fresh_Water_Dam_Design_-_DRAFT_MTOs"
Capillary break layer minimum thickness is 1 meter but additional material is needed to account for consolidation of tailings. Reference BGC TSF Design Final 7/22/2011, adjusted for change in size of tailings surface.
Material removed from Tailings Spillway and Removal of Contact Pond Dam will be used as Tailings capillary break/consolidation fill (quantities are subtracted from the total consolidation fill required).
Rock Fill quantity from BGC report referenced for Capillary Break cover and adjusted for slight change in area of tails since the 2011 design.

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Closure Cost Estimate
Haul Material

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Model Version: Version 1.4.1
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Generic Material Hauling - Cost Summary

	Labor	Equipment	Materials	Totals
Hauling/Crush/Screen/Compact	$14,185,186	$63,407,048	N/A	$77,592,234
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$59,346	$245,552	N/A	$304,898
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$14,244,532**	**$63,652,600**	**$0**	**$77,897,132**
Revegetation Cost	$6,048	$1,750	$12,019	$19,817
TOTALS	**$14,250,580**	**$63,654,350**	**$12,019**	**$77,916,949**

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	NAG rock fill (Capillary Break Fill)	LS - broken	Med Truck		No											
2	NAG rock fill (Capillary Break/Consolidation Fill)	LS - broken	Med Truck		No											
3	Tailings Spillway (Excavate and Fill)	LS - broken	Med Truck		No											
4	Removal of Contact Pond Dam	LS - broken	Med Truck		No											
5	Removal of Rock Groyne (Primary Crusher)	Alluvium	Med Truck		No											
6	Reclaimed WRF Runoff Collection Channel - liner bedding	Granite - brok	Med Truck		No											
7	Reclaimed WRF Runoff Collection Channel - pea gravel	Alluvium	Med Truck		No											
8	Upper Contact Water Pond Backfill, growth media, reveg	LS - broken	Med Truck		No				Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
9	Lower CWD Breach and Slope	LS - broken	Med Truck		No											
10	Snow Gulch Fresh Water Dam Breach	Alluvium	Med Truck		No											
11	Primary Channel (WRF) cushion layer	Alluvium	Med Truck		No											
12	Primary Channel (WRF) Armor Layer	Alluvium	Med Truck		No											
13	Secondary Channel (WRF) Armor Layer	Alluvium	Med Truck		No											

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

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Closure Cost Estimate
Haul Material

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Generic Material Hauling - Cost Summary

	Labor	Equipment	Materials	Totals
Hauling/Crush/Screen/Compact	$14,185,186	$63,407,048	N/A	$77,592,234
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$59,346	$245,552	N/A	$304,898
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$14,244,532**	**$63,652,600**	**$0**	**$77,897,132**
Revegetation Cost	$6,048	$1,750	$12,019	$19,817
TOTALS	**$14,250,580**	**$63,654,350**	**$12,019**	**$77,916,949**

Generic Material Hauling - Load, Haul, Place and Grade

		Material Haulage								Crush and/or Compact			
	Description (required)	Material Volume to Crusher m3	Final Material Volume m3	Material Haulage Fleet	Fleet Productivity LCM/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	**NAG rock fill (Capillary Break Fill)**	9,373,000	9,373,000	777D/992G	667	2	14,043	$3,449,803	$15,437,751	$0	$0	$0	$18,887,554
2	**NAG rock fill (Capillary Break/Consolidation Fill)**	22,697,000	22,697,000	777D/992G	667	2	34,005	$8,353,668	$37,382,377	$0	$0	$0	$45,736,045
3	**Tailings Spillway (Excavate and Fill)**	724,000	724,000	777D/992G	677	4	1,069	$395,209	$1,701,677	$0	$0	$0	$2,096,886
4	**Removal of Contact Pond Dam**	240,000	240,000	777D/992G	835	7	287	$159,503	$668,888	$0	$0	$0	$828,391
5	**Removal of Rock Groyne (Primary Crusher)**	355,000	355,000	777D/992G	707	2	502	$123,321	$551,859	$0	$0	$0	$675,180
6	**Reclaimed WRF Runoff Collection Channel - liner bedding**	16,800	16,800	777D/992G	754	3	22	$6,769	$29,603	$0	$0	$0	$36,372
7	**Reclaimed WRF Runoff Collection Channel - pea gravel**	6,100	6,100	777D/992G	754	3	8	$2,461	$10,765	$0	$0	$0	$13,226
8	**Upper Contact Water Pond Backfill, growth media, reveg**	3,000,000	3,000,000	777D/992G	707	2	4,242	$1,042,090	$4,663,315	$0	$0	$0	$5,705,405
9	**Lower CWD Breach and Slope**	172,500	172,500	777D/992G	707	2	244	$59,941	$268,234	$0	$0	$0	$328,175
10	**Snow Gulch Fresh Water Dam Breach**	352,200	352,200	777D/992G	707	2	498	$122,339	$547,461	$0	$0	$0	$669,800
11	**Primary Channel (WRF) cushion layer**	278,999	83,700	777D/992G	807	10	346	$242,740	$1,021,320	$66,515	$0	$0	$1,330,575
12	**Primary Channel (WRF) Armor Layer**	169,800	84,900	777D/992G	807	10	210	$159,213	$673,063	$67,469	$0	$0	$899,745
13	**Secondary Channel (WRF) Armor Layer**	72,400	36,200	777D/992G	807	10	90	$68,129	$287,984	$28,767	$0	$0	$384,880
		37,457,799	37,141,400				55,566	**$14,185,186**	**$63,244,297**	**$162,751**	**$0**	**$0**	**$77,592,234**

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

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Closure Cost Estimate
Haul Material

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Generic Material Hauling - Cost Summary

	Labor	Equipment	Materials	Totals
Hauling/Crush/Screen/Compact	$14,185,186	$63,407,048	N/A	$77,592,234
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$59,346	$245,552	N/A	$304,898
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$14,244,532**	**$63,652,600**	**$0**	**$77,897,132**
Revegetation Cost	$6,048	$1,750	$12,019	$19,817
TOTALS	**$14,250,580**	**$63,654,350**	**$12,019**	**$77,916,949**

Generic Material Hauling - Cover and Growth Media Costs

		Cover Placement								Growth Media Placement							
	Description (required)	Cover Volume m3	Cover Placement Fleet	Cover Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Placement Cost $	Growth Media Volume m3	Growth Media Placement Fleet	Growth Media Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoil Placement Cost $
1	**NAG rock fill (Capillary Break Fill)**						$0	$0	$0	0					$0	$0	$0
2	**NAG rock fill (Capillary Break/Consolidation Fill)**						$0	$0	$0	0					$0	$0	$0
3	**Tailings Spillway (Excavate and Fill)**						$0	$0	$0	0					$0	$0	$0
4	**Removal of Contact Pond Dam**						$0	$0	$0	0					$0	$0	$0
5	**Removal of Rock Groyne (Primary Crusher)**						$0	$0	$0	0					$0	$0	$0
6	**Reclaimed WRF Runoff Collection Channel - liner bedding**						$0	$0	$0	0					$0	$0	$0
7	**Reclaimed WRF Runoff Collection Channel - pea gravel**						$0	$0	$0	0					$0	$0	$0
8	**Upper Contact Water Pond Backfill, growth media, reveg**						$0	$0	$0	67,409	777D/992G	838	10	80	$59,346	$245,552	$304,898
9	**Lower CWD Breach and Slope**						$0	$0	$0	0					$0	$0	$0
10	**Snow Gulch Fresh Water Dam Breach**						$0	$0	$0	0					$0	$0	$0
11	**Primary Channel (WRF) cushion layer**						$0	$0	$0	0					$0	$0	$0
12	**Primary Channel (WRF) Armor Layer**						$0	$0	$0	0					$0	$0	$0
13	**Secondary Channel (WRF) Armor Layer**						$0	$0	$0	0					$0	$0	$0
							$0	**$0**	**$0**	67,409				80	**$59,346**	**$245,552**	**$304,898**

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Closure Cost Estimate
Haul Material

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Generic Material Hauling - Cost Summary

	Labor	Equipment	Materials	Totals
Hauling/Crush/Screen/Compact	$14,185,186	$63,407,048	N/A	$77,592,234
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$59,346	$245,552	N/A	$304,898
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$14,244,532**	**$63,652,600**	**$0**	**$77,897,132**
Revegetation Cost	$6,048	$1,750	$12,019	$19,817
TOTALS	**$14,250,580**	**$63,654,350**	**$12,019**	**$77,916,949**

Generic Material Hauling - Scarifying/Revegetation Costs

	Description (required)	Total Surface Area ha	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	**NAG rock fill (Capillary Break Fill)**	0.04		$0	$0	$0	$0	$0	$0	$0
2	**NAG rock fill (Capillary Break/Consolidation Fill)**	0.04		$0	$0	$0	$0	$0	$0	$0
3	**Tailings Spillway (Excavate and Fill)**	0.04		$0	$0	$0	$0	$0	$0	$0
4	**Removal of Contact Pond Dam**	0.04		$0	$0	$0	$0	$0	$0	$0
5	**Removal of Rock Groyne (Primary Crusher)**	0.04		$0	$0	$0	$0	$0	$0	$0
6	**Reclaimed WRF Runoff Collection Channel - liner bedding**	0.04		$0	$0	$0	$0	$0	$0	$0
7	**Reclaimed WRF Runoff Collection Channel - pea gravel**	0.04		$0	$0	$0	$0	$0	$0	$0
8	**Upper Contact Water Pond Backfill, growth media, reveg**	22.47				$0	$6,048	$1,750	$12,019	$19,817
9	**Lower CWD Breach and Slope**	30.39		$0	$0	$0	$0	$0	$0	$0
10	**Snow Gulch Fresh Water Dam Breach**	31.93		$0	$0	$0	$0	$0	$0	$0
11	**Primary Channel (WRF) cushion layer**	0.04		$0	$0	$0	$0	$0	$0	$0
12	**Primary Channel (WRF) Armor Layer**	0.04		$0	$0	$0	$0	$0	$0	$0
13	**Secondary Channel (WRF) Armor Layer**	0.04		$0	$0	$0	$0	$0	$0	$0
		85.19		**$0**	**$0**	**$0**	**$6,048**	**$1,750**	**$12,019**	**$19,817**

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$208,140	N/A	$252,962
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$208,140**	**$0**	**$252,962**
Revegetation Cost	$7,843	$2,269	$1,513	$11,625
TOTALS	**$8,145,290**	**$3,821,129**	**$1,513**	**$11,967,932**

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 m	Width m	Eve Height m	Slab Thickness mm	Foundation Wall Thickness mm	Foundation Wall Height mm	Average Flat Area Long Dimension (ripping distance) m	Building Area Footprint (including surrounding facilities) ha	Foundation Cover Thickness mm	Distance from Foundation Cover Borrow Area m	Slope from Facility to Borrow Area % grade	Growth Media Thickness mm	Distance from Growth Media Stockpile m	Slope from Facility to Stockpile % grade
1	Mine Site Washbay		Site Facilities - Structures	25	30	20	400	100	300			700	100	0.0	300	500	0.0
2	Mine Site Truck Shop		Site Facilities - Structures	186	49	19	300	250	300			700	100	0.0	300	500	0.0
3	Repair Shop		Site Facilities - Structures	35	51	7	200	250				700	100	0.0	300	500	0.0
4	Primary Crusher		Site Facilities - Structures	22	12	45	600	80	1,200			700	100	0.0	300	500	0.0
5	Primary Crusher - Concrete		Process - Crushing & Screening	22	12	33	1,000	750				700	100	0.0	300	500	0.0
6	Primary Crusher - Steel Bldg. Below Ground		Process - Crushing & Screening	10	9	42											
7	Primary Crusher - Steel Bldg. Above Ground		Process - Crushing & Screening	35	12	14											
8	Take-up Tower		Process - Plant & Buildings	28	15	10	600	250				3000	100	0.0	300	500	0.0
9	Conveyor (Total)		Process - Plant & Buildings	1812	2	2		300									
10	Drive House		Process - Plant & Buildings	27	11	22											
11	Ore Stockpile Cover		Process - Plant & Buildings	125		45											
12	Pebble Crusher		Process - Plant & Buildings	28	22	30	300	300	600			700	400	0.0	300	500	0.0
13	Grinding Building		Process - Plant & Buildings	96	48	35	300	100	600			700	400	0.0	300	500	0.0
14	Ball Mill Foundations (two total)		Process - Plant & Buildings	50	25	1	4,000					4000	400	0.0	300	500	0.0
15	Ball Mill Foundations (Concr.Piers Above Grade Slab.)		Process - Plant & Buildings	43.6	44	1											
16	SAG Mill Foundation		Process - Plant & Buildings	25	30	1	4,000					4000	400	0.0	300	500	0.0
17	SAG Mill Foundation (Concr.Piers Above Grade Slab.)		Process - Plant & Buildings	33.2	33	1											
18	POX Process Building - High Section		Process - Plant & Buildings	57.8	42	46	600	600	600			700	100	0.0	300	500	0.0
19	POX Process Building - Lower Section		Process - Plant & Buildings	102.5	42	28	600	600	600			700	100	0.0	300	500	0.0
20	POX Process Building - End additioin		Process - Plant & Buildings	27.5	19	14	600	600	600			1000	400	0.0	300	500	0.0
21	POX Misc. Small Tanks (8)		Process - Plant & Buildings	32	4	5		100									
22	Autoclaves (2)		Process - Plant & Buildings	40	6	6		600									
23	Stock Tanks Concrete Contain.		Process - Plant & Buildings	150	60	0	500	100	600			700	400	0.0	300	500	0.0
24	Concrete Thickener Concrete		Process - Plant & Buildings	100	110	0	500	100	600			700	100	0.0	300	500	0.0
25	Flot./POX Thickener Concrete		Process - Plant & Buildings	240	140	0	600	250				700	400	0.0	300	500	0.0
26	Hot Cure Tanks		Process - Plant & Buildings	42	14	16		100									
27	Flotation Building		Process - Plant & Buildings	120	96	35	600	100	600			700	400	0.0	300	500	0.0
28	CIL Building		Process - Plant & Buildings	96	40	38	600	230	600			700	400	0.0	300	500	0.0
29	Refinery		Process - Plant & Buildings	32	24	35	600	250	600			700	400	0.0	300	500	0.0
30	Cyanide Reagent Building		Process - Plant & Buildings	32	96	35	600	100	600			700	300	0.0	300	500	0.0
31	Water Treatment Plant Building - Construction		Process - Plant & Buildings	24.4	12	8	600	300	600			700	100	0.0	300	500	0.0
32	Water Treatment Plant Building - Operation		Process - Plant & Buildings	45.5	26	14	600	300	300			700	100	0.0	300	500	0.0
33	Man Camp - Airstrip		Off Site Facilities	65	11	23	100	150				700	300	0.0	300	500	0.0
34	Man Camp - Airstrip		Off Site Facilities	65	11	23	100	150				700	300	0.0	300	500	0.0
35	Man Camp - Airstrip		Off Site Facilities	98	11	23	100	150				700	300	0.0	300	500	0.0
36	Man Camp - Airstrip		Off Site Facilities	98	11	23	100	150				700	300	0.0	300	500	0.0
37	Man Camp - Airstrip		Off Site Facilities	72	11	23	100	150				700	300	0.0	300	500	0.0
38	Man Camp - Airstrip		Off Site Facilities	77.2	29	12	100	150				700	300	0.0	300	500	0.0
39	STP Building		Off Site Facilities	18.3	12	7	300	150				700	300	0.0	300	500	0.0
40	Power Station A/B Buildings		Site Facilities - Buildings	120	30	15	300	100				700	400	0.0	300	500	0.0
41	Power Station A Gensets		Site Facilities - Buildings	70	15	4		100									
42	Power station A Transformers		Site Facilities - Buildings	24	20	4		100									
43	Power Station A Tanks		Site Facilities - Buildings	20	20	15		100									
44	Power Station A Building		Site Facilities - Buildings	36	20	12	300	100				700	300	0.0	300	500	0.0
45	Power Station A Building (small)		Site Facilities - Buildings	32	18	6	200	100				700	300	0.0	300	500	0.0
46	Power Station B Gensets		Site Facilities - Buildings	70	15	4		100									
47	Power station B Transformers		Site Facilities - Buildings	24	20	4		100									
48	Power Station B Tanks		Site Facilities - Buildings	20	20	15		100									
49	Power Station B Building (small)		Site Facilities - Buildings	32	18	6	200	100				700	300	0.0	300	500	0.0
50	Cold Storage Building		Process - Other	46	23	8	300	100	600			700	100	0.0	300	500	0.0
51	Autoclave Feed Tanks		Process - Plant & Buildings	18	18	14		100									
52	Quench/Flash/Heaters		Process - Plant & Buildings	11	11	35		300									
53	Absorber Towers		Process - Plant & Buildings	6	6	8		300									
54	Cooling Towers		Process - Plant & Buildings	12	12	8		300									
55	Mercury Scrubbing		Process - Plant & Buildings	12	6	8		300									
56	Quench Building (60 m total H)		Process - Plant & Buildings	54.5	22	35	300	100				700	100	0.0	300	500	0.0
57	Autoclave		Process - Plant & Buildings	40	6	6		100									
58	HP cooling tank		Process - Plant & Buildings	12	12	14		100									
59	Demin Tank		Process - Plant & Buildings	8	8	8		100									

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Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$208,140	N/A	$252,962
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$208,140**	**$0**	**$252,962**
Revegetation Cost	$7,843	$2,269	$1,513	$11,625
TOTALS	**$8,145,290**	**$3,821,129**	**$1,513**	**$11,967,932**

60	**Seal Water Tank**		Process - Plant & Buildings	4	4	8		100									
61	**Autoclave Feed Pumps**		Process - Plant & Buildings	6	5	3		100									
62	**LP Column**		Process - Plant & Buildings	12	12	10		100									
63	**HP Column**		Process - Plant & Buildings	12	12	10		100									
64	**Main Heat Exchanger**		Process - Plant & Buildings	16	12	10		100									
65	**Wash Water Tower**		Process - Plant & Buildings	7	7	7		100									
66	**Chilled Water Tower**		Process - Plant & Buildings	7	7	7		100									
67	**Compressors (3)**		Process - Plant & Buildings	55	10	10		100				700	100	0.0	300	500	0.0
68	**Warehouse**		Site Facilities - Buildings	46	31	9	300	300				700	100	0.0	300	500	0.0
69	**Boiler Room**		Process - Plant & Buildings	30	30	9	300	600				700	100	0.0	300	500	0.0
70	**STP Building**		Process - Plant & Buildings	49	18	8	300	600				700	100	0.0	300	500	0.0
71	**Utilidor**		Off Site Facilities	215	5	7											
72	**RO plant (not to be demolished, required for treatment)**		Process - Other														

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)

Buildings and Tanks per AMEC drawings.
Bridge demolition measurements from Amec drawings. Assumed same cost as large steel building.
Break and bury in place costs selected to cover burial costs at waste dump and breakup cost to prepare for hauling.

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Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$208,140**	**$0**	**$252,962**
Revegetation Cost	$7,843	$2,269	$1,513	$11,625
TOTALS	**$8,145,290**	**$3,821,129**	**$1,513**	**$11,967,932**

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	Mine Site Washbay	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
2	Mine Site Truck Shop	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
3	Repair Shop	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
4	Primary Crusher	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
5	Primary Crusher - Concrete	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
6	Primary Crusher - Steel Bldg. Below Ground	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
7	Primary Crusher - Steel Bldg. Above Ground	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
8	Take-up Tower	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
9	Conveyor (Total)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
10	Drive House	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
11	Ore Stockpile Cover	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
12	Pebble Crusher	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
13	Grinding Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
14	Ball Mill Foundations (two total)	Lg. concrete	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
15	Ball Mill Foundations (Concr.Piers Above Grade Slab.)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
16	SAG Mill Foundation	Lg. concrete	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
17	SAG Mill Foundation (Concr.Piers Above Grade Slab.)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
18	POX Process Building - High Section	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
19	POX Process Building - Lower Section	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
20	POX Process Building - End additioin	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
21	POX Misc. Small Tanks (8)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
22	Autoclaves (2)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
23	Stock Tanks Concrete Contain.	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
24	Concrete Thickener Concrete	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
25	Flot./POX Thickener Concrete	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
26	Hot Cure Tanks	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
27	Flotation Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
28	CIL Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
29	Refinery	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
30	Cyanide Reagent Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
31	Water Treatment Plant Building - Construction	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
32	Water Treatment Plant Building - Operation	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
33	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
34	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
35	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
36	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
37	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
38	Man Camp - Airstrip	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
39	STP Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
40	Power Station A/B Buildings	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
41	Power Station A Gensets	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
42	Power station A Transformers	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
43	Power Station A Tanks	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
44	Power Station A Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
45	Power Station A Building (small)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
46	Power Station B Gensets	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
47	Power station B Transformers	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
48	Power Station B Tanks	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
49	Power Station B Building (small)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
50	Cold Storage Building	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
51	Autoclave Feed Tanks	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
52	Quench/Flash/Heaters	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
53	Absorber Towers	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
54	Cooling Towers	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
55	Mercury Scrubbing	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
56	Quench Building (60 m total H)	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
57	Autoclave	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
58	HP cooling tank	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
59	Demin Tank	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		
60	Seal Water Tank	Lg. steel	Block 8 in (200 mm) thick	Bury in place	Med Excavator	Alluvium	Med Truck		Alluvium	Med Truck		User Mix 1		Chemical		

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$208,140	N/A	$252,962
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$208,140**	**$0**	**$252,962**
Revegetation Cost	$7,843	$2,269	$1,513	$11,625
TOTALS	**$8,145,290**	**$3,821,129**	**$1,513**	**$11,967,932**

61	**Autoclave Feed Pumps**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**User Mix 1**		**Chemical**		
62	**LP Column**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**User Mix 1**		**Chemical**		
63	**HP Column**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**User Mix 1**		**Chemical**		
64	**Main Heat Exchanger**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**User Mix 1**		**Chemical**		
65	**Wash Water Tower**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**User Mix 1**		**Chemical**		
66	**Chilled Water Tower**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**User Mix 1**		**Chemical**		
67	**Compressors (3)**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**User Mix 1**		**Chemical**		
68	**Warehouse**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**User Mix 1**		**Chemical**		
69	**Boiler Room**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**User Mix 1**		**Chemical**		
70	**STP Building**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**User Mix 1**		**Chemical**		
71	**Utilidor**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**User Mix 1**		**Chemical**		
72	**RO plant (not to be demolished, required for treatment)**	**Lg. steel**	**Block 8 in (200 mm) thick**	**Bury in place**	**Med Excavator**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		**Chemical**		

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

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TOTALS	**$8,145,290**	**$3,821,129**	**$1,513**	**$11,967,932**

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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TOTALS	**$8,145,290**	**$3,821,129**	**$1,513**	**$11,967,932**

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) m2	Building Volume m3	Wall Length m	Wall Area m2	Slab Demolition Fleet	Slab Volume m3	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	**Mine Site Washbay**	750	15,000	110	33	345B	300	$70,188	$31,518	$101,706	$796	$0	$796	$0	$0	$0	$70,984	$31,518	$102,502
2	**Mine Site Truck Shop**	9,114	168,610	470	141	345B	2,734	$788,959	$354,287	$1,143,246	$3,400	$0	$3,400	$0	$0	$0	$792,359	$354,287	$1,146,646
3	**Repair Shop**	1,785	12,495	172	0	345B	357	$58,467	$26,255	$84,722	$0	$0	$0	$0	$0	$0	$58,467	$26,255	$84,722
4	**Primary Crusher**	264	11,880	68	82	345B	158	$55,588	$24,962	$80,550	$1,977	$0	$1,977	$0	$0	$0	$57,565	$24,962	$82,527
5	**Primary Crusher - Concrete**	264	8,712	68	0	345B	264	$40,765	$18,306	$59,071	$0	$0	$0	$0	$0	$0	$40,765	$18,306	$59,071
6	**Primary Crusher - Steel Bldg. Below Ground**	90	3,780	38	0	345B	0	$17,687	$7,943	$25,630	$0	$0	$0	$0	$0	$0	$17,687	$7,943	$25,630
7	**Primary Crusher - Steel Bldg. Above Ground**	420	5,880	94	0	345B	0	$27,514	$12,355	$39,869	$0	$0	$0	$0	$0	$0	$27,514	$12,355	$39,869
8	**Take-up Tower**	420	4,200	86	0	345B	252	$19,653	$8,825	$28,478	$0	$0	$0	$0	$0	$0	$19,653	$8,825	$28,478
9	**Conveyor (Total)**	3,624	7,249	3,628	0	345B	0	$33,918	$15,231	$49,149	$0	$0	$0	$0	$0	$0	$33,918	$15,231	$49,149
10	**Drive House**	297	6,534	76	0	345B	0	$30,574	$13,729	$44,303	$0	$0	$0	$0	$0	$0	$30,574	$13,729	$44,303
11	**Ore Stockpile Cover**	0	0	250	0	345B	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
12	**Pebble Crusher**	616	18,480	100	60	345B	185	$86,471	$38,830	$125,301	$1,447	$0	$1,447	$0	$0	$0	$87,918	$38,830	$126,748
13	**Grinding Building**	4,608	161,279	288	173	345B	1,382	$754,657	$338,884	$1,093,541	$4,171	$0	$4,171	$0	$0	$0	$758,828	$338,884	$1,097,712
14	**Ball Mill Foundations (two total)**	1,250	1,250	150	0	345B	5,000	$8,237	$3,686	$11,923	$0	$0	$0	$0	$0	$0	$8,237	$3,686	$11,923
15	**Ball Mill Foundations (Concr.Piers Above Grade Slab.)**	1,901	1,901	174	0	345B	0	$8,893	$3,994	$12,887	$0	$0	$0	$0	$0	$0	$8,893	$3,994	$12,887
16	**SAG Mill Foundation**	750	750	110	0	345B	3,000	$4,942	$2,212	$7,154	$0	$0	$0	$0	$0	$0	$4,942	$2,212	$7,154
17	**SAG Mill Foundation (Concr.Piers Above Grade Slab.)**	1,101	1,101	133	0	345B	0	$5,153	$2,314	$7,467	$0	$0	$0	$0	$0	$0	$5,153	$2,314	$7,467
18	**POX Process Building - High Section**	2,399	110,341	199	119	345B	1,439	$516,306	$231,851	$748,157	$2,869	$0	$2,869	$0	$0	$0	$519,175	$231,851	$751,026
19	**POX Process Building - Lower Section**	4,254	119,105	288	173	345B	2,552	$557,319	$250,268	$807,587	$4,171	$0	$4,171	$0	$0	$0	$561,490	$250,268	$811,758
20	**POX Process Building - End additioin**	512	7,161	92	55	345B	307	$33,508	$15,047	$48,555	$1,326	$0	$1,326	$0	$0	$0	$34,834	$15,047	$49,881
21	**POX Misc. Small Tanks (8)**	128	640	72	0	345B	0	$2,995	$1,345	$4,340	$0	$0	$0	$0	$0	$0	$2,995	$1,345	$4,340
22	**Autoclaves (2)**	240	1,440	92	0	345B	0	$6,738	$3,026	$9,764	$0	$0	$0	$0	$0	$0	$6,738	$3,026	$9,764
23	**Stock Tanks Concrete Contain.**	9,000	0	420	252	345B	4,500	$0	$0	$0	$6,076	$0	$6,076	$0	$0	$0	$6,076	$0	$6,076
24	**Concrete Thickener Concrete**	11,000	0	420	252	345B	5,500	$0	$0	$0	$6,076	$0	$6,076	$0	$0	$0	$6,076	$0	$6,076
25	**Flot./POX Thickener Concrete**	33,600	0	760	0	345B	20,160	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
26	**Hot Cure Tanks**	588	9,408	112	0	345B	0	$44,022	$19,768	$63,790	$0	$0	$0	$0	$0	$0	$44,022	$19,768	$63,790
27	**Flotation Building**	11,520	403,199	432	259	345B	6,912	$1,886,647	$847,212	$2,733,859	$6,244	$0	$6,244	$0	$0	$0	$1,892,891	$847,212	$2,740,103
28	**CIL Building**	3,840	145,921	272	163	345B	2,304	$682,791	$306,612	$989,403	$3,930	$0	$3,930	$0	$0	$0	$686,721	$306,612	$993,333
29	**Refinery**	768	26,880	112	67	345B	461	$125,776	$56,481	$182,257	$1,615	$0	$1,615	$0	$0	$0	$127,391	$56,481	$183,872
30	**Cyanide Reagent Building**	3,072	107,520	256	154	345B	1,843	$503,106	$225,923	$729,029	$3,713	$0	$3,713	$0	$0	$0	$506,819	$225,923	$732,742
31	**Water Treatment Plant Building - Construction**	298	2,233	73	44	345B	179	$10,447	$4,691	$15,138	$1,061	$0	$1,061	$0	$0	$0	$11,508	$4,691	$16,199
32	**Water Treatment Plant Building - Operation**	1,183	16,207	143	43	345B	710	$75,837	$34,055	$109,892	$1,037	$0	$1,037	$0	$0	$0	$76,874	$34,055	$110,929
33	**Man Camp - Airstrip**	741	17,043	153	0	345B	74	$79,748	$35,811	$115,559	$0	$0	$0	$0	$0	$0	$79,748	$35,811	$115,559
34	**Man Camp - Airstrip**	741	17,043	153	0	345B	74	$79,748	$35,811	$115,559	$0	$0	$0	$0	$0	$0	$79,748	$35,811	$115,559
35	**Man Camp - Airstrip**	1,117	25,696	219	0	345B	112	$120,235	$53,993	$174,228	$0	$0	$0	$0	$0	$0	$120,235	$53,993	$174,228
36	**Man Camp - Airstrip**	1,117	25,696	219	0	345B	112	$120,235	$53,993	$174,228	$0	$0	$0	$0	$0	$0	$120,235	$53,993	$174,228
37	**Man Camp - Airstrip**	821	18,878	167	0	345B	82	$88,336	$39,668	$128,004	$0	$0	$0	$0	$0	$0	$88,336	$39,668	$128,004
38	**Man Camp - Airstrip**	2,262	27,143	213	0	345B	226	$127,010	$57,035	$184,045	$0	$0	$0	$0	$0	$0	$127,010	$57,035	$184,045
39	**STP Building**	223	1,563	61	0	345B	67	$7,313	$3,284	$10,597	$0	$0	$0	$0	$0	$0	$7,313	$3,284	$10,597
40	**Power Station A/B Buildings**	3,600	54,001	300	0	345B	1,080	$252,678	$113,467	$366,145	$0	$0	$0	$0	$0	$0	$252,678	$113,467	$366,145
41	**Power Station A Gensets**	1,050	4,200	170	0	345B	0	$19,652	$8,825	$28,477	$0	$0	$0	$0	$0	$0	$19,652	$8,825	$28,477
42	**Power station A Transformers**	480	1,920	88	0	345B	0	$8,984	$4,034	$13,018	$0	$0	$0	$0	$0	$0	$8,984	$4,034	$13,018
43	**Power Station A Tanks**	400	6,000	80	0	345B	0	$28,076	$12,608	$40,684	$0	$0	$0	$0	$0	$0	$28,076	$12,608	$40,684
44	**Power Station A Building**	720	8,640	112	0	345B	216	$40,428	$18,155	$58,583	$0	$0	$0	$0	$0	$0	$40,428	$18,155	$58,583
45	**Power Station A Building (small)**	576	3,456	100	0	345B	115	$16,171	$7,262	$23,433	$0	$0	$0	$0	$0	$0	$16,171	$7,262	$23,433
46	**Power Station B Gensets**	1,050	4,200	170	0	345B	0	$19,652	$8,825	$28,477	$0	$0	$0	$0	$0	$0	$19,652	$8,825	$28,477
47	**Power station B Transformers**	480	1,920	88	0	345B	0	$8,984	$4,034	$13,018	$0	$0	$0	$0	$0	$0	$8,984	$4,034	$13,018
48	**Power Station B Tanks**	400	6,000	80	0	345B	0	$28,076	$12,608	$40,684	$0	$0	$0	$0	$0	$0	$28,076	$12,608	$40,684
49	**Power Station B Building (small)**	576	3,456	100	0	345B	115	$16,171	$7,262	$23,433	$0	$0	$0	$0	$0	$0	$16,171	$7,262	$23,433
50	**Cold Storage Building**	1,058	8,464	138	83	345B	317	$39,605	$17,785	$57,390	$2,001	$0	$2,001	$0	$0	$0	$41,606	$17,785	$59,391
51	**Autoclave Feed Tanks**	324	4,536	72	0	345B	0	$21,225	$9,531	$30,756	$0	$0	$0	$0	$0	$0	$21,225	$9,531	$30,756
52	**Quench/Flash/Heaters**	121	4,235	44	0	345B	0	$19,816	$8,899	$28,715	$0	$0	$0	$0	$0	$0	$19,816	$8,899	$28,715
53	**Absorber Towers**	36	288	24	0	345B	0	$1,348	$605	$1,953	$0	$0	$0	$0	$0	$0	$1,348	$605	$1,953
54	**Cooling Towers**	144	1,152	48	0	345B	0	$5,390	$2,421	$7,811	$0	$0	$0	$0	$0	$0	$5,390	$2,421	$7,811
55	**Mercury Scrubbing**	72	576	36	0	345B	0	$2,695	$1,210	$3,905	$0	$0	$0	$0	$0	$0	$2,695	$1,210	$3,905
56	**Quench Building (60 m total H)**	1,199	41,965	153	0	345B	359	$196,361	$88,177	$284,538	$0	$0	$0	$0	$0	$0	$196,361	$88,177	$284,538
57	**Autoclave**	240	1,440	92	0	345B	0	$6,738	$3,026	$9,764	$0	$0	$0	$0	$0	$0	$6,738	$3,026	$9,764
58	**HP cooling tank**	144	2,016	48	0	345B	0	$9,433	$4,236	$13,669	$0	$0	$0	$0	$0	$0	$9,433	$4,236	$13,669
59	**Demin Tank**	64	512	32	0	345B	0	$2,396	$1,076	$3,472	$0	$0	$0	$0	$0	$0	$2,396	$1,076	$3,472
60	**Seal Water Tank**	16	128	16	0	345B	0	$599	$269	$868	$0	$0	$0	$0	$0	$0	$599	$269	$868

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Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$208,140	N/A	$252,962
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$208,140**	**$0**	**$252,962**
Revegetation Cost	$7,843	$2,269	$1,513	$11,625
TOTALS	**$8,145,290**	**$3,821,129**	**$1,513**	**$11,967,932**

61	**Autoclave Feed Pumps**	30	90	22	0	345B	0	$421	$189	$610	$0	$0	$0	$0	$0	$0	$421	$189	$610
62	**LP Column**	144	1,440	48	0	345B	0	$6,738	$3,026	$9,764	$0	$0	$0	$0	$0	$0	$6,738	$3,026	$9,764
63	**HP Column**	144	1,440	48	0	345B	0	$6,738	$3,026	$9,764	$0	$0	$0	$0	$0	$0	$6,738	$3,026	$9,764
64	**Main Heat Exchanger**	192	1,920	56	0	345B	0	$8,984	$4,034	$13,018	$0	$0	$0	$0	$0	$0	$8,984	$4,034	$13,018
65	**Wash Water Tower**	49	343	28	0	345B	0	$1,605	$721	$2,326	$0	$0	$0	$0	$0	$0	$1,605	$721	$2,326
66	**Chilled Water Tower**	49	343	28	0	345B	0	$1,605	$721	$2,326	$0	$0	$0	$0	$0	$0	$1,605	$721	$2,326
67	**Compressors (3)**	550	5,500	130	0	345B	0	$25,735	$11,556	$37,291	$0	$0	$0	$0	$0	$0	$25,735	$11,556	$37,291
68	**Warehouse**	1,426	12,835	154	0	345B	428	$60,054	$26,968	$87,022	$0	$0	$0	$0	$0	$0	$60,054	$26,968	$87,022
69	**Boiler Room**	900	7,650	120	0	345B	270	$35,796	$16,074	$51,870	$0	$0	$0	$0	$0	$0	$35,796	$16,074	$51,870
70	**STP Building**	897	7,174	135	0	345B	269	$33,567	$15,073	$48,640	$0	$0	$0	$0	$0	$0	$33,567	$15,073	$48,640
71	**Utilidor**	1,075	7,525	440	0	345B	0	$35,211	$15,812	$51,023	$0	$0	$0	$0	$0	$0	$35,211	$15,812	$51,023
72	**RO plant (not to be demolished, required for treatment)**	0	0	0	0	345B	0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
			1,717,583				64,415	**$8,040,715**	**$3,610,720**	**$11,651,435**	**$51,910**	**$0**	**$51,910**	**$0**	**$0**	**$0**	**$8,092,625**	**$3,610,720**	**$11,703,345**

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$208,140	N/A	$252,962
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$208,140**	**$0**	**$252,962**
Revegetation Cost	$7,843	$2,269	$1,513	$11,625
TOTALS	**$8,145,290**	**$3,821,129**	**$1,513**	**$11,967,932**

Building & Foundation - Foundation Cover and Growth Media Costs

		Foundation Cover								Growth Media								Total Cover & Growth M	
	Description (required)	Cover Volume m3	Cover Repacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $	Growth Media Volume m3	Growth Media Repacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $	Total Labor Cost $	Total Equipment Cost $
1	**Mine Site Washbay**	525	777D/992G	499	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
2	**Mine Site Truck Shop**	6,379	777D/992G	499	1	13	$2,387	$11,090	$13,477						$0	$0	$0	$2,387	$11,090
3	**Repair Shop**	1,249	777D/992G	499	1	3	$551	$2,559	$3,110						$0	$0	$0	$551	$2,559
4	**Primary Crusher**	185	777D/992G	499	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
5	**Primary Crusher - Concrete**	185	777D/992G	499	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
6	**Primary Crusher - Steel Bldg. Below Ground**	83	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
7	**Primary Crusher - Steel Bldg. Above Ground**	384	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
8	**Take-up Tower**	1,260	777D/992G	499	1	3	$551	$2,559	$3,110						$0	$0	$0	$551	$2,559
9	**Conveyor (Total)**	3,314	777D/992G	530	1	6	$1,102	$5,118	$6,220						$0	$0	$0	$1,102	$5,118
10	**Drive House**	271	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
11	**Ore Stockpile Cover**						$0	$0	$0						$0	$0	$0	$0	$0
12	**Pebble Crusher**	431	777D/992G	437	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
13	**Grinding Building**	3,226	777D/992G	437	1	7	$1,285	$5,971	$7,256						$0	$0	$0	$1,285	$5,971
14	**Ball Mill Foundations (two total)**	5,000	777D/992G	437	1	11	$2,020	$9,384	$11,404						$0	$0	$0	$2,020	$9,384
15	**Ball Mill Foundations (Concr.Piers Above Grade Slab.)**	1,738	777D/992G	530	1	3	$551	$2,559	$3,110						$0	$0	$0	$551	$2,559
16	**SAG Mill Foundation**	3,000	777D/992G	437	1	7	$1,285	$5,971	$7,256						$0	$0	$0	$1,285	$5,971
17	**SAG Mill Foundation (Concr.Piers Above Grade Slab.)**	1,007	777D/992G	530	1	2	$367	$1,706	$2,073						$0	$0	$0	$367	$1,706
18	**POX Process Building - High Section**	1,679	777D/992G	499	1	3	$551	$2,559	$3,110						$0	$0	$0	$551	$2,559
19	**POX Process Building - Lower Section**	2,978	777D/992G	499	1	6	$1,102	$5,118	$6,220						$0	$0	$0	$1,102	$5,118
20	**POX Process Building - End additioin**	511	777D/992G	437	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
21	**POX Misc. Small Tanks (8)**	117	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
22	**Autoclaves (2)**	219	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
23	**Stock Tanks Concrete Contain.**	6,300	777D/992G	437	1	14	$2,571	$11,943	$14,514						$0	$0	$0	$2,571	$11,943
24	**Concrete Thickener Concrete**	7,700	777D/992G	499	1	15	$2,755	$12,796	$15,551						$0	$0	$0	$2,755	$12,796
25	**Flot./POX Thickener Concrete**	23,520	777D/992G	437	1	54	$9,917	$46,065	$55,982						$0	$0	$0	$9,917	$46,065
26	**Hot Cure Tanks**	537	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
27	**Flotation Building**	8,064	777D/992G	437	1	18	$3,306	$15,355	$18,661						$0	$0	$0	$3,306	$15,355
28	**CIL Building**	2,688	777D/992G	437	1	6	$1,102	$5,118	$6,220						$0	$0	$0	$1,102	$5,118
29	**Refinery**	537	777D/992G	437	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
30	**Cyanide Reagent Building**	2,151	777D/992G	455	1	5	$918	$4,265	$5,183						$0	$0	$0	$918	$4,265
31	**Water Treatment Plant Building - Construction**	209	777D/992G	499	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
32	**Water Treatment Plant Building - Operation**	828	777D/992G	499	1	2	$367	$1,706	$2,073						$0	$0	$0	$367	$1,706
33	**Man Camp - Airstrip**	518	777D/992G	455	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
34	**Man Camp - Airstrip**	518	777D/992G	455	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
35	**Man Camp - Airstrip**	782	777D/992G	455	1	2	$367	$1,706	$2,073						$0	$0	$0	$367	$1,706
36	**Man Camp - Airstrip**	782	777D/992G	455	1	2	$367	$1,706	$2,073						$0	$0	$0	$367	$1,706
37	**Man Camp - Airstrip**	574	777D/992G	455	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
38	**Man Camp - Airstrip**	1,583	777D/992G	455	1	3	$551	$2,559	$3,110						$0	$0	$0	$551	$2,559
39	**STP Building**	156	777D/992G	455	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
40	**Power Station A/B Buildings**	2,520	777D/992G	437	1	6	$1,102	$5,118	$6,220						$0	$0	$0	$1,102	$5,118
41	**Power Station A Gensets**	960	777D/992G	530	1	2	$367	$1,706	$2,073						$0	$0	$0	$367	$1,706
42	**Power station A Transformers**	439	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
43	**Power Station A Tanks**	365	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
44	**Power Station A Building**	504	777D/992G	455	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
45	**Power Station A Building (small)**	403	777D/992G	455	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
46	**Power Station B Gensets**	960	777D/992G	530	1	2	$367	$1,706	$2,073						$0	$0	$0	$367	$1,706
47	**Power station B Transformers**	439	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
48	**Power Station B Tanks**	365	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
49	**Power Station B Building (small)**	403	777D/992G	455	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
50	**Cold Storage Building**	741	777D/992G	499	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
51	**Autoclave Feed Tanks**	296	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
52	**Quench/Flash/Heaters**	111	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
53	**Absorber Towers**	33	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
54	**Cooling Towers**	132	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
55	**Mercury Scrubbing**	66	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
56	**Quench Building (60 m total H)**	839	777D/992G	499	1	2	$367	$1,706	$2,073						$0	$0	$0	$367	$1,706
57	**Autoclave**	219	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
58	**HP cooling tank**	132	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
59	**Demin Tank**	59	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
60	**Seal Water Tank**	15	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$208,140	N/A	$252,962
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$208,140**	**$0**	**$252,962**
Revegetation Cost	$7,843	$2,269	$1,513	$11,625
TOTALS	**$8,145,290**	**$3,821,129**	**$1,513**	**$11,967,932**

61	**Autoclave Feed Pumps**	28	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
62	**LP Column**	132	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
63	**HP Column**	132	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
64	**Main Heat Exchanger**	176	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
65	**Wash Water Tower**	45	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
66	**Chilled Water Tower**	45	777D/992G	530	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
67	**Compressors (3)**	385	777D/992G	499	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
68	**Warehouse**	999	777D/992G	499	1	2	$367	$1,706	$2,073						$0	$0	$0	$367	$1,706
69	**Boiler Room**	630	777D/992G	499	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
70	**STP Building**	628	777D/992G	499	1	1	$184	$853	$1,037						$0	$0	$0	$184	$853
71	**Utilidor**	983	777D/992G	530	1	2	$367	$1,706	$2,073						$0	$0	$0	$367	$1,706
72	**RO plant (not to be demolished, required for treatment)**						$0	$0	$0						$0	$0	$0	$0	$0
		105,372				244	**$44,822**	**$208,140**	**$252,962**						**$0**	**$0**	**$0**	**$44,822**	**$208,140**

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$208,140	N/A	$252,962
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$208,140**	**$0**	**$252,962**
Revegetation Cost	$7,843	$2,269	$1,513	$11,625
TOTALS	**$8,145,290**	**$3,821,129**	**$1,513**	**$11,967,932**

Building & Foundation - Scarifying/Revegetation Costs

					Scarifying/Ripping			Revegetation				Total Scarify & Revegation Costs			
	Description (required)	Flat Area ha	Area Long Dimension m	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	**Mine Site Washbay**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
2	**Mine Site Truck Shop**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
3	**Repair Shop**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
4	**Primary Crusher**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
5	**Primary Crusher - Concrete**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
6	**Primary Crusher - Steel Bldg. Below Ground**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
7	**Primary Crusher - Steel Bldg. Above Ground**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
8	**Take-up Tower**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
9	**Conveyor (Total)**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
10	**Drive House**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
11	**Ore Stockpile Cover**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
12	**Pebble Crusher**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
13	**Grinding Building**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
14	**Ball Mill Foundations (two total)**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
15	**Ball Mill Foundations (Concr.Piers Above Grade Slab.)**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
16	**SAG Mill Foundation**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
17	**SAG Mill Foundation (Concr.Piers Above Grade Slab.)**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
18	**POX Process Building - High Section**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
19	**POX Process Building - Lower Section**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
20	**POX Process Building - End additioin**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
21	**POX Misc. Small Tanks (8)**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
22	**Autoclaves (2)**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
23	**Stock Tanks Concrete Contain.**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
24	**Concrete Thickener Concrete**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
25	**Flot./POX Thickener Concrete**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
26	**Hot Cure Tanks**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
27	**Flotation Building**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
28	**CIL Building**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
29	**Refinery**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
30	**Cyanide Reagent Building**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
31	**Water Treatment Plant Building - Construction**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
32	**Water Treatment Plant Building - Operation**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
33	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
34	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
35	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
36	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
37	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
38	**Man Camp - Airstrip**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
39	**STP Building**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
40	**Power Station A/B Buildings**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
41	**Power Station A Gensets**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
42	**Power station A Transformers**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
43	**Power Station A Tanks**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
44	**Power Station A Building**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
45	**Power Station A Building (small)**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
46	**Power Station B Gensets**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
47	**Power station B Transformers**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
48	**Power Station B Tanks**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
49	**Power Station B Building (small)**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
50	**Cold Storage Building**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
51	**Autoclave Feed Tanks**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
52	**Quench/Flash/Heaters**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
53	**Absorber Towers**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
54	**Cooling Towers**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
55	**Mercury Scrubbing**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
56	**Quench Building (60 m total H)**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
57	**Autoclave**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
58	**HP cooling tank**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
59	**Demin Tank**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
60	**Seal Water Tank**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161

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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings & Foundation Demolition Cost Summary

	Labor	Equipment	Materials	Totals
Building Demolition Cost	$8,040,715	$3,610,720	N/A	$11,651,435
Wall Demolition Cost	$51,910	$0	N/A	$51,910
Slab Demolition	$0	$0	N/A	$0
Subtotal Demolition	**$8,092,625**	**$3,610,720**	**$0**	**$11,703,345**
Cover Placement Cost	$44,822	$208,140	N/A	$252,962
Growth Media Placement Cost	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$44,822**	**$208,140**	**$0**	**$252,962**
Revegetation Cost	$7,843	$2,269	$1,513	$11,625
TOTALS	**$8,145,290**	**$3,821,129**	**$1,513**	**$11,967,932**

61	**Autoclave Feed Pumps**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
62	**LP Column**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
63	**HP Column**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
64	**Main Heat Exchanger**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
65	**Wash Water Tower**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
66	**Chilled Water Tower**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
67	**Compressors (3)**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
68	**Warehouse**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
69	**Boiler Room**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
70	**STP Building**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
71	**Utilidor**	0.04	0		$0	$0	$0	$109	$32	$21	$161	$109	$32	$21	$161
72	**RO plant (not to be demolished, required for treatment)**	0.04	0		$0	$0	$0	$109	$32	$22	$162	$109	$32	$22	$162
		2.88			**$0**	**$0**	**$0**	**$7,843**	**$2,269**	**$1,513**	**$11,625**	**$7,843**	**$2,269**	**$1,513**	**$11,625**

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edia Costs
Total Costs $
$1,037
$13,477
$3,110
$1,037
$1,037
$1,037
$1,037
$3,110
$6,220
$1,037
$0
$1,037
$7,256
$11,404
$3,110
$7,256
$2,073
$3,110
$6,220
$1,037
$1,037
$1,037
$14,514
$15,551
$55,982
$1,037
$18,661
$6,220
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$1,037
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$1,037
$2,073
$0
$252,962

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Closure Cost Estimate
Other Demo & Equip Removal

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 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: Alaska Davis Bacon 2016

Other Demoltion and Equipment Removal - Cost Summary

	Labor	Equipment	Materials	Totals
Other Demolition	$0	$0	$0	$0
Equipment Removal	$88,814	$160,962	$0	$249,776
TOTALS	**$88,814**	**$160,962**	**$0**	**$249,776**

Color Code Key

User Input - Direct Input	**Direct Input**
User Input - Pull Down List	**Pull Down Selection**
Program Constant (can override)	**Alternate Input**
Program Calculated Value	**Locked Cell - Formula or Reference**

Other Demolition

Facility Description

	Description (required)	ID Code	Type	Quantity	Units	Labor Unit Cost $	Equipment Unit Cost $	Material Unit Cost $	Total Cost $
						$0	**$0**	**$0**	

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	**Misc. Tanks and Vessels (see file "Equipment List_RevK_Tanks and Vessels.DemoCost.PL.xls)**		**Process - Plant & Buildings**	**1**	**ea**	**$88,814.14**	**$160,962.33**		$249,776
						$88,814	**$160,962**	**$0**	**$249,776**

Notes:

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Closure Cost Estimate
Sediment & Drainage Control

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$195,139	$351,258	N/A	$546,397
Diversion Ditch Liner	$1,912,141	$806,419	$914,900	$3,633,460
Diversion Ditch Rip-Rap	$10,306,577	$2,903,616	$11,258,226	$24,468,419
Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$12,413,857**	**$4,061,293**	**$12,173,126**	**$28,648,276**
Diversion Ditch Revegetation	$11,797	$3,411	$16,885	$32,093
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$11,797**	**$3,411**	**$16,885**	**$32,093**
TOTALS	**$12,425,654**	**$4,064,704**	**$12,190,011**	**$28,680,369**

Diversion Ditches - User Input

			Diversions Ditches							Revegetation			Liner and Rip-Rap Installation			
	Description (required)	ID Code	Diversion Length m	Diversion Depth m	Ditch Bottom Width m	Ditch Sideslope Angle _H:1V	Excavate Volume (if calculated elsewhere) m3	Excavating Material Condition (select)	Excavating Equipment Fleet (select)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Liner Area m2	Liner Type (select)	Rip-Rap Area m2	Rip-Rap Type (select type)
1	**Reclaimed WRF RO Collection**		**4425**	**2.0**	**4.0**	**2.0**	**87,600**	**1**	**Medium**	**User Mix 1**					**34,222**	**Rip-Rap 18 in (45(**
2	**Primary Channel (WRF)**		**12000**	**2.0**	**4.0**	**2.0**		**1**	**Medium**	**User Mix 1**			**130700**	**40 mil VLDPE**	**130,700**	**Rip-Rap 3/8 to 1/4**
3	**Secondary Channel (WRF)**		**26000**	**1.0**	**2.0**	**2.0**		**1**	**Medium**	**User Mix 1**					**156,000**	**Rip-Rap 3/8 to 1/4**
4	**Tailings Spillway Structure (exc. 724,000m3)**		**500**	**15.0**	**15.0**	**3.0**	**724,000**	**0.6**	**Medium**	**User Mix 1**						

Notes:
Item 2 and Item 3 diversion lengths and liner area from "DC11-028_Closure_Period_MTOs_for_WRF_Diversion_Channels.pdf"

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Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$195,139	$351,258	N/A	$546,397
Diversion Ditch Liner	$1,912,141	$806,419	$914,900	$3,633,460
Diversion Ditch Rip-Rap	$10,306,577	$2,903,616	$11,258,226	$24,468,419
Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$12,413,857**	**$4,061,293**	**$12,173,126**	**$28,648,276**
Diversion Ditch Revegetation	$11,797	$3,411	$16,885	$32,093
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$11,797**	**$3,411**	**$16,885**	**$32,093**
TOTALS	**$12,425,654**	**$4,064,704**	**$12,190,011**	**$28,680,369**

Sediment/Evaporation Pond Construction/Removal - User Input

			Sediment Ponds								Growth Media		
	Description (required)	ID Code	Pond Width m	Pond/Berm Length m	Berm Height m	Crest Width m	Sideslope Angle _H:1V	Final Area (if calculated elsewhere) ha	Regrade Volume (if calculated elsewhere) m3	Cover Volume (if calculated elsewhere) m3	Growth Media Thickness mm	Distance from Growth Media Stockpile m	Slope from Pond to Borrow % grade

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

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Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
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Subtotal Revegetation	**$11,797**	**$3,411**	**$16,885**	**$32,093**
TOTALS	**$12,425,654**	**$4,064,704**	**$12,190,011**	**$28,680,369**

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)

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

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TOTALS	**$12,425,654**	**$4,064,704**	**$12,190,011**	**$28,680,369**

Drainage Control - Calculations

Diversion Ditch Volume Calculation

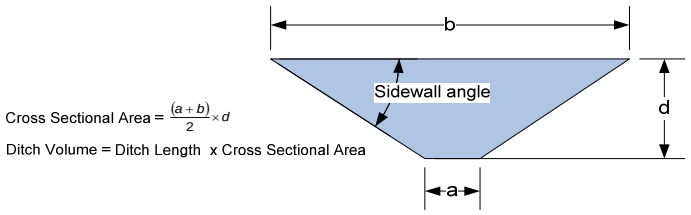
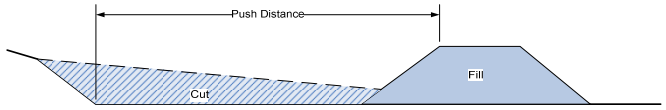


Figure 1 - Ditch Volume Calculation

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 (120 m)

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 0.4 ha revegetation crew time per area

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Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$12,413,857**	**$4,061,293**	**$12,173,126**	**$28,648,276**
Diversion Ditch Revegetation	$11,797	$3,411	$16,885	$32,093
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$11,797**	**$3,411**	**$16,885**	**$32,093**
TOTALS	**$12,425,654**	**$4,064,704**	**$12,190,011**	**$28,680,369**

Diversion Ditches - Excavation Costs

	Description (required)	Diversion Ditch Volume LCM	Diversion Ditch Equipment	Corrected Excavator Productivity LCM/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	**Reclaimed WRF RO Collection**	105,120	345B	480	239	$14,534	$26,161	$40,695	$0	$0	$0	$0	$1,585,163	$446,597	$0	$2,031,760
2	**Primary Channel (WRF)**	252,844	345B	480	689	$41,898	$75,418	$117,316	$1,912,141	$806,419	$914,900	$3,633,460	$3,975,894	$1,120,099	$5,132,369	$10,228,362
3	**Secondary Channel (WRF)**	113,045	345B	480	308	$18,729	$33,714	$52,443	$0	$0	$0	$0	$4,745,520	$1,336,920	$6,125,857	$12,208,297
4	**Tailings Spillway Structure (exc. 724,000m3)**	868,800	345B	480	1,973	$119,978	$215,965	$335,943	$0	$0	$0	$0	$0	$0	$0	$0
		1,339,809			3,209	**$195,139**	**$351,258**	**$546,397**	**$1,912,141**	**$806,419**	**$914,900**	**$3,633,460**	**$10,306,577**	**$2,903,616**	**$11,258,226**	**$24,468,419**

Notes: LCM assumes 20% swell from ditch volume

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Model Version: Version 1.4.1
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$195,139	$351,258	N/A	$546,397
Diversion Ditch Liner	$1,912,141	$806,419	$914,900	$3,633,460
Diversion Ditch Rip-Rap	$10,306,577	$2,903,616	$11,258,226	$24,468,419
Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$12,413,857**	**$4,061,293**	**$12,173,126**	**$28,648,276**
Diversion Ditch Revegetation	$11,797	$3,411	$16,885	$32,093
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$11,797**	**$3,411**	**$16,885**	**$32,093**
TOTALS	**$12,425,654**	**$4,064,704**	**$12,190,011**	**$28,680,369**

Diversion Ditches - Revegetation Costs

	Description (required)	Surface Area ha	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Reclaimed WRF RO Collection**	5.99	$1,612	$466	$2,308	$4,386
2	**Primary Channel (WRF)**	16.19	$4,357	$1,260	$6,237	$11,854
3	**Secondary Channel (WRF)**	16.19	$4,357	$1,260	$6,237	$11,854
4	**Tailings Spillway Structure (exc. 724,000m3)**	5.46	$1,471	$425	$2,103	$3,999
		43.83	**$11,797**	**$3,411**	**$16,885**	**$32,093**

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Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$195,139	$351,258	N/A	$546,397
Diversion Ditch Liner	$1,912,141	$806,419	$914,900	$3,633,460
Diversion Ditch Rip-Rap	$10,306,577	$2,903,616	$11,258,226	$24,468,419
Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$12,413,857**	**$4,061,293**	**$12,173,126**	**$28,648,276**
Diversion Ditch Revegetation	$11,797	$3,411	$16,885	$32,093
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$11,797**	**$3,411**	**$16,885**	**$32,093**
TOTALS	**$12,425,654**	**$4,064,704**	**$12,190,011**	**$28,680,369**

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 m3	Sed/Evap Pond Equipment	Dozing Distance (see above) m	Uncorrected Dozer Productivity LCM/hr	Grade Correction	Density Correction	Excavating Material	Corrected Productivity LCM/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 $
											$0		**$0**	**$0**		**$0**	**$0**

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Closure Cost Estimate
Sediment & Drainage Control

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Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$195,139	$351,258	N/A	$546,397
Diversion Ditch Liner	$1,912,141	$806,419	$914,900	$3,633,460
Diversion Ditch Rip-Rap	$10,306,577	$2,903,616	$11,258,226	$24,468,419
Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$12,413,857**	**$4,061,293**	**$12,173,126**	**$28,648,276**
Diversion Ditch Revegetation	$11,797	$3,411	$16,885	$32,093
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$11,797**	**$3,411**	**$16,885**	**$32,093**
TOTALS	**$12,425,654**	**$4,064,704**	**$12,190,011**	**$28,680,369**

Sediment/Evaporation Ponds - Growth Media Costs

		Growth Media							
	Description (required)	Growth Media Volume m3	Growth Media Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Placement Cost $
							$0	**$0**	**$0**

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Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$195,139	$351,258	N/A	$546,397
Diversion Ditch Liner	$1,912,141	$806,419	$914,900	$3,633,460
Diversion Ditch Rip-Rap	$10,306,577	$2,903,616	$11,258,226	$24,468,419
Sed Pond Construct/Regrade	$0	$0	N/A	$0
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$0	$0	N/A	$0
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$12,413,857**	**$4,061,293**	**$12,173,126**	**$28,648,276**
Diversion Ditch Revegetation	$11,797	$3,411	$16,885	$32,093
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$11,797**	**$3,411**	**$16,885**	**$32,093**
TOTALS	**$12,425,654**	**$4,064,704**	**$12,190,011**	**$28,680,369**

Sediment/Evaporation Ponds - Revegetation Costs

	Description (required)	Surface Area ha	Long Ripping Distance m	Area Width m	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 $
					0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

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Closure Cost Estimate
Process Ponds

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$89,143	N/A	$109,846
Growth Media Placement Costs	$2,218	$9,551	N/A	$11,769
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$99,764**	**$0**	**$124,783**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$99,862**	**$486**	**$125,705**

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	Pond Width	Pond Depth	Pond Sideslope Angle	Disturbed Area (if calculated elsewhere)	Percent Backfill	Distance from Backfill Borrow	Slope from Facility to Borrow Area	Pond Volume (if calculated elsewhere)	Growth Media Thickness	Distance from Growth Media Stockpile	Slope from Facility to Stockpile
			m	m	m	_H:1V	ha	(100% if blank)	m	% grade	m3	mm	m	% grade
1	**TSF seepage pond (required long-term for water treatment)**		**100**	**75**	**10.0**	**2.0**	**1.25**		**4,400**	**-5%**		**350**	**4,400**	**-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)

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Closure Cost Estimate
Process Ponds

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Process Ponds - Cost Summary	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$89,143	N/A	$109,846
Growth Media Placement Costs	$2,218	$9,551	N/A	$11,769
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$99,764**	**$0**	**$124,783**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$99,862**	**$486**	**$125,705**

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	**TSF seepage pond (required long-term for water treatment)**	**16.0**	**Alluvium**	**Med Truck**		**Alluvium**	**Med Truck**		**Mix 1**		

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

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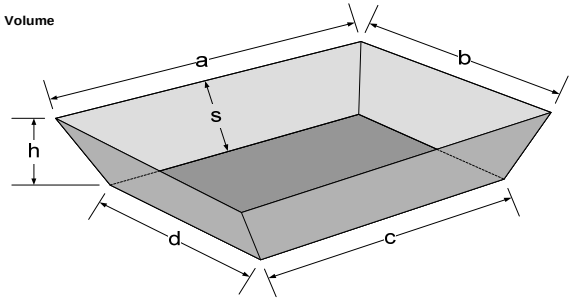
Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$89,143	N/A	$109,846
Growth Media Placement Costs	$2,218	$9,551	N/A	$11,769
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$99,764**	**$0**	**$124,783**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$99,862**	**$486**	**$125,705**

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 0.4 ha revegetation crew time per area

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Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$89,143	N/A	$109,846
Growth Media Placement Costs	$2,218	$9,551	N/A	$11,769
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$99,764**	**$0**	**$124,783**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$99,862**	**$486**	**$125,705**

Process Ponds - Liner Cutting and Folding

	Description (required)	Crew Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $
1	**TSF seepage pond (required long-term for water treatment)**	16	$2,098	$1,070	$3,168
		16	**$2,098**	**$1,070**	**$3,168**

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Closure Cost Estimate
Process Ponds

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$89,143	N/A	$109,846
Growth Media Placement Costs	$2,218	$9,551	N/A	$11,769
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$99,764**	**$0**	**$124,783**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$99,862**	**$486**	**$125,705**

Process Ponds - Backfill and Growth Media Costs

		Pond Backfill								Growth Media							
	Description (required)	Backfill Volume m3	Backfill Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Backfill Cost $	Growth Media Volume m3	Growth Media Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**TSF seepage pond (required long-term for water treatment)**	45,319	777D/992G	804	4	56	$20,703	$89,143	$109,846	4,461	777D/992G	804	4	6	$2,218	$9,551	$11,769
		45,319				56	**$20,703**	**$89,143**	**$109,846**	4,461				6	**$2,218**	**$9,551**	**$11,769**

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Closure Cost Estimate
Process Ponds

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Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$20,703	$89,143	N/A	$109,846
Growth Media Placement Costs	$2,218	$9,551	N/A	$11,769
Liner Cutting & Folding Costs	$2,098	$1,070	N/A	$3,168
Subtotal Earthworks	**$25,019**	**$99,764**	**$0**	**$124,783**
Revegetation Costs	$338	$98	$486	$922
TOTALS	**$25,357**	**$99,862**	**$486**	**$125,705**

Process Ponds - Revegetation Costs

	Description (required)	Surface Area ha	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**TSF seepage pond (required long-term for water treatment)**	1.25	$338	$98	$486	$922
		1.25	**$338**	**$98**	**$486**	**$922**

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Closure Cost Estimate
Yards, Etc.

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Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$679,795	$2,652,888	N/A	$3,332,683
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$842,801	$3,809,444	N/A	$4,652,245
Ripping/Scarifying Cost	$102,098	$398,442	N/A	$500,540
Subtotal Earthworks	**$1,624,694**	**$6,860,774**		**$8,485,468**
Revegetation Cost	$283,066	$81,883	$562,289	$927,238
TOTALS	**$1,907,760**	**$6,942,657**	**$562,289**	**$9,412,706**

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 ha	Average Flat Area Long Dimension (ripping distance) m	Regrade Volume (calculated elsewhere) m3	Cover Thickness mm	Distance from Cover Borrow Area m	Slope from Facility to Borrow Area % grade	Growth Media Thickness mm	Distance from Growth Media Stockpile m	Slope from Facility to Stockpile % grade
1	**Permanent Man Camp Yards**		Yard	**14.84**	**100**	**29,679**				**300**	**1,000**	**0.0**
2	**Material Sites**		Other Facilities	**198.61**	**100**	**397,220**				**300**	**100**	**0.0**
3	**Lower Contact Water Dam (see "Haul Material" sheet)**											
4	**Upper Contact Water Dam (see "Haul Material" sheet)**											
5	**Jung Port Disturbance (not reclaimed)**		Yard	**8.48**		**16,960**						
6	**Mine Borrow Areas**		Yard	**74.21**	**1,000**	**148,420**				**300**	**1,000**	**0.0**
7	**Growth media - TSF Stockpile 1**		Yard	**48.88**	**1,000**	**97,760**						
8	**Growth media - TSF Stockpile 3**		Yard	**80.42**	**1,000**	**160,840**						
9	**Growth media - TSF Stockpile 2**		Yard	**22.96**	**1,000**	**45,920**						
10	**Growth media - North Overburden Stockpile 2028**		Yard	**64.79**	**1,000**	**129,580**						
11	**Growth media - Airstrip Overburden Stockpile**		Yard	**3.78**	**1,000**	**7,560**						
12	**Growth media - Airstrip Overburden Stockpile**		Yard	**4.78**	**1,000**	**9,560**						
13	**Growth media - Jungjuk Port Site Overburden Stockpile**		Yard	**2.06**	**1,000**	**4,120**						
14	**Growth media - North Overburden Stockpile 2028 - buffer**		Yard	**17.06**	**1,000**	**34,120**						
15	**Growth media - South Overburden Stockpile 2019**		Yard	**22.53**	**1,000**	**45,060**						
16	**Misc. Yards**		Yard	**484.60**	**2,000**	**969,200**				**300**	**1,000**	**0.0**
17	**Plant Site**		Yard	**9.79**	**1,000**	**19,580**				**300**	**1,000**	**0.0**
18	**Primary Crusher**		Yard	**1.85**	**1,000**	**3,700**				**300**	**1,000**	**0.0**
19	**Truck Shop**		Yard	**0.09**	**1,000**	**180**				**300**	**1,000**	**0.0**
20	**Airstrip (Not Reclaimed)**		Yard	**35.99**								

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 nominal amount of regrading required - m3 per ha: 2000

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$679,795	$2,652,888	N/A	$3,332,683
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$842,801	$3,809,444	N/A	$4,652,245
Ripping/Scarifying Cost	$102,098	$398,442	N/A	$500,540
Subtotal Earthworks	**$1,624,694**	**$6,860,774**		**$8,485,468**
Revegetation Cost	$283,066	$81,883	$562,289	$927,238
TOTALS	**$1,907,760**	**$6,942,657**	**$562,289**	**$9,412,706**

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	Permanent Man Camp Yards	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
2	Material Sites	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
3	Lower Contact Water Dam (see "Haul Material" sheet)														
4	Upper Contact Water Dam (see "Haul Material" sheet)														
5	Jung Port Disturbance (not reclaimed)														
6	Mine Borrow Areas	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
7	Growth media - TSF Stockpile 1	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
8	Growth media - TSF Stockpile 3	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
9	Growth media - TSF Stockpile 2	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
10	Growth media - North Overburden Stockpile 2028	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
11	Growth media - Airstrip Overburden Stockpile	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
12	Growth media - Airstrip Overburden Stockpile	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
13	Growth media - Jungjuk Port Site Overburden Stockpile	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
14	Growth media - North Overburden Stockpile 2028 - buffer	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
15	Growth media - South Overburden Stockpile 2019	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
16	Misc. Yards	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
17	Plant Site	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
18	Primary Crusher	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
19	Truck Shop	1	Alluvium	Med	Alluvium	Med Truck		Alluvium	Med Truck		Mix 1		Chemical	Yes	Large Dozer
20	Airstrip (Not Reclaimed)														

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

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety **Cost Basis: Alaska Davis Bacon 2016**

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$679,795	$2,652,888	N/A	$3,332,683
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$842,801	$3,809,444	N/A	$4,652,245
Ripping/Scarifying Cost	$102,098	$398,442	N/A	$500,540
Subtotal Earthworks	**$1,624,694**	**$6,860,774**		**$8,485,468**
Revegetation Cost	$283,066	$81,883	$562,289	$927,238
TOTALS	**$1,907,760**	**$6,942,657**	**$562,289**	**$9,412,706**

Yards, Etc. - Calculations

Grading Calculations

Average push distance assumed to be 2/3 of the 180 m maximum from Catepillar Handbook or 120 m
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 0.4 ha revegetation crew time per area

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Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$679,795	$2,652,888	N/A	$3,332,683
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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 m3	Dozing Distance (see above) m	Uncorrected Dozer Productivity m3/hr	Grade Correction	Dozing Material	Density Correction	Total Hourly Productivity m3/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	**Permanent Man Camp Yards**	29,679	122	383	1.0	1.0	0.79	188	158	$9,608	$37,495	$47,103
2	**Material Sites**	397,220	122	383	1.0	1.0	0.79	188	2,112	$128,431	$501,199	$629,630
3	**Lower Contact Water Dam (see "Haul Material" sheet)**									$0	$0	$0
4	**Upper Contact Water Dam (see "Haul Material" sheet)**									$0	$0	$0
5	**Jung Port Disturbance (not reclaimed)**	16,960	122	Select Fleet	Select Fleet	Select Fleet	Select Fleet			$0	$0	$0
6	**Mine Borrow Areas**	148,420	122	383	1.0	1.0	0.79	188	789	$47,979	$187,238	$235,217
7	**Growth media - TSF Stockpile 1**	97,760	122	383	1.0	1.0	0.79	188	520	$31,621	$123,401	$155,022
8	**Growth media - TSF Stockpile 3**	160,840	122	383	1.0	1.0	0.79	188	855	$51,993	$202,900	$254,893
9	**Growth media - TSF Stockpile 2**	45,920	122	383	1.0	1.0	0.79	188	244	$14,838	$57,904	$72,742
10	**Growth media - North Overburden Stockpile 2028**	129,580	122	383	1.0	1.0	0.79	188	689	$41,898	$163,507	$205,405
11	**Growth media - Airstrip Overburden Stockpile**	7,560	122	383	1.0	1.0	0.79	188	40	$2,432	$9,492	$11,924
12	**Growth media - Airstrip Overburden Stockpile**	9,560	122	383	1.0	1.0	0.79	188	51	$3,101	$12,103	$15,204
13	**Growth media - Jungjuk Port Site Overburden Stockpile**	4,120	122	383	1.0	1.0	0.79	188	22	$1,338	$5,221	$6,559
14	**Growth media - North Overburden Stockpile 2028 - buffer**	34,120	122	383	1.0	1.0	0.79	188	181	$11,007	$42,953	$53,960
15	**Growth media - South Overburden Stockpile 2019**	45,060	122	383	1.0	1.0	0.79	188	240	$14,594	$56,954	$71,548
16	**Misc. Yards**	969,200	122	383	1.0	1.0	0.79	188	5,153	$313,354	$1,222,858	$1,536,212
17	**Plant Site**	19,580	122	383	1.0	1.0	0.79	188	104	$6,324	$24,680	$31,004
18	**Primary Crusher**	3,700	122	383	1.0	1.0	0.79	188	20	$1,216	$4,746	$5,962
19	**Truck Shop**	180	122	383	1.0	1.0	0.79	188	1	$61	$237	$298
20	**Airstrip (Not Reclaimed)**									$0	$0	$0
		2,119,459							11,179	**$679,795**	**$2,652,888**	**$3,332,683**

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Model Version: Version 1.4.1
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$679,795	$2,652,888	N/A	$3,332,683
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$842,801	$3,809,444	N/A	$4,652,245
Ripping/Scarifying Cost	$102,098	$398,442	N/A	$500,540
Subtotal Earthworks	**$1,624,694**	**$6,860,774**		**$8,485,468**
Revegetation Cost	$283,066	$81,883	$562,289	$927,238
TOTALS	**$1,907,760**	**$6,942,657**	**$562,289**	**$9,412,706**

Yards, Etc. - Cover and Growth Media Costs

		Cover								Growth Media							
	Description (required)	Cover Volume m3	Topsoil Repacement Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Cost $	Growth Media Volume m3	Growth Media Fleet	Fleet Productivity LCM/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Topsoiling Cost $
1	**Permanent Man Camp Yards**						$0	$0	$0	45,269	777D/992G	707	2	64	$15,722	$70,356	$86,078
2	**Material Sites**						$0	$0	$0	605,393	777D/992G	499	1	1,213	$222,755	$1,034,762	$1,257,517
3	**Lower Contact Water Dam (see "Haul Material" sheet)**						$0	$0	$0						$0	$0	$0
4	**Upper Contact Water Dam (see "Haul Material" sheet)**						$0	$0	$0						$0	$0	$0
5	**Jung Port Disturbance (not reclaimed)**						$0	$0	$0						$0	$0	$0
6	**Mine Borrow Areas**						$0	$0	$0	226,220	777D/992G	707	2	320	$78,611	$351,782	$430,393
7	**Growth media - TSF Stockpile 1**						$0	$0	$0						$0	$0	$0
8	**Growth media - TSF Stockpile 3**						$0	$0	$0						$0	$0	$0
9	**Growth media - TSF Stockpile 2**						$0	$0	$0						$0	$0	$0
10	**Growth media - North Overburden Stockpile 2028**						$0	$0	$0						$0	$0	$0
11	**Growth media - Airstrip Overburden Stockpile**						$0	$0	$0						$0	$0	$0
12	**Growth media - Airstrip Overburden Stockpile**						$0	$0	$0						$0	$0	$0
13	**Growth media - Jungjuk Port Site Overburden Stockpile**						$0	$0	$0						$0	$0	$0
14	**Growth media - North Overburden Stockpile 2028 - buffer**						$0	$0	$0						$0	$0	$0
15	**Growth media - South Overburden Stockpile 2019**						$0	$0	$0						$0	$0	$0
16	**Misc. Yards**						$0	$0	$0	1,477,095	777D/992G	707	2	2,089	$513,184	$2,296,479	$2,809,663
17	**Plant Site**						$0	$0	$0	29,851	777D/992G	707	2	42	$10,318	$46,171	$56,489
18	**Primary Crusher**						$0	$0	$0	5,674	777D/992G	707	2	8	$1,965	$8,795	$10,760
19	**Truck Shop**						$0	$0	$0	247	777D/992G	707	2	1	$246	$1,099	$1,345
20	**Airstrip (Not Reclaimed)**						$0	$0	$0						$0	$0	$0
							$0	**$0**	**$0**	2,389,749				3,737	**$842,801**	**$3,809,444**	**$4,652,245**

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Yards, Etc. - Cost Summary

	Labor	Equipment	Materials	Totals
Regrading Cost	$679,795	$2,652,888	N/A	$3,332,683
Cover Placement Cost	$0	$0	N/A	$0
Growth Media Placement Cost	$842,801	$3,809,444	N/A	$4,652,245
Ripping/Scarifying Cost	$102,098	$398,442	N/A	$500,540
Subtotal Earthworks	**$1,624,694**	**$6,860,774**		**$8,485,468**
Revegetation Cost	$283,066	$81,883	$562,289	$927,238
TOTALS	**$1,907,760**	**$6,942,657**	**$562,289**	**$9,412,706**

Yards, Etc. - Scarifying/Revegetation Costs

	Description (required)	Surface Area ha	Area Long Dimension m	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	**Permanent Man Camp Yards**	14.85	100	25	$1,520	$5,933	$7,453	$3,998	$1,156	$7,942	$13,096
2	**Material Sites**	198.62	100	332	$20,189	$78,787	$98,976	$53,463	$15,465	$106,233	$175,161
3	**Lower Contact Water Dam (see "Haul Material" sheet)**	0.04	0		$0	$0	$0	$0	$0	$0	$0
4	**Upper Contact Water Dam (see "Haul Material" sheet)**	0.04	0		$0	$0	$0	$0	$0	$0	$0
5	**Jung Port Disturbance (not reclaimed)**	8.50	0		$0	$0	$0	$0	$0	$0	$0
6	**Mine Borrow Areas**	74.22	1,000	117	$7,115	$27,765	$34,880	$19,978	$5,779	$39,697	$65,454
7	**Growth media - TSF Stockpile 1**	48.89	1,000	77	$4,682	$18,273	$22,955	$13,159	$3,806	$26,149	$43,114
8	**Growth media - TSF Stockpile 3**	80.41	1,000	127	$7,723	$30,138	$37,861	$21,644	$6,261	$43,008	$70,913
9	**Growth media - TSF Stockpile 2**	22.95	1,000	36	$2,189	$8,543	$10,732	$6,176	$1,787	$12,275	$20,238
10	**Growth media - North Overburden Stockpile 2028**	64.79	1,000	103	$6,263	$24,443	$30,706	$17,440	$5,045	$34,653	$57,138
11	**Growth media - Airstrip Overburden Stockpile**	3.76	1,000	6	$365	$1,424	$1,789	$1,013	$293	$2,011	$3,317
12	**Growth media - Airstrip Overburden Stockpile**	4.78	1,000	8	$486	$1,898	$2,384	$1,285	$372	$2,557	$4,214
13	**Growth media - Jungjuk Port Site Overburden Stockpile**	2.06	1,000	3	$182	$712	$894	$556	$161	$1,102	$1,819
14	**Growth media - North Overburden Stockpile 2028 - buffer**	17.08	1,000	27	$1,642	$6,407	$8,049	$4,597	$1,330	$9,136	$15,063
15	**Growth media - South Overburden Stockpile 2019**	22.54	1,000	36	$2,189	$8,543	$10,732	$6,067	$1,755	$12,056	$19,878
16	**Misc. Yards**	484.61	2,000	762	$46,337	$180,830	$227,167	$130,444	$37,733	$259,196	$427,373
17	**Plant Site**	9.79	1,000	16	$973	$3,797	$4,770	$2,636	$763	$5,236	$8,635
18	**Primary Crusher**	1.86	1,000	3	$182	$712	$894	$501	$145	$995	$1,641
19	**Truck Shop**	0.08	1,000	1	$61	$237	$298	$109	$32	$43	$184
20	**Airstrip (Not Reclaimed)**	35.98	0		$0	$0	$0	$0	$0	$0	$0
		1,095.85		1,679	**$102,098**	**$398,442**	**$500,540**	**$283,066**	**$81,883**	**$562,289**	**$927,238**

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Closure Cost Estimate
Waste Disposal

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - User Input - Solid Waste

						Landfill (Bulk) Disposal			Dumpster
	Description (required)	ID Code	Waste Type (select)	Disposal Method (select)	Quantity m3	Distance to Landfill m	Slope to Landfill % grade	Number of Trucks (user override)	Months Dumpster Rental months
1	**Mill and Crusher Liner Waste**		**Waste Mgmt & Disposal**	**Landfill (bulk)**	**33,163**	**5000**	**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)

Liner waste disposal quantities from 1. June 8, 2011 email from Alexandra J. Kozak.

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Closure Cost Estimate
Waste Disposal

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - User Input - Hazardous Materials

	Description (required)	ID Code	Waste Type (select)	Container Type (select)	Vacuum Truck Size (select)	Liquid Quantity litres	Soild Quantity m3	One Way Travel Distance to Disposal Site km	One Way Travel Time to Disposal Site hr

Notes:
1. Use Other Demo & Equip Removal Sheet for tank removal

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Closure Cost Estimate
Waste Disposal

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - User Input - Hydrocarbon Contaminated Soils

	Description (required)	ID Code	Waste Type (select)	Disposal Method (select)	Quantity m3	Travel Distance to Offsite Disposal km
1	**Ready Line**		**Waste Mgmt & Disposal**	**On site**	**630**	**1**
2	**Truck Shop**		**Waste Mgmt & Disposal**	**On site**	**500**	**1**
3	**Power Plant**		**Waste Mgmt & Disposal**	**On site**	**1,300**	**1**
4	**Mine Area Fuel Storage Area**		**Waste Mgmt & Disposal**	**On site**	**3,500**	**1**
5	**Port Fuel Storage Area**		**Waste Mgmt & Disposal**	**On site**	**400**	**1**
6	**Misc. Areas**		**Waste Mgmt & Disposal**	**On site**	**500**	**1**

Notes:
1. Use Yards or Landfills Sheets for bioremediation facility reclamation

Assume 0.5m deep at ready line, 1m deep at truck shop
Assume 0.5m deep at ready line, 1m deep at truck shop
Assume 0.5m deep at ready line, 1m deep at truck shop

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Closure Cost Estimate
Waste Disposal

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

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)

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Waste Disposal

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Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - Solid Waste Disposal

	Description (required)	Waste Volume m3	Number of Off Site Dumpster Loads	Landfill Fleet Equipment	Landfill Fleet Productivity LCM/hr	Number of Trucks	Total Fleet Hours	Total Dumpster Cost $	Total Labor Cost $	Total Equipment Cost $
1	**Mill and Crusher Liner Waste**	33,163		740	427	6	78	$0	$38,364	$39,693
		33,163					78	**$0**	**$38,364**	**$39,693**

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Closure Cost Estimate
Waste Disposal

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - Hazardous Materials Disposal

	Description (required)	Liquid Waste Volume litres	Solid Waste Volume m3	Number of Truck Loads	Tonnes of Waste Tonnes	Pick-up Fees $	Transport Fees $	Disposal Fees $	Total Hazardous Material Cost $
						$0	**$0**	**$0**	**$0**

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Closure Cost Estimate
Waste Disposal

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Model Version: Version 1.4.1
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$38,364	$39,693	N/A	$78,057
Solid Waste - Off Site				$0
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$12,163	$6,374	$200,100	$218,637
TOTALS	**$50,527**	**$46,067**	**$200,100**	**$296,694**

Waste Disposal - Hydrocarbon Contaminated Soils

	Description (required)	Quantity m3	Total Fleet Hours	Treatment Cost $	Transport Fees $	Disposal Fees $	Total Labor Cost $	Total Equipment Cost $	Total Waste Disposal Cost $
1	**Ready Line**	630		$18,458	$0	$0	$1,095	$574	$20,127
2	**Truck Shop**	500		$14,650	$0	$0	$912	$478	$16,040
3	**Power Plant**	1,300		$38,080	$0	$0	$2,311	$1,211	$41,602
4	**Mine Area Fuel Storage Area**	3,500		$102,547	$0	$0	$6,203	$3,251	$112,001
5	**Port Fuel Storage Area**	400		$11,715	$0	$0	$730	$382	$12,827
6	**Misc. Areas**	500		$14,650	$0	$0	$912	$478	$16,040
		6,830		**$200,100**	**$0**	**$0**	**$12,163**	**$6,374**	**$218,637**

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Closure Cost Estimate
Well Abandonment

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Well Abandonment

	Labor	Equipment	Materials	Totals
Production, Dewatering, Infiltration Wells	$319,788	$700,966	$51,116	$1,071,870
Monitoring Wells	$29,052	$65,538	$12,072	$106,662
TOTALS	**$348,840**	**$766,504**	**$63,188**	**$1,178,532**

Production, Dewatering and Infiltration Well Closure

	Description (required)	ID Code	Number of Holes	Casing Diam mm	Average Depth[1] m bgs	Depth to First Water m bgs	Original Static Water Level m bgs	Top of Slotted Casing[2] m bgs	Blank Casing Below Top of Screen[2] m	Type of Pump (if any) (select)	Depth to Pump m bgs	Hole Plug Method (select)	Casing Volume per m m3	Perforation Length[3,4] m	Grout Volume per Hole[4,5] m3	Cement Volume per Hole[6] m3	Inert Media Volume per Hole[7] m3	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] $
1	P1704		1	152.4	196	146	166	161	15	Submersit	120	Grout Only	0.006	50	7.10	0.08		$4,005	$8,701	$738	$2,105	$799	$1,834	$348	$288	$96
2	P1705		1	152.4	264	214	234	229	15	Submersit	120	Grout Only	0.006	50	9.63	0.08		$4,005	$8,701	$738	$2,105	$963	$2,211	$470	$288	$96
3	P2001		1	152.4	264	214	234	229	15	Submersit	120	Grout Only	0.006	50	9.63	0.08		$4,005	$8,701	$738	$2,105	$963	$2,211	$470	$288	$96
4	P2002		1	152.4	240	190	210	205	15	Submersit	120	Grout Only	0.006	50	8.73	0.08		$4,005	$8,701	$754	$2,144	$907	$2,082	$427	$288	$96
5	P2003		1	152.4	92	42	62	57	15	Submersit	120	Grout Only	0.006	50	3.24	0.08		$4,005	$8,701	$738	$2,105	$565	$1,298	$160	$288	$96
6	P2004		1	152.4	92	42	62	57	15	Submersit	120	Grout Only	0.006	50	3.24	0.08		$4,005	$8,701	$738	$2,105	$565	$1,298	$160	$288	$96
7	P2005		1	152.4	92	42	62	57	15	Submersit	120	Grout Only	0.006	50	3.24	0.08		$4,005	$8,701	$738	$2,105	$565	$1,298	$160	$288	$96
8	P2006		1	152.4	166	116	136	131	15	Submersit	120	Grout Only	0.006	50	5.99	0.08		$4,005	$8,701	$738	$2,105	$721	$1,655	$294	$288	$96
9	P2007		1	152.4	166	116	136	131	15	Submersit	120	Grout Only	0.006	50	5.99	0.08		$4,005	$8,701	$738	$2,105	$721	$1,655	$294	$288	$96
10	P2203		1	152.4	166	116	136	131	15	Submersit	120	Grout Only	0.006	50	5.99	0.08		$4,005	$8,701	$738	$2,105	$721	$1,655	$294	$288	$96
11	P2502		1	152.4	114	64	84	79	15	Submersit	120	Grout Only	0.006	50	4.05	0.08		$4,005	$8,701	$738	$2,105	$589	$1,352	$200	$288	$96
12	P2701		1	152.4	114	64	84	79	15	Submersit	120	Grout Only	0.006	50	4.05	0.08		$4,005	$8,701	$738	$2,105	$589	$1,352	$200	$288	$96
13	P3001		1	152.4	114	64	84	79	15	Submersit	120	Grout Only	0.006	50	4.05	0.08		$4,005	$8,701	$738	$2,105	$589	$1,352	$200	$288	$96
14	P3002		1	152.4	98	48	68	63	15	Submersit	120	Grout Only	0.006	50	3.46	0.08		$4,005	$8,701	$754	$2,144	$565	$1,298	$171	$288	$96
15	P3003		1	152.4	98	48	68	63	15	Submersit	120	Grout Only	0.006	50	3.46	0.08		$4,005	$8,701	$754	$2,144	$565	$1,298	$171	$288	$96
16	P3004		1	152.4	146	96	116	111	15	Submersit	120	Grout Only	0.006	50	5.24	0.08		$4,005	$8,701	$738	$2,105	$669	$1,536	$258	$288	$96
17	P3401		1	152.4	146	96	116	111	15	Submersit	120	Grout Only	0.006	50	5.24	0.08		$4,005	$8,701	$738	$2,105	$669	$1,536	$258	$288	$96
18	Permanent camp and mill potable water wells (e-mail Sep		8	203.2	200	175	175	200	0	Submersit	200	Grout Only	0.010	45	101.49	0.15		$53,348	$115,901	$6,282	$17,386	$35,443	$81,395	$39,428	$2,303	$765
19	Jungjuk Port potable water well (e-mail September 19, 201		1	152.4	60	50	50	50	15	Submersit	50	Grout Only	0.006	35	2.05	0.08		$1,667	$3,622	$612	$1,694	$534	$1,226	$103	$288	$96
20	I2503		1	152.4	266	216	236	231	15	Submersit	120	Grout Only	0.006	50	9.71	0.08		$4,005	$8,701	$738	$2,105	$965	$2,216	$474	$288	$96
21	I2504		1	152.4	266	216	236	231	15	Submersit	120	Grout Only	0.006	50	9.71	0.08		$4,005	$8,701	$738	$2,105	$965	$2,216	$474	$288	$96
22	I2505		1	152.4	266	216	236	231	15	Submersit	120	Grout Only	0.006	50	9.71	0.08		$4,005	$8,701	$738	$2,105	$965	$2,216	$474	$288	$96
23	I2506		1	152.4	266	216	236	231	15	Submersit	120	Grout Only	0.006	50	9.71	0.08		$4,005	$8,701	$738	$2,105	$965	$2,216	$474	$288	$96
24	I2507		1	152.4	266	216	236	231	15	Submersit	120	Grout Only	0.006	50	9.71	0.08		$4,005	$8,701	$738	$2,105	$965	$2,216	$474	$288	$96
25	I2508		1	152.4	266	216	236	231	15	Submersit	120	Grout Only	0.006	50	9.71	0.08		$4,005	$8,701	$738	$2,105	$965	$2,216	$474	$288	$96
26	I2801		1	152.4	182	132	152	147	15	Submersit	120	Grout Only	0.006	50	6.58	0.08		$4,005	$8,701	$738	$2,105	$753	$1,729	$323	$288	$96
27	I2802		1	152.4	182	132	152	147	15	Submersit	120	Grout Only	0.006	50	6.58	0.08		$4,005	$8,701	$738	$2,105	$753	$1,729	$323	$288	$96
28	I2803		1	152.4	182	132	152	147	15	Submersit	120	Grout Only	0.006	50	6.58	0.08		$4,005	$8,701	$738	$2,105	$753	$1,729	$323	$288	$96
29	I3402		1	152.4	264	214	234	229	15	Submersit	120	Grout Only	0.006	50	9.63	0.08		$4,005	$8,701	$738	$2,105	$963	$2,211	$470	$288	$96
30	I3403		1	152.4	240	190	210	205	15	Submersit	120	Grout Only	0.006	50	8.73	0.08		$4,005	$8,701	$754	$2,144	$907	$2,082	$427	$288	$96
31	I3801		1	152.4	166	116	136	131	15	Submersit	120	Grout Only	0.006	50	5.99	0.08		$4,005	$8,701	$738	$2,105	$721	$1,655	$294	$288	$96
32	I3802		1	152.4	166	116	136	131	15	Submersit	120	Grout Only	0.006	50	5.99	0.08		$4,005	$8,701	$738	$2,105	$721	$1,655	$294	$288	$96
33	I3803		1	152.4	166	116	136	131	15	Submersit	120	Grout Only	0.006	50	5.99	0.08		$4,005	$8,701	$738	$2,105	$721	$1,655	$294	$288	$96
34	I3901		1	152.4	114	64	84	79	15	Submersit	120	Grout Only	0.006	50	4.05	0.08		$4,005	$8,701	$738	$2,105	$589	$1,352	$200	$288	$96
35	I3902		1	152.4	114	64	84	79	15	Submersit	120	Grout Only	0.006	50	4.05	0.08		$4,005	$8,701	$738	$2,105	$589	$1,352	$200	$288	$96
36	I3903		1	152.4	114	64	84	79	15	Submersit	120	Grout Only	0.006	50	4.05	0.08		$4,005	$8,701	$738	$2,105	$589	$1,352	$200	$288	$96
37	I4101		1	152.4	98	48	68	63	15	Submersit	120	Grout Only	0.006	50	3.46	0.08		$4,005	$8,701	$754	$2,144	$565	$1,298	$171	$288	$96
38	I4102		1	152.4	98	48	68	63	15	Submersit	120	Grout Only	0.006	50	3.46	0.08		$4,005	$8,701	$754	$2,144	$565	$1,298	$171	$288	$96
39	I4103		1	152.4	146	96	116	111	15	Submersit	120	Grout Only	0.006	50	5.24	0.08		$4,005	$8,701	$738	$2,105	$669	$1,536	$258	$288	$96
40	I4104		1	152.4	146	96	116	111	15	Submersit	120	Grout Only	0.006	50	5.24	0.08		$4,005	$8,701	$738	$2,105	$669	$1,536	$258	$288	$96
																		$207,205	**$450,161**	**$35,034**	**$99,304**	**$64,019**	**$147,007**	**$51,116**	**$13,530**	**$4,494**

(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:
Some pit perimeter well parameters from User 15.

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Closure Cost Estimate
Well Abandonment

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Well Abandonment	Labor	Equipment	Materials	Totals
Production, Dewatering, Infiltration Wells	$319,788	$700,966	$51,116	$1,071,870
Monitoring Wells	$29,052	$65,538	$12,072	$106,662
TOTALS	**$348,840**	**$766,504**	**$63,188**	**$1,178,532**

Monitoring Well Closure

	Description (required)	ID Code	Number of Holes	Casing Diam mm	Average Depth m bgs	Top of Screen[1] m bgs	Hole Plug Method (select)	Casing Volume per m m3	Grout Volume/ Well[2,3] m3	Cement Volume per Hole[4] m3	Inert Backfill Volume per Hole[5] m3	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] $
1	**Monitoring wells**		**50**	**152.4**	**215**	**160**	**Grout Only**	0.006	4.88	0.11		3.7		$29,052	$65,538	$12,072	$0	$0
														$29,052	**$65,538**	**$12,072**	**$0**	**$0**

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:

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Well Abandonment				
	Labor	Equipment	Materials	Totals
Production, Dewatering, Infiltration Wells	$319,788	$700,966	$51,116	$1,071,870
Monitoring Wells	$29,052	$65,538	$12,072	$106,662
TOTALS	**$348,840**	**$766,504**	**$63,188**	**$1,178,532**

Well Construction

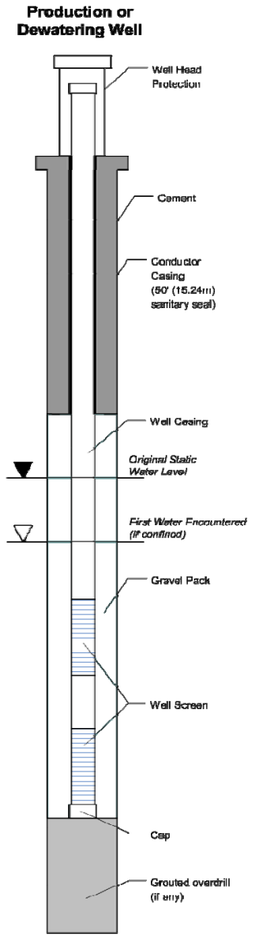

Figure 1 - Production Well

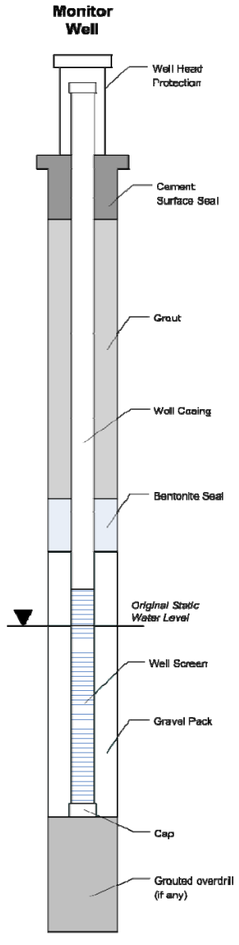

Figure 2 - Monitor Well

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Closure Cost Estimate
Misc. Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$0	$0	N/A	$0
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$0	$0	N/A	$0
Surface Pipe Removal	$158,323	$11,433	N/A	$169,756
Power Lines	$667,447	N/A	N/A	$667,447
Substations/Transformers	$106,026	N/A	N/A	$106,026
Rip-rap, rock lining, gabions	$1,585,163	$446,597	$0	$2,031,760
Other Costs	$0	$0	$0	$0
TOTALS	**$2,516,959**	**$458,030**	**$0**	**$2,974,989**

Color Code Key

User Input - Direct Input	**Direct Input**
User Input - Pull Down List	**Pull Down Selection**
Program Constant (can override)	**Alternate Input**
Program Calculated Value	**Locked Cell - Formula or Reference**

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Closure Cost Estimate
Misc. Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$0	$0	N/A	$0
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$0	$0	N/A	$0
Surface Pipe Removal	$158,323	$11,433	N/A	$169,756
Power Lines	$667,447	N/A	N/A	$667,447
Substations/Transformers	$106,026	N/A	N/A	$106,026
Rip-rap, rock lining, gabions	$1,585,163	$446,597	$0	$2,031,760
Other Costs	$0	$0	$0	$0
TOTALS	**$2,516,959**	**$458,030**	**$0**	**$2,974,989**

Fence Removal

You must fill in ALL green and blue cells

	Description (required)	ID Code	Length m	Type (select type)	Costs: Labor Cost $	Costs: Equipment Cost $	Costs: Total Cost $
					$0	**$0**	**$0**

Notes:

Fence Installation

You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Length m	Input: Type (select type)	Costs: Labor Cost $	Costs: Equipment Cost $	Costs: Material Cost ($)	Costs: Total Cost $
					$0	**$0**	**$0**	**$0**

Notes:

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Closure Cost Estimate
Misc. Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$0	$0	N/A	$0
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$0	$0	N/A	$0
Surface Pipe Removal	$158,323	$11,433	N/A	$169,756
Power Lines	$667,447	N/A	N/A	$667,447
Substations/Transformers	$106,026	N/A	N/A	$106,026
Rip-rap, rock lining, gabions	$1,585,163	$446,597	$0	$2,031,760
Other Costs	$0	$0	$0	$0
TOTALS	**$2,516,959**	**$458,030**	**$0**	**$2,974,989**

Culvert & Buried Pipe Removal

You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Length m	Input: Type (select type)	Input: Location (select)	Costs: Labor Cost $	Costs: Equipment Cost $	Costs: Total Cost $
						$0	**$0**	**$0**

Notes:

Surface Pipe Removal

You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Length m	Input: Type (select type)	Input: Location (select)	Costs: Labor Cost $	Costs: Equipment Cost $	Costs: Total Cost $
1	**Tailings Line**		**3700**	**20 in (500 mm) - 3**	**On site**	$94,794	$6,845	$101,639
2	**TSF Return Water Line**		**3700**	**10 in (250 mm) - 1**	**On site**	$63,529	$4,588	$68,117
						$158,323	**$11,433**	**$169,756**

Notes:

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Closure Cost Estimate
Misc. Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
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Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Miscellaneous Cost Summary

	Labor	Equipment	Materials	Totals
Fence Removal	$0	$0	N/A	$0
Fence Installation	$0	$0	$0	$0
Culvert & Buried Pipe Removal	$0	$0	N/A	$0
Surface Pipe Removal	$158,323	$11,433	N/A	$169,756
Power Lines	$667,447	N/A	N/A	$667,447
Substations/Transformers	$106,026	N/A	N/A	$106,026
Rip-rap, rock lining, gabions	$1,585,163	$446,597	$0	$2,031,760
Other Costs	$0	$0	$0	$0
TOTALS	**$2,516,959**	**$458,030**	**$0**	**$2,974,989**

Power Line and Substation Removal

You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Power Line Length km	Input: Power Line Type (select)	Input: Number of Substations #	Input: Location (select)	Costs: Power Line Removal $	Costs: Substation Removal $	Costs: Total Cost $	Cost Breakdown: Labor Cost $	Cost Breakdown: Equipment Cost $
1	**Mancamp Powerline**		**4.7666**	**Double Pole**	**1**	**Off-site**	$166,859	$35,342	$202,201	$40,440	$161,761
2	**Powerline to tailings - Remains for Post Closure**		**0**	**Double Pole**		**Off-site**	$0	$0	$0	$0	$0
3	**Powerline to Crusher**		**1.3**	**Double Pole**		**Off-site**	$45,508	$0	$45,508	$9,102	$36,406
4	**Misc. Mill Area Powerlines**		**0.5**	**Double Pole**	**1**	**Off-site**	$17,503	$35,342	$52,845	$10,569	$42,276
5	**From Fuel Storage to Magazines**		**5.4**	**Double Pole**		**Off-site**	$189,032	$0	$189,032	$37,806	$151,226
6	**From Fuel Storage to Pit Booster Pumps**		**7.1001**	**Double Pole**	**1**	**Off-site**	$248,545	$35,342	$283,887	$56,777	$227,110
							$667,447	**$106,026**	**$773,473**	**$154,694**	**$618,779**

Notes: If substation owned by operator, use Other Demo & Equipment Removal sheet
User may need to add line items in Foundations & Buildings for substation slab demolition and fence removal
Labor/Equipment costs assume approximately 80% of cost are equipment and 20% are labor related costs

Rip-Rap & Rock Lining

You must fill in ALL green and blue cells

	Description (required)	ID Code	Input: Area m2	Input: Type (select type)	Costs: Labor Cost $	Costs: Equipment Cost $	Costs: Material Cost $	Costs: Total Cost $
1	**Reclaimed WRF RO Collection**		**34222**	**Rip-Rap 18 in (45**	$1,585,163	$446,597	$0	$2,031,760
					$1,585,163	**$446,597**	**$0**	**$2,031,760**

Notes:

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$101,800	$29,448	$147,062	$278,310
Erosion Maintenance	$410,264	$1,230,791	N/A	$1,641,055
Reclamation Monitoring	$87,681	$2,258	N/A	$89,939
Subtotal Reclamation Monitoring	**$599,745**	**$1,262,497**	**$147,062**	**$2,009,304**
Water Quality Monitoring	$10,377	$3,662	$23,363	$37,402
TOTAL MONITORING	**$610,122**	**$1,266,159**	**$170,425**	**$2,046,706**

Clear Sheet

Reclamation Maintenance

Description	Total Revegetation Surface Area (1,2) ha	% Area Requiring Reseeding	Seed Mix (select)	Area Requiring Reseeding ha	Seed $/ha	Labor $/ha	Equipment $/ha	Totals $
Revegetation Maintenance	3,782	10%	Mix 1	378.2	$388.85	$269.17	$77.86	
Labor								$101,800
Equipment								$29,448
Materials								$147,062
Cost/Ha								$736
							Subtotal	**$278,310**

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 m3	% Volume Requiring Maintenance	Average Growth Media Placement Cost $/m3	Volume Requiring Replacement m3		Labor (assume: 25%) $/ha	Equipment (assume: 75%) $/ha	Total $
Erosion Maintenance	11,317,626	5%	$2.90	565,881		$410,264.00	$1,230,791.00	$1,641,055

Notes:

Reclamation Monitoring

Description	Hrs/Day	Days/Year	Number of Years	Rate $/hr		
Field Work						
Field Geologist/Engineer	10	24	4	$48.83		$46,877
Range Scientist	10	5	4	$48.42		$9,684
Reporting						
Field Geologist/Engineer	8	10	4	$48.83		$15,626
Range Scientist	8	10	4	$48.42		$15,494
					Subtotal	**$87,681**
Travel						
	Hrs/Trip hr	**Trips/Year**	**Years**	**Truck Cost** $/hr		
Travel	20	2	4	$14.11		$2,258
					Subtotal	**$2,258**
					Total Reclamation Monitoring	**$89,939**

Notes:

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Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$101,800	$29,448	$147,062	$278,310
Erosion Maintenance	$410,264	$1,230,791	N/A	$1,641,055
Reclamation Monitoring	$87,681	$2,258	N/A	$89,939
Subtotal Reclamation Monitoring	**$599,745**	**$1,262,497**	**$147,062**	**$2,009,304**
Water Quality Monitoring	$10,377	$3,662	$23,363	$37,402
TOTAL MONITORING	**$610,122**	**$1,266,159**	**$170,425**	**$2,046,706**

Clear Sheet

Water and Rock Sample Analysis

Description	Samples #	Events/Year	No. Years	First Sample Year closure year (1-100)	No. of Samplers	Days/Event	Hrs/Day	Analysis Cost $/sample	Supplies $/sample	Lab Cost $
TPH in soils	**50**	**1**	**1**	**1**	**2**	**4**	**8**	$80.00	$5.75	$4,000
TCLP w/ full analysis	**50**	**2**	**1**	**1**	**2**	**4**	**8**	$185.00	$5.75	$18,500
										$22,500.00

Notes: Sampling labor cost = No. Samplers x Years x Events/year x Days/event x Hour/Day x Labor Rate
Sampling equipment costs include 1 pickup truck for every two samplers

Ground & Surface Water Monitoring

Pump Costs

Description	No. of units		Years		Cost $
Pump (purchased)	**2**	Replacement period (yrs):	**10**	2459.66	$2,460
				Subtotal Field Work	**$2,460**

Notes: Replacement period = frequency of pump replacement

Reporting

Description	Hrs/Event	Rate $/hr	Cost $
Field Geologist/Engineer	**24**	$48.83	$2,344
		Subtotal Reporting	**$2,344**

Notes:

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Closure Cost Estimate
Constr. Mgmt

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Construction Management & Road Maintenance - Cost Summary				
	Labor	Equipment	Materials	Totals
Construction Management	$3,328,027	$438,460	N/A	$3,766,487
Construction Support		$0		$0
Road Maintenance	$1,586,650	$4,673,203	$0	$6,259,853
TOTAL CONSTRUCTION MANAGEMENT	**$4,914,677**	**$5,111,663**	**$0**	**$10,026,340**

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	**48**	**365**	**2**	$95.03	$3,328,027	$438,460	$3,766,487
Monitoring & Maintenance					$0	$0	$0
				Total Staff	**$3,328,027**	**$438,460**	**$3,766,487**

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		**$3,766,487**

Road Maintenance

Description	Fleet Size (select)	Number	Duration mo.	Hours/ Month hr.	Labor Cost $	Equipment Cost $	Totals $
Active Reclamation							
Water Truck	**Large**	**1**	**48**	**180**	$535,853	$2,127,686	$2,663,539
Grader	**Large**	**2**	**48**	**180**	$1,050,797	$2,545,517	$3,596,314
Monitoring & Maintenance							
Water Truck					$0	$0	$0
Grader					$0	$0	$0

Description	Litres/ Day	Days/ Month	Duration mo.	Cost/ Litre $			Totals $
Water Fees							
Water Fees							$0
				Total Project Maintenance	**$1,586,650**	**$4,673,203**	**$6,259,853**

Notes: 1) Supervisor equipment = pickup truck

Maintenance fleet assumed average life-of-project useage of 1/2 time.
Assumes the grader will also maintain the runway as needed.

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Closure Cost Estimate
Labor Rates

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 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: Alaska Davis Bacon 2016

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS			
Cost Basis/Project Region	Alaska Davis Bacon 2016	Pamphlet 600 Sept. 2016, 2017 Equip. Rental Quotes	
Power Equipment Operators	none	$0.00	
Truck Drivers	none	$0.00	
Laborers	none	$0.00	

INDIRECT COSTS	
Unemployment (%)	0.00%
Retirement/SS/Medicare (%)	0.00%
Workman's Compensation (%)	0.00%
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	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D6R w/ Winch	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D7R	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D8R	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D9R	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D10R	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
D11R	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Wheeled Dozers													
824G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
834G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
844	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
854G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Motor Graders													
120H	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
14G/H	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
16G/H	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
24M	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Track Excavators													
312C	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
320C	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
325C	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
330C	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
345B	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
365BL	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
385BL	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Scrapers													
631G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
637G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Wheeled Loaders													
924G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
928G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
950G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
966G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
972G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
980G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
988G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
990	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
992G	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
994D	A1602	$63.15	$0.00	$63.15	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$63.15
L2350	A1602	$63.15	$0.00	$63.15	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$63.15
Shovels													
PC2000					$0.00							$0	
PC3000					$0.00							$0	
PC4000					$0.00							$0	
PC5500					$0.00							$0	
PC8000					$0.00							$0	
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)													

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Closure Cost Estimate
Labor Rates

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS

Cost Basis/Project Region	Alaska Davis Bacon 2016	Pamphlet 600 Sept. 2016, 2017 Equip. Rental Quotes
Power Equipment Operators	none	$0.00
Truck Drivers	none	$0.00
Laborers	none	$0.00

INDIRECT COSTS

Unemployment (%)	0.00%
Retirement/SS/Medicare (%)	0.00%
Workman's Compensation (%)	0.00%
Other Indirects	
State Payroll Tax (13),(15),(17),(1	
Total Other Indirects	**0.00%**

HOURLY LABOR RATE TABLE

Other Equipment

420D 4WD Backhoe	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
428D 4WD Backhoe	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
CS533E Vibratory Roller	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
CS633E Vibratory Roller	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
CP533E Sheepsfoot Compactor	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
CP633E Sheepsfoot Compactor	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Light Truck - 1.5 Ton	A1604	$58.82	$0.00	$58.82	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$58.82
Supervisor's Truck	A1604	$58.82	$0.00	$58.82	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$58.82
Flatbed Truck	A1604	$58.82	$0.00	$58.82	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$58.82
Air Compressor + tools	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Welding Equipment	AO601	$59.58	$0.00	$59.58	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$59.58
Heavy Duty Drill Rig	S1204	$55.96	$0.00	$55.96	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$55.96
Pump (plugging) Drill Rig	S1204	$55.96	$0.00	$55.96	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$55.96
Concrete Pump					$0.00							$0	
Gas Engine Vibrator	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
Generator 5KW					$0.00							$0	
HDEP Welder (pipe or liner)					$0.00							$0	
5 Ton Crane	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
20 Ton Crane	A1601	$60.81	$0.00	$60.81	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.81
50 Ton Crane	A1602	$63.15	$0.00	$63.15	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$63.15
120 Ton Crane	A1602	$63.15	$0.00	$63.15	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$63.15

NOTES:

(1) Equipment Type:	Catepillar model or equivalent, LeTourneau
(2) Equipment Operator Source:	Alaska Pamphlet 600
(3) Zone Basis:	

Truck Drivers ($/hr) (4)

725	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
730	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
735	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
740	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
769D	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
773E	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
777D	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
785C	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
793C	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
797B	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
613E (5,000 gal) Water Wagon	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
621E (8,000 gal) Water Wagon	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
777D Water Truck	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
785C Water Truck	A2102	$62.02	$0.00	$62.02	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.02
Dump Truck (10-12 yd3)	A2105	$56.78	$0.00	$56.78	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$56.78

NOTES:

(4) Truck Driver Source:	
(5) Zone Basis:	

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Closure Cost Estimate
Labor Rates

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

ZONE ADJUSTMENTS			
Cost Basis/Project Region	Alaska Davis Bacon 2016	Pamphlet 600 Sept. 2016, 2017 Equip. Rental Quotes	
Power Equipment Operators	none	$0.00	
Truck Drivers	none	$0.00	
Laborers	none	$0.00	

INDIRECT COSTS	
Unemployment (%)	0.00%
Retirement/SS/Medicare (%)	0.00%
Workman's Compensation (%)	0.00%
Other Indirects	
State Payroll Tax (13),(15),(17),(1	
Total Other Indirects	**0.00%**

HOURLY LABOR RATE TABLE

Laborers ($/hr) (6,7)

General Laborer	S1205	$35.15	$0.00	$35.15	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$35.15
Skilled Laborer	S1202	$50.39	$0.00	$50.39	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$50.39
Driller's Helper	A1605	$50.54	$0.00	$50.54	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$50.54
Rodmen (reinforcing concrete)	SO401	$56.57	$0.00	$56.57	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$56.57
Cement finisher	SO401	$56.57	$0.00	$56.57	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$56.57
Carpenter	AO301	$59.72	$0.00	$59.72	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$59.72

NOTES:

(6) Laborer Source:	Alaska Pamphlet 600
(7) Carpenter Source:	Alaska Pamphlet 600, 090116
(8) Zone Basis:	

Project Management and Technical Labor ($/hr) (9)

Project Manager		$95.03	$0.00	$95.03	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$95.03
Foreman		$51.00	$0.00	$51.00	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$51.00
Field Geologist/Engineer		$48.83	$0.00	$48.83	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$48.83
Field Tech/Sampler		$41.84	$0.00	$41.84	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$41.84
Range Scientist		$48.42	$0.00	$48.42	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$48.42
Senior Planning Engineer		$88.63	$0.00	$88.63	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$88.63
Project Engineer		$79.30	$0.00	$79.30	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$79.30
Mechanic/Fitter (A2103)		$60.75	$0.00	$60.75	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.75
Electrician (A0702)		$66.23	$0.00	$66.23	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$66.23
Bricklayer (A0201)		$60.03	$0.00	$60.03	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$60.03
Pipelayer Helper (S2201)		$59.37	$0.00	$59.37	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$59.37
Piperfitter (S1501)		$62.13	$0.00	$62.13	$0.00	$0.00	$0.00	$0.00	$0.00			$0	$62.13

NOTES:

(9) Project Manager:	Salary.com 3/2017
(9) Foreman Source:	Salary.com 3/2017
(9) Techical Labor Source:	Salary.com 3/2017
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)	

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Closure Cost Estimate
Equipment Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Monthly Rental Basis: 360 hrs month

EQUIPMENT RENTAL RATE TABLE

EQUIPMENT TYPE (1)	Monthly Owner/Rental Rate	Equipment Hourly Rate	Fuel/Lube/ Wear	Total Rate
Bulldozers				
D6R	$20,300.00	$56.39	$31.96	$88.34
D6R w/ Winch	$20,300.00	$56.39	$31.96	$88.34
D7R	$20,300.00	$56.39	$35.95	$92.34
D8R			$48.13	$48.13
D9R	$52,500.00	$145.83	$70.50	$216.33
D10R	$52,500.00	$145.83	$91.47	$237.31
D11R	$70,000.00	$194.44	$133.61	$328.06
Wheeled Dozers				
824G			$34.32	$34.32
834G			$40.23	$40.23
844			$47.89	$47.89
854G			$60.67	$60.67
Motor Graders				
120H			$35.00	$35.00
14G/H			$50.03	$50.03
16G/H	$31,500.00	$87.50	$59.81	$147.31
24M			$49.49	$49.49
Track Excavators				
312C			$14.00	$14.00
320C			$25.65	$25.65
325C	$12,530.00	$34.81	$32.07	$66.88
330C			$39.18	$39.18
345B	$22,540.00	$62.61	$46.85	$109.46
365BL			$42.15	$42.15
385BL	$43,680.00	$121.33	$77.88	$199.21
Scrapers				
631G			$56.69	$56.69
637G			$84.63	$84.63
Wheeled Loaders				
924G			$20.43	$20.43
928G	$5,810.00	$16.14	$23.83	$39.96
950G			$30.77	$30.77
966G	$23,310.00	$64.75	$43.72	$108.47
972G			$47.31	$47.31
980G	$23,310.00	$64.75	$51.64	$116.39
988G			$76.15	$76.15
990			$54.28	$54.28
992G	$80,500.00	$223.61	$145.88	$369.49
994D	$183,606.00	$510.02	$114.95	$624.96
L2350			$210.74	$210.74

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Closure Cost Estimate
Equipment Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm

Shovels				
PC2000			$118.14	$118.14
PC3000			$159.65	$159.65
PC4000			$223.51	$223.51
PC5500			$379.96	$379.96
PC8000			$475.75	$475.75
Hydraulic Hammers				
H-120 (fits 325)			$6.00	$6.00
H-160 (fits 345)	$22,540.00	$62.61	$12.00	$74.61
H-180 (fits 365/385)	$27,048.00	$75.13	$14.00	$89.13
Demolition Shears				
S340 (fits 322/325/330)				$0.00
S365 (fits 330/345)	$22,500.00	$62.50	$12.00	$74.50
S390 (fits 365/385)				$0.00
Demolition Grapples				
G315 (fits 322/325)				$0.00
G320 (fits 325/330)				$0.00
G330 (fits 345/365)			$30.00	$30.00
Other Equipment				
420D 4WD Backhoe	$4,900.00	$13.61	$18.26	$31.87
428D 4WD Backhoe	$4,900.00	$13.61	$18.26	$31.87
CS533E Vibratory Roller	$14,843.98	$41.23	$11.97	$53.21
CS633E Vibratory Roller			$15.17	$15.17
CP533E Sheepsfoot Compactor	$14,843.98	$41.23	$11.97	$53.21
CP633E Sheepsfoot Compactor	$14,843.98	$41.23	$15.17	$56.40
Light Truck - 1.5 Ton	$3,290.00	$9.14	$4.97	$14.11
Supervisor's Truck	$3,290.00	$9.14	$3.38	$12.52
Flatbed Truck	$3,290.00	$9.14	$16.02	$25.16
Air Compressor + tools	$2,250.00	$6.25	$3.19	$9.44
Welding Equipment	$5,950.94	$16.53	$6.39	$22.92
Heavy Duty Drill Rig	$116,037.56	$322.33	$38.32	$360.64
Pump (plugging) Drill Rig	$116,037.56	$322.33	$31.93	$354.26
Concrete Pump	$29,562.66	$82.12	$31.93	$114.05
Gas Engine Vibrator	$1,279.04	$3.55	$3.19	$6.75
Generator 5KW	$1,871.00	$5.20	$4.79	$9.99
HDEP Welder (pipe or liner)	$15,280.09	$42.44	$6.39	$48.83
5 Ton Crane	$11,348.60	$31.52	$9.58	$41.10
20 Ton Crane	$13,300.00	$36.94	$12.77	$49.72
50 Ton Crane	$20,440.00	$56.78	$15.01	$71.78
120 Ton Crane	$39,340.00	$109.28	$16.60	$125.88
Trucks				
725	$28,509.82	$79.19	$39.49	$118.68
730			$41.08	$41.08
735			$55.93	$55.93
740			$57.06	$57.06
769D			$46.65	$46.65
773E			$58.18	$58.18
777D	$58,100.00	$161.39	$84.87	$246.26
785C			$77.43	$77.43
793C			$133.31	$133.31
797B			$187.59	$187.59
613E (5,000 gal) Water Wagon	$5,523.00	$15.34	$29.71	$45.06
621E (8,000 gal) Water Wagon	$20,907.20	$58.08	$49.19	$107.27
777D Water Truck	$58,100.00	$161.39	$84.87	$246.26
785C Water Truck			$77.43	$77.43
Dump Truck (10-12 yd^3)	$6,300.00	$17.50	$17.42	$34.92

NOTES:

(1) Power Equipment Source:	
(2) Power Equipment Type:	Catepillar model or equivalent, LeTourneau loader, Komatsu shovels
(3) Drilliing Equipment Source:	Nevada Costs
(4) Other Equipment Source:	Various quotes. See Donlin_equipment Materials Cost Buildup_181202017_pl_RE
(5) Drill rig includes support (pipe) truck	

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Closure Cost Estimate
Equipment Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.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 L/hr (4)	Cost@ 0.84/L	Total Hourly Equipment Cost
Bulldozers						
D6R	$6.00		$6.00	23.66	$19.96	$31.96
D6R w/ Winch	$6.00		$6.00	23.66	$19.96	$31.96
D7R	$6.00		$6.00	28.39	$23.95	$35.95
D8R	$6.00		$11.00	36.91	$31.13	$48.13
D9R	$8.00		$17.00	53.94	$45.50	$70.50
D10R	$11.00		$23.00	68.14	$57.47	$91.47
D11R	$14.00		$35.00	100.31	$84.61	$133.61
Wheeled Dozers						
824G		$0.00		40.69	$34.32	$34.32
834G		$0.00		47.69	$40.23	$40.23
844		$0.00		56.78	$47.89	$47.89
854G		$0.00		71.92	$60.67	$60.67
Motor Graders						
120H	$7.00	$3.23	$12.00	15.14	$12.77	$35.00
14G/H	$8.00	$5.07	$17.00	23.66	$19.96	$50.03
16G/H	$6.00	$6.86	$23.00	28.39	$23.95	$59.81
24M				58.67	$49.49	$49.49
Track Excavators						
312C	$4.00		$4.00	7.12	$6.00	$14.00
320C	$5.00		$5.00	18.55	$15.65	$25.65
325C	$5.00		$6.00	24.98	$21.07	$32.07
330C	$6.00		$7.00	31.04	$26.18	$39.18
345B	$6.00		$7.00	40.12	$33.85	$46.85
365BL				49.97	$42.15	$42.15
385BL	$7.00		$15.00	66.24	$55.88	$77.88
Scrapers						
631G		$8.79		56.78	$47.89	$56.69
637G		$8.79		89.90	$75.83	$84.63
Wheeled Loaders						
924G	$4.00	$2.65	$5.00	10.41	$8.78	$20.43
928G	$5.00	$2.65	$5.00	13.25	$11.18	$23.83
950G	$5.00	$3.99	$9.00	15.14	$12.77	$30.77
966G	$7.00	$6.36	$12.00	21.77	$18.36	$43.72
972G	$6.00	$6.36	$15.00	23.66	$19.96	$47.31
980G	$6.00	$6.69	$15.00	28.39	$23.95	$51.64
988G	$11.00	$10.51	$16.00	45.80	$38.64	$76.15
990				64.35	$54.28	$54.28
992G	$13.00	$23.44	$36.00	87.06	$73.44	$145.88
994D				136.27	$114.95	$114.95
L2350				249.83	$210.74	$210.74
Shovels						
PC2000				140.06	$118.14	$118.14
PC3000				189.27	$159.65	$159.65
PC4000				264.97	$223.51	$223.51
PC5500				450.45	$379.96	$379.96
PC8000				564.01	$475.75	$475.75
Hydraulic Hammers						
H-120 (fits 325)	N/A		$6.00			$6.00
H-160 (fits 345)	N/A		$12.00			$12.00
H-180 (fits 365/385)	N/A		$14.00			$14.00
Demolition Shears						
S340 (fits 322/325/330)	N/A					$0.00
S365 (fits 330/345)	N/A		$12.00			$12.00
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		$30.00			$30.00

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Closure Cost Estimate
Equipment Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm

Other Equipment						
420D 4WD Backhoe	$4.00	$0.68	$4.00	11.36	$9.58	$18.26
428D 4WD Backhoe	$4.00	$0.68	$4.00	11.36	$9.58	$18.26
CS533E Vibratory Roller				14.19	$11.97	$11.97
CS633E Vibratory Roller				17.98	$15.17	$15.17
CP533E Sheepsfoot Compactor				14.19	$11.97	$11.97
CP633E Sheepsfoot Compactor				17.98	$15.17	$15.17
Light Truck - 1.5 Ton		$0.18		5.68	$4.79	$4.97
Supervisor's Truck		$0.18		3.79	$3.19	$3.38
Flatbed Truck		$1.01		17.79	$15.01	$16.02
Air Compressor + tools			N/A	3.79	$3.19	$3.19
Welding Equipment			N/A	7.57	$6.39	$6.39
Heavy Duty Drill Rig				45.42	$38.32	$38.32
Pump (plugging) Drill Rig				37.85	$31.93	$31.93
Concrete Pump			N/A	37.85	$31.93	$31.93
Gas Engine Vibrator			N/A	3.79	$3.19	$3.19
Generator 5KW			N/A	5.68	$4.79	$4.79
HDEP Welder (pipe or liner)			N/A	7.57	$6.39	$6.39
5 Ton Crane				11.36	$9.58	$9.58
20 Ton Crane				15.14	$12.77	$12.77
50 Ton Crane				17.79	$15.01	$15.01
120 Ton Crane				19.68	$16.60	$16.60
Trucks						
725	$8.00	$13.48	$3.00	17.79	$15.01	$39.49
730	$8.00	$13.48	$3.00	19.68	$16.60	$41.08
735	$8.00	$21.46	$3.00	27.82	$23.47	$55.93
740	$8.00	$22.59	$3.00	27.82	$23.47	$57.06
769D	$9.00	$4.12	$4.00	35.01	$29.54	$46.65
773E	$8.00	$8.67	$4.00	44.48	$37.52	$58.18
777D	$11.00	$15.39	$5.00	63.40	$53.48	$84.87
785C				91.79	$77.43	$77.43
793C				158.04	$133.31	$133.31
797B				222.39	$187.59	$187.59
613E (5,000 gal) Water Wagon	$7.00	$3.56		22.71	$19.16	$29.71
621E (8,000 gal) Water Wagon	$8.00	$6.87		40.69	$34.32	$49.19
777D Water Truck	$11.00	$15.39	$5.00	63.40	$53.48	$84.87
785C Water Truck				91.79	$77.43	$77.43
Dump Truck (10-12 yd3) (5)	N/A	$0.81	N/A	19.68	$16.60	$17.42

Notes:

(1) PM Source:	July 2012 Cashman Equipment Rental Rate, Elko, NV (except as noted)
(2) Undercarriage Source:	Cashman Equipment Reno Nevada 2012, 50% added for shipping and handling
(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)

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Closure Cost Estimate
Equipment Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm

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	$1,884.00	$11,304.00	3,500	$3.23
14G/H	20.5R25	6	$2,959.00	$17,754.00	3,500	$5.07
16G/H	23.5R25	6	$4,003.00	$24,018.00	3,500	$6.86
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	$8,793.00	$35,172.00	4,000	$8.79
637G	37.25R35	4	$8,793.00	$35,172.00	4,000	$8.79
Wheeled Loaders						
924G	17.5R25	4	$2,982.00	$11,928.00	4,500	$2.65
928G	17.5R25	4	$2,982.00	$11,928.00	4,500	$2.65
950G	26.5R25	4	$4,493.00	$17,972.00	4,500	$3.99
966G	26.5R25	4	$7,153.00	$28,612.00	4,500	$6.36
972G	26.5R25	4	$7,153.00	$28,612.00	4,500	$6.36
980G	29.5R25	4	$7,531.00	$30,124.00	4,500	$6.69
988G	35/65-33	4	$11,827.00	$47,308.00	4,500	$10.51
990	41.25/70-39	4		$0.00	4,500	
992G	45/65R45	4	$26,371.00	$105,484.00	4,500	$23.44
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			

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Closure Cost Estimate
Equipment Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm

Other Equipment						
420D 4WD Backhoe	340/80R18-19.5LR24	2	$1,023.00	$2,046.00	3,000	$0.68
428D 4WD Backhoe	340/80R18-16.9R28	2	$1,023.00	$2,046.00	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	138	$552.00	3,000	$0.18
Supervisor's Truck		4	138	$552.00	3,000	$0.18
Flatbed Truck		22	138	$3,036.00	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	$4,493.00	$26,958.00	2,000	$13.48
730	23.5R25	6	$4,493.00	$26,958.00	2,000	$13.48
735	26.5R25	6	$7,153.00	$42,918.00	2,000	$21.46
740	29.5R25	6	$7,531.00	$45,186.00	2,000	$22.59
769D	18.00R33	6	$4,117.00	$24,702.00	6,000	$4.12
773E	24.00R35	6	$7,221.00	$43,326.00	5,000	$8.67
777D	27.00R49	6	$12,821.00	$76,926.00	5,000	$15.39
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	$3,556.00	$21,336.00	6,000	$3.56
621E (8,000 gal) Water Wagon	33.25R29	6	$9,157.00	$54,942.00	8,000	$6.87
777D Water Truck	27.00R49	6	$12,821.00	$76,926.00	5,000	$15.39
785C Water Truck	33.00R51	6		$0.00	4,000	
Dump Truck (10-12 yd3)		10	$487.00	$4,870.00	6,000	$0.81

Notes:

(1) Unit Cost Basis:	Cost per tyre each
(2) Cost Basis:	Cashman Equipment Reno Nevada 2012
(3) Tire Cost Source:	Cashman Equipment Reno Nevada 2012, 50% added for shipping and handling
(4) Tire Wear Source:	Caterpillar Handbook, Edition 37

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Closure Cost Estimate
Material Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xls
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Revegetation Materials

Seed Mixes

Seed Mix	Description	Cost/Ha
None		
Mix 1	Basins	$388.85
Mix 2	Low Hills	$238.80
Mix 3	Uplands	
Mix 4	Riparian or Custom	
User Mix 1	**Mesic for rest**	**$385.24**
User Mix 2	**Hydric for TSF**	**$236.58**
User Mix 3		
User Mix 4		

	Cost/lb	kg/Ha	Cost/Ha
User Mix 5 (from Seed Mix sheet)	$17.54	$7.42	$130.14

Notes:

Mulch

Item	Cost/kg	kg/Ha	Cost/Ha
None			
Straw Mulch		**2000**	
Hydro Mulch		**100**	
Timber Mulch		**100**	

Notes:

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Closure Cost Estimate
Material Costs

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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xls
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Amendments			
Item	**Cost/kg**	**kg/Ha**	**Cost/Ha**
None			
Organic Matter		**2000**	
Treated Sludge			
Chemical	$1.46	**100**	$146.00
Notes:			

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Closure Cost Estimate
Material Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xls
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Well Abandonment Materials

Description	Cost/20kg bag	Units	Cost/unit*
Cement	$6.79	m3	$42.44
Grout (Low Grade Bentonite)	$7.76	m3	$48.50
Inert Material/Cuttings		m3	
		m3	
		m3	
NDEP 2016 costs converted to metric units and adjusted for location.			
* 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.	$2,459.66
Sampling Supplies	ea.	$5.75
Water Analysis (Complete) (1)	ea.	$1,055.00
ABA + S speciation	ea.	
Cyanide - WAD	ea.	
Cyanide - Free	ea.	
Cyanide - Total soils	ea.	
Cyanide - Total water	ea.	
TPH in soils	ea.	$80.00
Humidty Cell (20 wk) (2)	ea.	
Humidty Cell (40 wk)	ea.	
NAG	ea.	
TCLP w/ full analysis	ea.	$185.00
SPLP w/ full analysis	ea.	$150.00
AS4439 Leach test w/ full analysis	ea.	
Methy Hg	ea.	
	ea.	
Pump and consumable costs from Drillers World		
AK Lab Rates from SRK Consulting based on similar projects		

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Closure Cost Estimate
Material Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
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Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xls
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Fuel, Etc.

Description	Units	Cost/unit	User Overrides
Off-road Diesel - delivered (1)	$/Litre	$0.844	
Pickup Truck Mileage	$/km	$0.348	
Electical Power	$/kWh	$0.129	
Donlin feasibility 2011 inflated to 2016			
IRS allowance converted to metric			
Donlin feasibility 2011 inflated to 2016			

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Closure Cost Estimate
Material Costs

Revegetation Method				
Slopes				
Disturbance Type	**Seed Application Method**	**Labor** Cost/Ha	**Equipment** Cost/Ha	**Total** Cost/Ha
Waste Rock Dumps	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Heap Leach	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Tailings	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Quarries & Borrow Pits	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Flat Areas and Undifferentiated				
Disturbance Type	**Seed Application Method**	**Labor** Cost/Ha	**Equipment** Cost/Ha	**Total** Cost/Ha
Exploration Trenches	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Exploration Roads	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Waste Rock Dumps	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Heap Leach	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Tailings	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Quarries & Borrow Pits	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Roads	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Pits	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Haul Material	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Foundations & Buildings	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Sediment & Drainge Control	**Hand Broadcast**	$389.34	$144.20	$533.54
Process Ponds	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Landfills	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Yards, Etc.	**Mechanical Broadcast**	$269.16	$77.87	$347.03
Revegetation Maintenance	**Mechanical Broadcast**	$269.16	$77.87	$347.03

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Closure Cost Estimate
Misc. Unit Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Revegetation

	Means Number	Unit	Crew	Daily Output	Daily Output User	Materials	Labor	Equipment	Total	Notes
Seeding - Broadcast Hand (1)		ha					$389.34	$144.20	$533.54	
Seeding - Broadcast Mechanical (1)		ha					$269.16	$77.87	$347.03	
Seeding - Drill (1)		ha		365			$403.76	$288.40	$692.16	
Seeding - Hydroseeding (1)				365			$721.00	$360.50	$1,081.50	
Shrub Planting - bare root 6-10 in (150- 250mm) (2)	02910-400-0561	ea.	1 Clab	365			$0.77	$0.00	$0.77	
Tree Planting - bare root 11-16 in (270- 400mm) (3)	02910-400-0562	ea.	1 Clab	260			$1.08	$0.00	$1.08	
Cactus Planting (4)		ea.	1 Clab						$0.00	
NOTES:										
(1) Seeding Source:	Nevada 2016, NDEP costs converted to metric									
(2) Shrub Source:										
(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	m3	B-8	609		$4.68	$2.10		$6.78	
Lg. concrete	02220-110-0050	m3	B-8	433		$6.59	$2.95		$9.54	
Lg. masonry	02220-110-0080	m3	B-8	569		$5.01	$2.24		$7.25	
Lg. mixed	02220-110-0100	m3	B-8	569		$5.01	$2.24		$7.25	
Sm. steel	02220-110-0500	m3	B-3	419		$5.65	$2.10		$7.75	
Sm. concrete	02220-110-0600	m3	B-3	320		$7.39	$2.75		$10.14	
Sm. masonry	02220-110-0650	m3	B-3	419		$5.65	$2.10		$7.75	
Sm. wood	02220-110-0700	m3	B-3	419		$5.65	$2.10		$7.75	
Wall Demolition										
Block 4 in (100 mm) thick	02220-130-2000	m2	1 Clab	17		$16.54	$0.00	20%	$19.85	
Block 6 in (150 mm) thick	02220-130-2040	m2	1 Clab	16		$17.58	$0.00	20%	$21.10	
Block 8 in (200 mm) thick	02220-130-2080	m2	1 Clab	14		$20.09	$0.00	20%	$24.11	
Block 12 in (300 mm) thick	02220-130-2100	m2	1 Clab	14		$20.09	$0.00	20%	$24.11	
Conc 6 in (150 mm) thick	02220-130-2400	m2	B-9	15		$134.62	$5.03	10%	$153.62	
Conc 8 in (200 mm) thick	02220-130-2420	m2	B-9	13		$155.33	$5.81	10%	$177.25	
Conc 10 in (250 mm) thick	02220-130-2440	m2	B-9	11		$183.57	$6.87	10%	$209.48	
Conc 12 in (300 mm) thick	02220-130-2500	m2	B-9	9		$224.36	$8.39	10%	$256.03	

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Closure Cost Estimate
Misc. Unit Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

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.			$64.44				$64.44	
Haul (average for all sizes)	02220-350-0920	ea.			$201.83				$201.83	
Rent per month (average for all sizes)	02220-350-0940	ea.			$68.70				$68.70	
Disposal fee per ton (tonne) (average for all sizes)	02220-350-0950	tonne			$83.11				$83.11	
NOTES:										
Dumpster Cost Source	2016 Means Heavy Construction									
Dumpster Disposal Fee Source:	2016 Means Heavy Construction									
Hazardous Material Handling - Solids (+ Liquids in drums)										
Pickup fees 55 gal (200 L). drums	02110-300-1100	ea.			$299.10				$299.10	
Bulk material (average)	02110-300-1220/1230	tonne			$539.56				$539.56	
Transport - truck load (80 drums, 25 cy (m3), 18 tons)	02110-300-1260/1270	km			$4.15				$4.15	
Dump site solid disposal fee	02110-300-6000/6020	tonne			$381.38				$381.38	
NOTES:										
Solid Handling Cost Source	2016 Means Heavy Construction									
Solid Disposal Fee Source:	2012 Means Heavy Construction, ave. 02 81 0300-6000, 6020									
Hazardous Material Handling - Liquids										
Vacuum Truck Pickup (2200 gal/8300 L)	02110-300-3110	hr.			$168.20				$168.20	
Vacuum Truck Pickup (5000 gal/19000 L)	02110-300-3120	hr.			$244.12				$244.12	
Dump site liquid disposal fee	02110-300-6000/6020	tonne			$381.38				$381.38	
NOTES:										
Liquid Handling Cost Source	2012 Means Heavy Construction									
Liquid Disposal Fee Source:	2012 Means Heavy Construction, ave. 02 11 0300-6000, 6020									
Hydrocarbon Contaminated Soils (HCS)										
Insitu Biotreatment	02115-200-2020/2021	m3			$29.29				$29.29	
HCS disposal fee	02115-200-2050/2055	m3			$73.47				$73.47	
NOTES:										
Insitu Treatment Cost Source	2012 Means Heavy Construction, ave. 02 65 1030-2020, 2021									
HCS Disposal Fee Source:	2012 Means Heavy Construction, ave. 02 65 1030-2050, 2055 plus barging fee of $265/tonne									

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Closure Cost Estimate
Misc. Unit Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

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	m3	C-14D	61.18	$217.74	$194.26	$17.43		$429.43	includes reinforcing
Grade walls - 15 in (400mm) thick, 12 ft (3.7m) high	03310-240-4350	m3	C-14D	39.19	$217.74	$303.26	$27.22		$548.22	includes reinforcing
Elevated conc, 1-way beam & slab - 15ft (4.6m) span	03310-240-2700	m3	C-14B	15.74	$359.20	$780.62	$67.76		$1,207.58	includes reinforcing
Elevated conc, 1-way beam & slab - 25ft (7.5m) span	03310-240-2750	m3	C-14B	21.68	$346.48	$566.74	$49.20		$962.42	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./m3								materials $/cy placed
Production Opening Foam Plug (6)		ea./m3								materials $/cy placed

NOTES:

(5) Bat Gate Source:	Not used
(6) Foam Plug Source:	Not used

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Closure Cost Estimate
Misc. Unit Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - 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: Alaska Davis Bacon 2016

Misc. Linear Projects

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	Materials	Labor	Equipment	Premium	Total	Notes
Fencing Installation										
Barbed 3-strand	02820-170-1650	m	B-80A	232	$0.18	$5.66	$0.49		$6.33	
Barbed 4-strand	extrapolated	m	B-80A	174	$0.24	$7.55	$0.65		$8.44	
Barbed 5-strand	02820-130-0920	m	B-80A	139	$0.30	$9.45	$0.81		$10.56	
Chain link 8-10ft (2.5-3m) Install	02820-130-0920	m	B-80C	55	$14.28	$23.89	$2.05		$40.22	
Wood stockade fence 6 ft (2 m) high - Install	02820-510-1240	m	B-80C	46	$5.93	$28.57	$2.45		$36.95	
	user	m							$0.00	
	user	m							$0.00	
	user	m							$0.00	
	user	m							$0.00	
Fencing Removal										
Barbed 3-strand Removal	02220-220-1600	m	2 Clab	131		$7.89	$0.86		$8.75	
Barbed 4-strand Removal	extrapolated	m	2 Clab	108		$9.56	$1.05		$10.61	
Barbed 5-strand Removal	02220-220-1650	m	2 Clab	85		$12.15	$1.33		$13.48	
Chain link 8-10 ft (2.5-3 m) Removal	02220-220-1700	m	B-6	136		$7.71	$2.35		$10.06	
Wood, all types 4-6 ft ("1.5-2 m) high - Removal	02220-220-1775	m	2 Clab	131		$7.89	$0.86		$8.75	
	user	m								
	user	m							$0.00	
	user	m							$0.00	
	user	m							$0.00	
Culvert Removal										
12 in (300 mm) Diameter	02220-220-2900	m	B-6	53		$19.79	$6.03		$25.82	
18 in (450 mm) Diameter	02220-220-2930	m	B-6	46		$22.80	$6.95		$29.75	
24 in (600 mm) Diameter	02220-220-2960	m	B-6	37		$28.35	$8.64		$36.99	
36 in (1m) Diameter	02220-220-3000	m	B-6	27		$38.85	$11.84		$50.69	
Pipeline Removal										
0.75 in (20mm) - 4 in (100 mm) diameter	02220-381-1600	m	B-20	213		$7.34	$0.53		$7.87	
6 in (150 mm) - 8 in (200 mm)	02220-381-1700	m	B-20	152		$10.28	$0.74		$11.02	
10 in (250 mm) - 18 in (450 mm)	02220-381-1800	m	B-20	91		$17.17	$1.24		$18.41	
20 in (500 mm) - 36 in (1 m)	02220-381-1900	m	B-20	61		$25.62	$1.85		$27.47	
Pipe and Drainpipe Installation										
Water 4in (100mm) 40ft (12m) length, welded HDPE	02510-760-0100	m	B-22A	122	$0.84	$19.75	$12.93		$33.52	
Water 6in (150mm) 40ft (12m) length, welded HDPE	02510-760-0200	m	B-22A	116	$2.34	$20.77	$13.60		$36.71	
Water 12in (300mm) 40ft (12m) length, welded HDPE	02510-760-0500	m	B-22A	79		$30.49	$19.96		$50.45	
Drain 4in (100mm) perforated PVC	02620-630-2100	m	B-14	96	$0.48	$25.94	$3.83		$30.25	
Drain 6in (150mm) perforated PVC	02620-630-2110	m	B-14	91	$1.05	$27.36	$4.04		$32.45	
Drain 4in (100mm) corrugated, perf or plain	02620-660-0040	m	2 Clab	366	$0.22	$2.82	$0.31		$3.35	
Drain 6in (150mm) corrugated., perf or plain	02620-660-0060	m	2 Clab	274	$0.51	$3.77	$0.41		$4.69	

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Closure Cost Estimate
Misc. Unit Costs

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Drain Rock Preparation										
Crushing		m3							$0.79	
Screening		m3							$0.79	
TOTAL									$1.59	
Misc.										
Backhoe work	02210-700-0120	m3	B-11M	21		$23.17	$12.14		$35.31	
Powerline and Transformer Removal										
Single Pole		km							$30,630.16	
Double Pole		km							$35,005.89	
Transformer (9)		ea.							$35,342.26	
NOTES:										
(7) Single Pole Source:	NVEnergy estimate (2009) Adjusted to 2016									
(8) Double Pole Source:	NVEnergy estimate (2009) Adjusted to 2016									
(9) Transformer Source:	Sierra Pacific Power Company estimate (2004) adjusted to 2016									

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 .
All equipment, labor and material unit costs are from Labor Costs, Equipment Costs and Material Costs spreadsheets

	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	m2	B-13	67	$39.27	$30.42	$8.57		$78.26	assumes on-site source of rip-rap
Rip-Rap 18 in (450 mm) min thick, no grout	02370-450-0200	m2	B-13	44		$46.32	$13.05		$59.37	assumes on-site source of rip-rap
Gabions, 6 in (150 mm) deep	02370-450-0400	m2	B-13	167	$11.20	$12.20	$3.44		$26.84	assumes on-site source rock fill for gabions
Gabions, 9 in (250 mm) deep	02370-450-0500	m2	B-13	136	$14.03	$14.99	$4.22		$33.24	assumes on-site source rock fill for gabions
Gabions, 12 in (300 mm) deep	02370-450-0200	m2	B-13	128	$18.62	$15.92	$4.49		$39.03	assumes on-site source rock fill for gabions
Gabions, 18 in (450 mm) deep	02370-450-0200	m2	B-13	85	$26.18	$23.98	$6.76		$56.92	assumes on-site source rock fill for gabions
Gabions, 36 in (1m) deep	02370-450-0200	m2	B-13	50	$44.36	$40.76	$11.48		$96.60	assumes on-site source rock fill for gabions
HDEP Liner Installation										
Finish grading large area	2310-100-0100	m2	B-11L	5017		$0.15	$0.11		$0.26	
Compaction-riding, vibrating roller - 12in (300mm) lifts	2315-310-5100	m3	B-10Y	242		$3.17	$1.76		$4.93	
1.5mm HDPE	2660-610-0010	m2	3 Skwk	149	$0.80	$11.38	$4.33	10%	$18.16	
80 mil HDPE	user	m2	3 Skwk	149	$9.00	$11.38	$4.33		$24.71	
40 mil VLDPE	user	m2	3 Skwk	150	$7.00	$11.31	$4.30		$22.61	
	user	m2	3 Skwk	149		$11.38	$4.33		$15.71	
	user	m2	3 Skwk	149		$11.38	$4.33		$15.71	

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Closure Cost Estimate
Misc. Unit Costs

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Model Version: Version 1.4.1
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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Construction Management Support											
Office Trailer, Furnished, no hook-ups	0150-500-0250	mo.			$235.88				$235.88		
Toilet Portable, chemical	1590-400-6410	mo.			$251.44				$251.44		
TOTAL					$487.32				$487.32		
Pump and Casing Removal											
	Pump Type	**Measurement**	**Unit**				**Labor**	**Equipment**		**Total**	**Notes**
Pump Removal											
Submersible	ft to pump	m				$10.17	$22.08		$32.25		
Line Shaft	ft to pump	m				$23.72	$51.58		$75.30		
NOTES:											
(10) Pump Removal Source:	Nevada 2016, NDEP costs converted to metric										

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Closure Cost Estimate
User 1

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 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: Alaska Davis Bacon 2016

Sheet: User 1 - Fluid Disposal

This worksheet calculates to the cost to dispose of fluids drained from equipment remaining at the end of mine life. All fluids will be drained and the equipment will be buried in the pit. Quantities were taken from specifications for each piece of equipment. Where specifications were not available (text in red) quantities were estimated based on relative size to other known equipment. Total quantity is converted to number of drums and estimated weight. Total cost for transportation is estimated by multiplying the total weight by the estimated shipping costs and disposal is estimated be multiplying the total drums by the per drum price.

		Capacity in Each Piece					Total Quanitity				
Qty	Equipment	Hydraulic (gal)	Oil (gal)	Fuel (gal)	Coolant (gal)	Grease (gal)	Hydraulic (gal)	Oil (gal)	Fuel (gal)	Coolant (gal)	Grease (gal)
7	PC 8000 Shovels	5245	514	3564			36,715	3,598	24,948	0	0
2	PC 2000 Shovel	413	31	898	48	50	826	62	1,796	96	100
88	LT 282B Haul Trucks	1448	103	1250	200	200	127,424	9,064	110,000	17,600	17,600
6	LT 1850 Loaders	375	173	1050	110	5	2,250	1,038	6,300	660	30
1	Cat 994 loader	236	659.5	1013	129	5	236	660	1,013	129	5
4	Cat 785B Haul Trucks	378	169	500	100	5	1,512	676	2,000	400	20
3	Cat 785C Water Trucks	378	169	500	100	5	1,134	507	1,500	300	15
8	16M Grader	30	104.2	135	12.3	5	240	834	1,080	98	40
2	24M Grader	70	248.3	350	24	5	140	497	700	48	10
8	854G Rubber Tire Dozers	50	265	413	75.7	5	400	2,120	3,304	606	40
7	D-10 Dozers	28.6	150	257	100	5	200	1,050	1,799	700	35
10	D-11 Dozers	44.7	175	388	100	5	447	1,750	3,880	1,000	50
6	D80 Drills	100	25	250	25	10	600	150	1,500	150	60
22	D55 Drills	100	25	250	25	10	2,200	550	5,500	550	220
30	Titon 600 Drills	100	25	250	25	10	3,000	750	7,500	750	300
1	Horizontal Drain Hole Drill	100	25	250	25	10	100	25	250	25	10
2	Hydraulic Shovel 8 yd 3	413	31	898	48	25	826	62	1,796	96	50
2	Backhoe Loader 0.5 yd 3	35	21.6	45	10	5	70	43	90	20	10
2	Backhoe w/ Hammer & Bucket 345 CL	214	24.2	186	9.4	2	428	48	372	19	4
8	Fuel/Lube Trucks 75000 L CAT 777	50	383	300	61	2	400	3,064	2,400	488	16
3	Large Mechanical Trucks		10	100	5		0	30	300	15	0
12	Medium Mechanical Trucks		15	100	5		0	180	1,200	60	0
1	60 t Crane	50	30	500	25	5	50	30	500	25	5
1	150 t Crane	100	30	500	25	5	100	30	500	25	5
1	200 t Crane	200	30	500	25	5	200	30	500	25	5
1	Low Boy Truck/Toe CAT 793	440	490	1150	257	5	440	490	1,150	257	5
1	Tires Handler	29	55	100	10	5	29	55	100	10	5
4	FEL CAT 966	29	55	100	10	5	116	220	400	40	20
3	23.5 t Forklift	20	5	60	15	5	60	15	180	45	15
3	16.3 t Forklift	15	5	50	10	2	45	15	150	30	6
2	4.5 t Telehandler	10	5	40	10	2	20	10	80	20	4
2	4.5 t Forklift	10	5	40	10	2	20	10	80	20	4
10	Crew Buses		10	200	25		0	100	2,000	250	0
3	Compactors		1.5	30	5	2	0	5	90	15	6
3	SVE Lift Trucks		1.5	30	5		0	5	90	15	0
60	Light Plants		1.5	30	5		0	90	1,800	300	0
310	Light Vehicles		1.5	30	5		0	465	9,300	1,550	0
639	**Total**					**Total**	**180,228**	**28,326**	**196,148**	**26,437**	**18,695**
						Number of Drums	**3,277**	**515**	**713**	**481**	**2,337**
						Pounds	**1,261,597**	**198,284**	**274,607**	**185,058**	**18,695**

	Transportation Leg	$/tonne (2,204 lbs)	Inflation Adjustment factor from 2011 (User 20)	$/tonne (2,204 lbs)			Hydraulic ($)	Oil ($)	Fuel ($)	Coolant ($)	Grease ($)
	Mine to Jung ($/ton)	$ 50.00	1.08	$ 54.00			$ 30,910	$ 4,858	$ 6,728	$ 4,534	$ 458
	Jung Port Handling ($/ton)	$ 20.00	1.08	$ 21.60			$ 12,364	$ 1,943	$ 2,691	$ 1,814	$ 183
	Jung to Seattle ($/ton)	$ 265.00	1.08	$ 286.20			$ 163,824	$ 25,748	$ 35,659	$ 24,031	$ 2,428
	Seattle Handling ($/ton)	$ 20.00	1.08	$ 21.60			$ 12,364	$ 1,943	$ 2,691	$ 1,814	$ 183
	Total						**$ 219,463**	**$ 34,493**	**$ 47,770**	**$ 32,192**	**$ 3,252**

	Hazardous Material Type	2011 costs	Inflation Adjustment factor from 2011 (User 20)	Current Costs $/Drum			Hydraulic ($)	Oil ($)	Fuel ($)	Coolant ($)	Grease ($)
	Spent Antifreeze for Recycle	$ 155.00	1.08	$ 167.40							
	Spent (Non-regulated) Grease for Landfill	$ 245.00	1.08	$ 264.60							
	Non-regulated Fuels and Oils for Fuel Blending	$ 52.50	1.08	$ 56.70		**Disposal Total ($)**	**$ 185,799**	**$ 29,202**	**$ 40,442**	**$ 80,464**	**$ 618,337**

	Transporation and Disposal Unit Costs	2011 costs ($/lb)	Inflation Adjustment factor from 2011 (User 20)	Current Costs ($/lb)			Hydraulic ($)	Oil ($)	Fuel ($)	Coolant ($)	Grease ($)
	Transportation $/lb (to Disp.)	$ 0.29	1.08	$ 0.31		**Transportation ($)**	**$ 428,224.64**	**$ 67,303.67**	**$ 93,210.06**	**$ 62,814.19**	**$ 6,345.65**
	Energy Surcharge (2%)			$ 0.01							
	Total			$ 0.32		**Total Cost ($)**	**$ 833,486.52**	**$ 130,998.31**	**$ 181,421.90**	**$ 175,470.16**	**$ 627,934.89**
	Tax (6.25%)			$ 0.02							
	Total Transportation ($/lb)			$ 0.34		**Grand Total ($)**	**$1,949,311.79**	**<<<< This total linked to the Other User Sheet**			

Notes:
Red entries area estimated.
Fuel and oil assumed 7 lbs. per gallon
Grease assumed 8 lbs per gallon.
Mine transportation and handling costs from 4/19/2011 email from Les Scovell (AMEC)

Closure Cost Estimate
User 2

oject Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
ate of Submittal: July 2017
le Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
odel Version: Version 1.4.1
ost Data: User Data
ost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
ost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 2 - Bulk Fuel Storage Tanks Demolition

This sheet calculates the estimated cost to demolish the bulk steel storage tanks using a shear to cut and fold them. The tanks will then be hauled to the pit and buried with the equipment.

	Labor	Equipment	Totals
Totals Added to the Other User sheet >>>	$258,724	$276,826	$535,550

Demolition Crew	Cost ($)		Haulage Crew	Cost ($)
1 Foreman	$51.00		Operator	$62.02
2 Laborer	$70.30		777 Haul Truck	$246.26
1 Operator	$60.81			
1 Cat Excavator 345	$109.46			
1 Demolition Shear	$74.50			
Total Crew Cost ($/Hr)	$366.07		Total Crew Cost	$308.28

Hours per tank	48		Includes loading onto 777 Haul Truck
Number of Tanks	29		
Total Cost (Labor)	$253,497.12		
Total Cost (Equip)	$256,072.32		
Tons of Steel per Tank	300		
Tons of Steel per Load	60		Assumed cannot fully load a 777
Total Loads	145		
Haul Distance (meters)	8,500		
Travel Time Uphill (min)	11		
Travel Time Downhill (min)	9		
Load Dump Time	15		
Total Fleet Time (hrs)	84		
Total Cost (Labor)	$5,226.77		
Total Cost (Equip)	$20,753.70		

Bulk demolition time from 2/10/2009 tel. call with Fred Glueck of Plant Reclamation (California).
Fred estimated 1 week (40 hrs) of crew time per bulk tank. Fred's company had demolished Barrick tanks at Tombo and McClaughlin.
1 day added for each tank to account for rinsing. Pumping and water treatment costs calculated in Solution Mangement worksheet.

Shear: Genisis GXT 995R, Monthly rental quote from Bejac Equip (2017).

Closure Cost Estimate
User 3

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 3 - Miscellaneous Hazardous Waste Disposal

This sheet calculates the estimated cost to demolish the bulk steel storage tanks using a shear to cut and fold them. The tanks will then be hauled to the pit and buried with the equipment.

	Labor	Materials	Totals
Totals Added to the Other User sheet >>>		**$808,385**	**$808,385**

	Amount Generated (Metric tonnes)	Quantity (Tons)	Quantity (lbs)
Mercury Contaminated Carbon	18.4	20.3	40,565
Autoclave Lead Waste - Bricks	220.4	242.9	485,894
Autoclave Lead Waste - Backing	55.1	60.7	121,473
Assay Lab Lead Waste	30.2	33.3	66,579
Total	**324.1**	**357.2**	**714,511**

Ave. Weight of drum (lbs)	**700**
# drums required	1,021

	2011 costs $/drum	Inflation Adjusted costs ($)	Cost ($)
Disposal Costs	$410.00	$442.80	$452,099
Transportation (Seattle Port to Disposal)		$0.32	$228,260
Federal Tax (6.25%)			$14,266
Total Disposal Cost			**$694,626**

Transportation	2011 costs $/metric-tonne	Inflation Adjusted costs ($)	Cost ($)
Mine to Jung ($/ton)	$20.00	$21.60	$7,000.56
Jung Handling ($/ton)	$20.00	$21.60	$7,000.56
Jung to Seattle ($/ton)	$265.00	$286.20	$92,757.42
Seattle Handling	$20.00	$21.60	$7,000.56
Total			**$113,759.10**

3/29/2017 - Updated quantities per 6/26/2014 email from BJeffress

Closure Cost Estimate
User 4

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

TANK DEMOLITION AND DISPOSAL COSTS	CAPACITY	SIZE	Diam./Width	Width	Height	Is tank smaller than 7x10 M. (1)	Circumference	Number of Cuts (Top/Bottom)	Cut Length	No. of Cuts (side) (vert)	Cut Length	No. Cuts on Circumference (Horiz)	Cut Length	Total Length of Cuts	Crew Hours	Demo Crew (Labor)	Demo Crew (Equip)	Haulage Cost (Labor)	Haulage Cost (Equip)	Haulage Cost (Small Tanks) (Labor)	Haulage Cost (Small Tanks) (Equip)
				m	m		m		m		m		m	m	Hrs	$	$	$	$	$	$
CLARIFIER		38 m dia	38		4.5	FALSE	119.3	5.0	190.0	18.0	81.0	-	-	271.0	$ 0.88	$ 160.50	$ 162.13	$ 153.93	$ 476.42		
CLARIFIER		19 m dia. x 4.5 m H wall	19		4.5	FALSE	59.7	2.0	38.0	9.0	40.5	-	-	78.5	$ 3.04	$ 554.07	$ 559.70	$ 153.93	$ 476.42		
CLARIFIER, PRESSURE OXIDATION CCD CLARIFIER		4.25 m dia. X 7 m	4.25		7	TRUE		-	-											$ 153.93	$ 476.42
CELL, ELECTROWINNING NO 1 (included in bldg. demo)		3.5 M3 CELL						-	-												
CELL, ELECTROWINNING NO 2 (included in bldg. demo)		3.5 M3 CELL						-	-												
CELL, ELECTROWINNING NO 3 (included in bldg. demo)		3.5 M3 CELL						-	-												
CELL, ELECTROWINNING NO 4 (included in bldg. demo)		3.5 M3 CELL						-	-												
CELL, PRIMARY ROUGHER NO 1 A, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 1 B, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 1 C, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 1 D, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 1 E, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 1 F, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 1 G, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 1 H, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 1 J, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 1 K, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 1 L, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 2 A, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 2 B, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 2 C, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 2 D, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 2 E, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 2 F, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 2 G, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 2 H, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 2 J, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 2 K, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, PRIMARY ROUGHER NO 2 L, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 1 A, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 1 B, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 1 C, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 1 D, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 1 E, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 1 F, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 1 G, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 1 H, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 1 J, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 1 K, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 1 L, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 2 A, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 2 B, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 2 C, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 2 D, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 2 E, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 2 F, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 2 G, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 2 H, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 2 J, FLOTATION	300 m3		8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		

Closure Cost Estimate
User 4

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

CELL, SECONDARY ROUGHER NO 2 K, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, SECONDARY ROUGHER NO 2 L, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, CLEANER A, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, CLEANER B, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, CLEANER C, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, CLEANER D, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, CLEANER E, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, CLEANER F, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, CLEANER SCAVENGER A, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, CLEANER SCAVENGER B, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, CLEANER SCAVENGER C, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
CELL, CLEANER SCAVENGER D, FLOTATION	**300 m3**		**8**		**10**	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
THICKENER, CONCENTRATE		**45 m dia.**	**45**		**8**	FALSE	141.3	6.0	270.0	21.0	168.0	-	-	438.0	$ 0.55	$ 99.30	$ 100.31	$ 153.93	$ 476.42		
THICKENER, CONCENTRATE CCD NO 1		**40 m dia.**	**40**		**8**	FALSE	125.6	5.0	200.0	18.0	144.0	-	-	344.0	$ 0.69	$ 126.44	$ 127.72	$ 153.93	$ 476.42		
THICKENER, CONCENTRATE CCD NO 2		**40 m dia.**	**40**		**8**	FALSE	125.6	5.0	200.0	18.0	144.0	-	-	344.0	$ 0.69	$ 126.44	$ 127.72	$ 153.93	$ 476.42		
THICKENER, CONCENTRATE CCD NO 3		**40 m dia.**	**40**		**8**	FALSE	125.6	5.0	200.0	18.0	144.0	-	-	344.0	$ 0.69	$ 126.44	$ 127.72	$ 153.93	$ 476.42		
THICKENER, PRESSURE OXIDATION DISCHARGE CCD NO 1		**50 m dia.**	**50**		**8**	FALSE	157.0	7.0	350.0	23.0	184.0	-	-	534.0	$ 0.45	$ 81.45	$ 82.28	$ 153.93	$ 476.42		
THICKENER, PRESSURE OXIDATION DISCHARGE CCD NO 2		**50 m dia.**	**50**		**8**	FALSE	157.0	7.0	350.0	23.0	184.0	-	-	534.0	$ 0.45	$ 81.45	$ 82.28	$ 153.93	$ 476.42		
THICKENER, PRESSURE OXIDATION DISCHARGE CCD NO 3		**50 m dia.**	**50**		**8**	FALSE	157.0	7.0	350.0	23.0	184.0	-	-	534.0	$ 0.45	$ 81.45	$ 82.28	$ 153.93	$ 476.42		
THICKENER, PRESSURE OXIDATION DISCHARGE CCD NO 4		**50 m dia.**	**50**		**8**	FALSE	157.0	7.0	350.0	23.0	184.0	-	-	534.0	$ 0.45	$ 81.45	$ 82.28	$ 153.93	$ 476.42		
THICKENER, FLOTATION TAILINGS		**96 m dia.**	**96**		**15**	FALSE	301.4	13.0	1,248.0	44.0	660.0	2.0	603.0	2,511.0	$ 0.10	$ 17.32	$ 17.50	$ 153.93	$ 476.42		
TANK, DIESEL BULK NO 1, PORT SITE	**10409 m3**		**42.6**		**7.7**	FALSE	133.8	6.0	255.6	20.0	154.0	-	-	409.6	$ 0.58	$ 106.19	$ 107.27	$ 153.93	$ 476.42		
TANK, DIESEL BULK NO 2, PORT SITE	**10409 m3**		**42.6**		**7.7**	FALSE	133.8	6.0	255.6	20.0	154.0	-	-	409.6	$ 0.58	$ 106.19	$ 107.27	$ 153.93	$ 476.42		
TANK, DIESEL DAY- WAREHOUSE (included in bldg. demo)	**18.9 m3**							-	-												
TANK, DIESEL POWER PLANT	**94.6 m3**		**5**		**7**	TRUE		-	-											$ 153.93	$ 476.42
TANK, DIESEL DISPENSING	**94.6 m3**		**5**		**7**	TRUE		-	-											$ 153.93	$ 476.42
TANK, DIESEL TRANSER PUMP ENGINE DAY (included in bldg. demo)								-	-												
ANTI-CORROSION ADDITIVE PRODUCT TANK (included in bldg. demo)								-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 1	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 2	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 3	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 4	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 5	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 6	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 7	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 8	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 9	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 10	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 11	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 12	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 13	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 1, NO 14	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 1	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 2	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 3	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 4	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 5	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 6	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 7	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 8	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 9	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 10	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 11	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 12	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, DIESEL CONTAINMENT NO 2, NO 13	9936 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, TRUCK SHOP HEATING, DIESEL	18.9 m3	**COSTS ARE CALCULATED ELSEWHERE (SEE USER SHEET 2)**						-	-												
TANK, FUEL STATION NO 1, DIESEL	**94.6 m3**		**5**		**7**	TRUE		-	-											$ 153.93	$ 476.42
TANK, FUEL STATION NO 2, DIESEL	**94.6 m3**		**5**		**7**	TRUE		-	-											$ 153.93	$ 476.42
TANK, DIESEL GENERATOR FUEL SERVICE (350,000 gallons)	**1325 m3**		**43**		**8**	FALSE	135.0	6.0	258.0	20.0	160.0	-	-	418.0	$ 0.57	$ 104.05	$ 105.11	$ 153.93	$ 476.42		
TANK, DIESEL SERVICE POWER PLANT A	**124.9 m3**		**6**		**7**	TRUE		-	-											$ 153.93	$ 476.42
TANK, DIESEL SERVICE POWER PLANT B	**124.9 m3**		**6**		**7**	TRUE		-	-											$ 153.93	$ 476.42

Closure Cost Estimate
User 4

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

TANK, PERMANENT ACCOMODATIONS COMPLEX DIESEL DAY	94.6 m3		5		7	TRUE		-	-											$ 153.93	$ 476.42
TANK, PERMANENT CAMP DIESEL GENERATORS DAY TANK	94.6 m3		5		7	TRUE		-	-											$ 153.93	$ 476.42
TANK, PERMANENT CAMP KITCHEN PROPANE NO 1 (Vendor to pickup)	38 m3							-	-												
TANK, PERMANENT CAMP KITCHEN PROPANE NO 2(Vendor to pickup)	38 m3							-	-												
TANK, PERMANENT CAMP KITCHEN PROPANE NO 3 (Vendor to pickup)	38 m3							-	-												
TANK, PERMANENT CAMP KITCHEN PROPANE NO 4 (Vendor to pickup)	38 m3							-	-												
TANK, PERMANENT CAMP KITCHEN PROPANE NO 5 (Vendor to pickup)	38 m3							-	-												
TANK, PERMANENT CAMP KITCHEN PROPANE NO 6 (Vendor to pickup)	38 m3							-	-												
TANK, PERMANENT CAMP KITCHEN PROPANE NO 7 (Vendor to pickup)	38 m3							-	-												
TANK, PERMANENT CAMP KITCHEN PROPANE NO 8 (Vendor to pickup)	38 m3							-	-												
TANK, PERMANENT CAMP KITCHEN PROPANE NO 9 (Vendor to pickup)	38 m3							-	-												
TANK, PERMANENT CAMP KITCHEN PROPANE NO 10 (Vendor to pickup)	38 m3							-	-												
TANK, PERMANENT CAMP KITCHEN PROPANE NO 11 (Vendor to pickup)	38 m3							-	-												
TANK, PRESSURE OXIDATION DIESEL BOILER DAY (included in bldg. demo)	18.93 m3							-	-												
TANK, CARBON STRIPPING DIESEL BOILER DAY (included in bldg. demo)	18.93 m3							-	-												
TANK, GLYCOL SYSTEMS DIESEL BOILER DAY (included in bldg. demo)	18.93 m3							-	-												
TANK, CONSTRUCTION ACCOMODATIONS COMPLEX DIESEL DAY	94.6 m3		5		7	TRUE		-	-											$ 153.93	$ 476.42
TANK, CONSTRUCTION CAMP GENERATORS DIESEL DAY (included in bldg. demo)	18.9 m3							-	-												
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 1 (Vendor to pickup)	38 m3							-	-												
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 2 (Vendor to pickup)	38 m3							-	-												
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 3 (Vendor to pickup)	38 m3							-	-												
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 4 (Vendor to pickup)	38 m3							-	-												
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 5 (Vendor to pickup)	38 m3							-	-												
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 6 (Vendor to pickup)	38 m3							-	-												
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 7 (Vendor to pickup)	38 m3							-	-												
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 8 (Vendor to pickup)	38 m3							-	-												
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 9 (Vendor to pickup)	38 m3							-	-												
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 10 (Vendor to pickup)	38 m3							-	-												
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 11 (Vendor to pickup)	38 m3							-	-												

Closure Cost Estimate
User 4

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Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 12 (Vendor to pickup)	38 m3								-	-										
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 13 (Vendor to pickup)	38 m3								-	-										
TANK, PROPANE, MOBILE, CONSTRUCTION CAMP NO 14 (Vendor to pickup)	38 m3								-	-										
TANK, REACTOR NO 1	367 m3	7.5 m dia. x 9.5 m H	7.5		9.5	FALSE	23.6	1.0	7.5	4.0	38.0	-	-	45.5	$ 5.25	$ 955.92	$ 965.63	$ 153.93	$ 476.42		
TANK, LIME / SLUDGE MIX	1 m3	1.5 m dia. x 2.3 m H	0.5		2.3	TRUE			-	-										$ 153.93	$ 476.42
TANK, PH ADJUST	92 m3	5 m dia. x 7 m H	5		7	TRUE			-	-										$ 153.93	$ 476.42
TANK, UTILITY WATER	92 m3	5 m dia. x 7 m H	5		7	TRUE			-	-										$ 153.93	$ 476.42
TANK, REACTOR NO 2	367 m3	7.5 m dia. x 9.5 m H	7.5		9.5	FALSE	23.6	1.0	7.5	4.0	38.0	-	-	45.5	$ 5.25	$ 955.92	$ 965.63	$ 153.93	$ 476.42		
TANK, DIRTY BACKWASH	600 m3	8.5 m dia. x 12 m H	8.5		12	FALSE	26.7	1.0	8.5	4.0	48.0	2.0	54.0	110.5	$ 2.16	$ 393.61	$ 397.61	$ 153.93	$ 476.42		
TANK, FLOCCULANT MIX			5		5	TRUE			-	-										$ 153.93	$ 476.42
TANK, FLOCCULANT MIX HOLDING			5		5	TRUE			-	-										$ 153.93	$ 476.42
TANK, FERRIC SULPHATE MIX			5		5	TRUE			-	-										$ 153.93	$ 476.42
TANK, FERRIC SULPHATE HOLDING			5		5	TRUE			-	-										$ 153.93	$ 476.42
TANK, LIME MIX			8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
TANK, LIME HOLDING			5		5	TRUE			-	-										$ 153.93	$ 476.42
TANK, REACTOR NO 1	53 m3	4.0 m dia. x 5.8 m H	4		5.8	TRUE			-	-										$ 153.93	$ 476.42
TANK, PH ADJUST	10 m3	2.5 m dia. x 4.0 m H	2.5		4	TRUE			-	-										$ 153.93	$ 476.42
TANK, REACTOR NO 2	53 m3	4.0 m dia. x 5.8 m H	4		5.8	TRUE			-	-										$ 153.93	$ 476.42
TANK, LIME MIX			8		10	FALSE	25.1	1.0	8.0	4.0	40.0	1.0	26.0	74.0	$ 3.23	$ 587.76	$ 593.73	$ 153.93	$ 476.42		
TANK, DIRTY BACKWASH	20 m3	3 m dia. x 3.5 m H	3		3.5	TRUE			-	-										$ 153.93	$ 476.42
TANK, SUMP (Included in BLDG demolition)									-	-											
TANK, REACTOR NO 1	230 m3	7.3 m dia. x 7.5 m H	7.3		7.5	FALSE	22.9	1.0	7.3	4.0	30.0	-	-	37.3	$ 6.40	$ 1,166.07	$ 1,177.92	$ 153.93	$ 476.42		
TANK, LIME / SLUDGE MIX	1 m3	1.5 m dia. x 2.3 m H	1.5		2.3	TRUE			-	-										$ 153.93	$ 476.42
TANK, PH ADJUST	92 m3	5 m dia. x 7 m H	5		7	TRUE			-	-										$ 153.93	$ 476.42
TANK, UTILITY WATER	36 m3	3.5 m dia. x 5.5 m H	3.5		5.5	TRUE			-	-										$ 153.93	$ 476.42
TANK, REACTOR NO 2	230 m3	7.3 m dia. x 7.5 m H	7.3		7.5	FALSE	22.9	1.0	7.3	4.0	30.0	-	-	37.3	$ 6.40	$ 1,166.07	$ 1,177.92	$ 153.93	$ 476.42		
TANK, DIRTY BACKWASH	320 m3	7.5 m dia. x 9.5 m H	7.5		9.5	FALSE	23.6	1.0	7.5	4.0	38.0	-	-	45.5	$ 5.25	$ 955.92	$ 965.63	$ 153.93	$ 476.42		
TANK, FLOCCULANT MIX (included in bldg. demo)									-	-											
TANK, FLOCCULANT MIX HOLDING (included in bldg. demo)									-	-											
TANK, FERRIC SULPHATE MIX		2.5 m dia. x 3.5 m H	2.5		3.5	TRUE			-	-										$ 153.93	$ 476.42
TANK, FERRIC SULPHATE HOLDING		2.5 m dia. x 4.5 m H	2.5		4.5	TRUE			-	-										$ 153.93	$ 476.42
TANK, LIME MIX (included in bldg. demo)									-	-											
TANK, CONDITIONING NO 1	320 m3	7.5 m dia. x 8 m H	7.5		8	FALSE	23.6	1.0	7.5	4.0	32.0	-	-	39.5	$ 6.05	$ 1,101.12	$ 1,112.31	$ 153.93	$ 476.42		
TANK, CONDITIONING NO 2	320 m3	7.5 m dia. x 8 m H	7.5		8	FALSE	23.6	1.0	7.5	4.0	32.0	-	-	39.5	$ 6.05	$ 1,101.12	$ 1,112.31	$ 153.93	$ 476.42		
TANK, SECONDARY ROUGHER CONDITIONING	400 m3	8 m dia. x 9 m H	8		9	FALSE	25.1	1.0	8.0	4.0	36.0	-	-	44.0	$ 5.43	$ 988.51	$ 998.55	$ 153.93	$ 476.42		
TANK, CONCENTRATE THICKENER, DEAREATION	29 m3	3.5 m dia. x 5 m H	3.5		5	TRUE			-	-										$ 153.93	$ 476.42
TANK, CONCENTRATE STORAGE NO 1	4980 m3	17.5 m dia. x 21.3 m H	17.5		21.3	FALSE	55.0	2.0	35.0	8.0	170.4	3.0	165.0	370.4	$ 0.64	$ 117.43	$ 118.62	$ 153.93	$ 476.42		
TANK, CONCENTRATE STORAGE NO 2	4980 m3	17.5 m dia. x 21.3 m H	17.5		21.3	FALSE	55.0	2.0	35.0	8.0	170.4	3.0	165.0	370.4	$ 0.64	$ 117.43	$ 118.62	$ 153.93	$ 476.42		
TANK, CONCENTRATE STORAGE NO 3	4980 m3	17.5 m dia. x 21.3 m H	17.5		21.3	FALSE	55.0	2.0	35.0	8.0	170.4	3.0	165.0	370.4	$ 0.64	$ 117.43	$ 118.62	$ 153.93	$ 476.42		
TANK, CONCENTRATE STORAGE NO 4	4980 m3	17.5 m dia. x 21.3 m H	17.5		21.3	FALSE	55.0	2.0	35.0	8.0	170.4	3.0	165.0	370.4	$ 0.64	$ 117.43	$ 118.62	$ 153.93	$ 476.42		
TANK, ACIDULATION NO 1	4980 m3	17.5 m dia. x 21.3 m H	17.5		21.3	FALSE	55.0	2.0	35.0	8.0	170.4	3.0	165.0	370.4	$ 0.64	$ 117.43	$ 118.62	$ 153.93	$ 476.42		
TANK, ACIDULATION NO 2	4980 m3	17.5 m dia. x 21.3 m H	17.5		21.3	FALSE	55.0	2.0	35.0	8.0	170.4	3.0	165.0	370.4	$ 0.64	$ 117.43	$ 118.62	$ 153.93	$ 476.42		

Closure Cost Estimate
User 4

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TANK, CONCENTRATE CCD NO 1 THICKENER FEED	47 m3	3.5 m dia. x 5.6 m H	3.5		5.6	TRUE		-	-										$ 153.93	$ 476.42
TANK, CONCENTRATE CCD NO 1 THICKENER OVERFLOW		3 m dia. x 3.75 m H	3.5		3.75	TRUE		-	-										$ 153.93	$ 476.42
TANK, CONCENTRATE CCD NO 2 THICKENER FEED	47 m3	3.5 m dia. x 5.6 m H	3.5		5.6	TRUE		-	-										$ 153.93	$ 476.42
TANK, CONCENTRATE CCD NO 3 THICKENER FEED	47 m3	3.5 m dia. x 5.6 m H	3.5		5.6	TRUE		-	-										$ 153.93	$ 476.42
TANK, PRESSURE OXIDATION DISCHARGE CCD NO 1 THICKENER FEED	47 m3	3.5 m dia. x 5.6 m H	3.5		5.6	TRUE		-	-										$ 153.93	$ 476.42
TANK, PRESSURE OXIDATION CCD NO 1 THICKENER OVERFLOW		3 m dia. x 3.75 m H	3		3.75	TRUE		-	-										$ 153.93	$ 476.42
TANK, PRESSURE OXIDATION DISCHARGE CCD NO 2 THICKENER FEED	47 m3	3.5 m dia. x 5.6 m H	3.5		5.6	TRUE		-	-										$ 153.93	$ 476.42
TANK, PRESSURE OXIDATION DISCHARGE CCD NO 3 THICKENER FEED	47 m3	3.5 m dia. x 5.6 m H	3.5		5.6	TRUE		-	-										$ 153.93	$ 476.42
TANK, PRESSURE OXIDATION DISCHARGE CCD NO 4 THICKENER FEED	47 m3	3.5 m dia. x 5.6 m H	3.5		5.6	TRUE		-	-										$ 153.93	$ 476.42
TANK, PRESSURE OXIDATION CCD CLARIFIER, OVERFLOW		3 m dia. x 3.75 m H	3		3.75	TRUE		-	-										$ 153.93	$ 476.42
TANK, CARBON-IN-LEACH FEED NEUTRALIZATION NO 1	3160 m3	14.6 m dia. x 19.5 m H	14.6		19.5	FALSE	45.8	2.0	29.2	7.0	136.5	2.0	92.0	257.7	$ 0.93	$ 168.78	$ 170.49	$ 153.93	$ 476.42		
TANK, CARBON-IN-LEACH FEED NEUTRALIZATION NO 2	3160 m3	14.6 m dia. x 19.5 m H	14.6		19.5	FALSE	45.8	2.0	29.2	7.0	136.5	2.0	92.0	257.7	$ 0.93	$ 168.78	$ 170.49	$ 153.93	$ 476.42		
TANK, CARBON-IN-LEACH NO 1	3160 m3	15.6 m dia. x 16.5 m H	15.6		16.5	FALSE	49.0	2.0	31.2	7.0	115.5	2.0	98.0	244.7	$ 0.98	$ 177.75	$ 179.55	$ 153.93	$ 476.42		
TANK, CARBON-IN-LEACH NO 2	3160 m3	15.6 m dia. x 16.5 m H	15.6		16.5	FALSE	49.0	2.0	31.2	7.0	115.5	2.0	98.0	244.7	$ 0.98	$ 177.75	$ 179.55	$ 153.93	$ 476.42		
TANK, CARBON-IN-LEACH NO 3	3160 m3	15.6 m dia. x 16.5 m H	15.6		16.5	FALSE	49.0	2.0	31.2	7.0	115.5	2.0	98.0	244.7	$ 0.98	$ 177.75	$ 179.55	$ 153.93	$ 476.42		
TANK, CARBON-IN-LEACH NO 4	3160 m3	15.6 m dia. x 16.5 m H	15.6		16.5	FALSE	49.0	2.0	31.2	7.0	115.5	2.0	98.0	244.7	$ 0.98	$ 177.75	$ 179.55	$ 153.93	$ 476.42		
TANK, CARBON-IN-LEACH NO 5	3160 m3	15.6 m dia. x 16.5 m H	15.6		16.5	FALSE	49.0	2.0	31.2	7.0	115.5	2.0	98.0	244.7	$ 0.98	$ 177.75	$ 179.55	$ 153.93	$ 476.42		
TANK, CARBON-IN-LEACH NO 6	3160 m3	15.6 m dia. x 16.5 m H	15.6		16.5	FALSE	49.0	2.0	31.2	7.0	115.5	2.0	98.0	244.7	$ 0.98	$ 177.75	$ 179.55	$ 153.93	$ 476.42		
TANK, HCN SCRUBBER SEAL		1.35 m dia. x 1.7 m H	1.35		1.7	TRUE		-	-										$ 153.93	$ 476.42
TANK, RECOVERED CARBON COLLECTION		2.2 m dia. x 2.5 m H	2.2		1.7	TRUE		-	-										$ 153.93	$ 476.42
TANK, ACID WASH SOLUTION NO 1	40 m3	3.5 m dia. x 6.1 m H	3.5		6.1	TRUE		-	-										$ 153.93	$ 476.42
TANK, ACID WASH SOLUTION NO 2	40 m3	3.5 m dia. x 6.1 m H	3.5		6.1	TRUE		-	-										$ 153.93	$ 476.42
TANK, BARREN ELUATE	320 m3	7.5 m dia. x 9.5 m H	7.5		9.5	FALSE	23.6	1.0	7.5	4.0	38.0	-	-	45.5	$ 5.25	$ 955.92	$ 965.63	$ 153.93	$ 476.42		
TANK, PREGNANT ELUATE	320 m3	7.5 m dia. x 9.5 m H	7.5		9.5	FALSE	23.6	1.0	7.5	4.0	38.0	-	-	45.5	$ 5.25	$ 955.92	$ 965.63	$ 153.93	$ 476.42		
TANK, ELUATE HEATER EXPANSION (Included in BLDG demolition)	1.5 m3							-	-											
TANK, BARREN SOLUTION DISCHARGE		2.6 m dia. x 2.6 m H	2.6		2.6	TRUE		-	-										$ 153.93	$ 476.42
TANK, CATHODE WASH		1.8 m x 1.8 m x 2.8 m H	1.8		1.8	TRUE		-	-										$ 153.93	$ 476.42
TANK, CARBON QUENCH		2.6 m dia. x 2.4 m H	2.6		2	TRUE		-	-										$ 153.93	$ 476.42
TANK, CARBON TRANSFER		2.2 m dia. x 4.6 m H	2.2		4.6	TRUE		-	-										$ 153.93	$ 476.42
TANK, CARBON FINES		2.2 m dia. x 4.6 m H	2.6		2.6	TRUE		-	-										$ 153.93	$ 476.42
TANK, CARBON TRANSFER WATER		2.6 m dia. x 2.6 m H	2.6		2.6	TRUE		-	-										$ 153.93	$ 476.42
TANK, FLOTATION TAILINGS THICKENER OVERFLOW	36 m3	5.0 m dia. x 3.8 m H	11.5		10.5	FALSE	36.1	1.0	11.5	6.0	63.0	2.0	73.0	147.5	$ 1.62	$ 294.88	$ 297.87	$ 153.93	$ 476.42		
TANK, CYANIDE DESTRUCTION REACTOR	890 m3	11.5 m dia. x 10.5 m H	11.5		10.5	FALSE	36.1	1.0	11.5	6.0	63.0	2.0	73.0	147.5	$ 1.62	$ 294.88	$ 297.87	$ 153.93	$ 476.42		
TANK, FT NEUTRALIZATION NO 1	6480 m3	19.5 m dia. x 23.5 m H	19.5		23.5	FALSE	61.2	2.0	39.0	9.0	211.5	3.0	184.0	434.5	$ 0.55	$ 100.10	$ 101.12	$ 153.93	$ 476.42		
TANK, FT NEUTRALIZATION NO 2	6480 m3	19.5 m dia. x 23.5 m H	19.5		23.5	FALSE	61.2	2.0	39.0	9.0	211.5	3.0	184.0	434.5	$ 0.55	$ 100.10	$ 101.12	$ 153.93	$ 476.42		
TANK, FT NEUTRALIZATION NO 3	6480 m3	19.5 m dia. x 23.5 m H	19.5		23.5	FALSE	61.2	2.0	39.0	9.0	211.5	3.0	184.0	434.5	$ 0.55	$ 100.10	$ 101.12	$ 153.93	$ 476.42		
TANK, FT NEUTRALIZATION NO 4	6480 m3	19.5 m dia. x 23.5 m H	19.5		23.5	FALSE	61.2	2.0	39.0	9.0	211.5	3.0	184.0	434.5	$ 0.55	$ 100.10	$ 101.12	$ 153.93	$ 476.42		
TANK, FT NEUTRALIZATION NO 5	6480 m3	19.5 m dia. x 23.5 m H	19.5		23.5	FALSE	61.2	2.0	39.0	9.0	211.5	3.0	184.0	434.5	$ 0.55	$ 100.10	$ 101.12	$ 153.93	$ 476.42		

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TANK, FROTHER NO 1, HOLDING	1 m3	1.5 m dia. x 2.4 m H	1.5		2.4	TRUE		-	-										$ 153.93	$ 476.42
TANK, SULPHUR BURNER ACID DRAINAGE		1 m dia. x 2 m H	1		2	TRUE		-	-										$ 153.93	$ 476.42
TANK, MOLTEN SULPHUR		1.6 m L. x 6 m W. x 1.7 m H	1.6	6	1.7	TRUE		-	-										$ 153.93	$ 476.42
TANK, LIME SLURRY HOLDING NO 1	230 m3	7.3 m dia. x 7.5 m H	7.3		7.5	FALSE	22.9	1.0	7.3	4.0	30.0	-	-	37.3	$ 6.40	$ 1,166.07	$ 1,177.92	$ 153.93	$ 476.42	
TANK, LIME SLURRY HOLDING NO 2	230 m3	7.3 m dia. x 7.5 m H	7.3		7.5	FALSE	22.9	1.0	7.3	4.0	30.0	-	-	37.3	$ 6.40	$ 1,166.07	$ 1,177.92	$ 153.93	$ 476.42	
TANK, CYANIDE HOLDING	145 m3	6 m dia. x 7.8 m H	6		7.8	TRUE		-	-										$ 153.93	$ 476.42
TANK, CYANIDE MIX NO 1	24 m3	3.0 m dia. x 5.3 m H	3		5.3	TRUE		-	-										$ 153.93	$ 476.42
TANK, CYANIDE MIX NO 2 (Assumed same size as No. 1)	24 m3	3.0 m dia. x 5.3 m H	3		5.3	TRUE		-	-										$ 153.93	$ 476.42
TANK, CAUSTIC MIX	8 m3	2.5 m dia. x 3.5 m H	2.5		3.5	TRUE		-	-										$ 153.93	$ 476.42
TANK, CAUSTIC HOLDING	8 m3	2.5 m dia. x 3.5 m H	2.5		3.5	TRUE		-	-										$ 153.93	$ 476.42
TANK, FLOCCULANT NO 1, MIX	100 m3	5 m dia. x 5.2 m H	5		5.2	TRUE		-	-										$ 153.93	$ 476.42
TANK, FLOCCULANT NO 1, HOLDING	100 m3	5 m dia. x 5.2 m H	5		5.2	TRUE		-	-										$ 153.93	$ 476.42
TANK, FLOCCULANT NO 2, MIX	100 m3	5 m dia. x 5.2 m H	5		5.2	TRUE		-	-										$ 153.93	$ 476.42
TANK, FLOCCULANT NO 3, MIX	100 m3	5 m dia. x 5.2 m H	5		5.2	TRUE		-	-										$ 153.93	$ 476.42
TANK, FLOCCULANT NO 2, HOLDING	100 m3	5 m dia. x 5.2 m H	5		5.2	TRUE		-	-										$ 153.93	$ 476.42
TANK, FLOCCULANT NO 3, HOLDING	100 m3	5 m dia. x 5.2 m H	5		5.2	TRUE		-	-										$ 153.93	$ 476.42
TANK, FROTHER NO 2 BULK, HOLDING	13 m3	2.5 m dia. x 4.5 m H	2.5		4.5	TRUE		-	-										$ 153.93	$ 476.42
TANK, XANTHATE, HOLDING	278 m3	7.5 m dia. x 11.3 m H	7.5		11.3	FALSE	23.6	1.0	7.5	4.0	45.2	2.0	48.0	100.7	$ 2.37	$ 431.92	$ 436.31	$ 153.93	$ 476.42	
TANK, XANTHATE NO 1, MIX	46 m3	3.8 m dia. x 7.2 m H	3.8		7.2	TRUE		-	-										$ 153.93	$ 476.42
TANK, XANTHATE NO 2, MIX	46 m3	3.8 m dia. x 7.2 m H	3.8		7.2	TRUE		-	-										$ 153.93	$ 476.42
TANK, XANTHATE NO 3, MIX	46 m3	3.8 m dia. x 7.2 m H	3.8		7.2	TRUE		-	-										$ 153.93	$ 476.42
TANK, COPPER SULPHATE MIX NO 1	62 m3	4.5 m dia. x 5.8 m H	4.5		5.8	TRUE		-	-										$ 153.93	$ 476.42
TANK, COPPER SULPHATE MIX NO 2	62 m3	4.5 m dia. x 5.8 m H	4.5		5.8	TRUE		-	-										$ 153.93	$ 476.42
TANK, COPPER SULPHATE HOLDING	100 m3	5.3 m dia. x 6.7 m H	5.3		6.7	TRUE		-	-										$ 153.93	$ 476.42
TANK, DISPERSANT MIX	23 m3	3.4 m dia. x 4.7 m H	3.4		6.7	TRUE		-	-										$ 153.93	$ 476.42
TANK, SODA ASH HOLDING	14 m3	3 m dia. x 4 m H	3		4	TRUE		-	-										$ 153.93	$ 476.42
TANK, SODA ASH MIX	27 m3	3 m dia. x 5.8 m H	4		5.8	TRUE		-	-										$ 153.93	$ 476.42
TANK, FILTER WATER	92 m3	5 m dia. x 7 m H	5		7	TRUE		-	-										$ 153.93	$ 476.42
TANK, PERMEATE WATER	8 m3	2.5 m dia. x 3.5 m H	2.5		3.5	TRUE		-	-										$ 153.93	$ 476.42
TANK, DEMINERALIZED WATER	53 m3	4.0 m dia. x 5.8 m H	4		5.8	TRUE		-	-										$ 153.93	$ 476.42
TANK, RECLAIM WATER, HEAD	2750 m3	16 m dia. x 15.8 m H	16		5.8	FALSE	50.2	2.0	32.0	8.0	46.4	-	-	78.4	$ 3.05	$ 554.78	$ 560.41	$ 153.93	$ 476.42	
TANK, GLAND WATER	340 m3	7.5 m dia. x 9.5 m H	7.5		15.8	FALSE	23.6	1.0	7.5	4.0	63.2	2.0	48.0	118.7	$ 2.01	$ 366.42	$ 370.15	$ 153.93	$ 476.42	
TANK, FLOTATION PROCESS WATER	2400 m3	21 m dia. x 7.3 m H	21		7.3	FALSE	65.9	3.0	63.0	10.0	73.0	-	-	136.0	$ 1.76	$ 319.81	$ 323.06	$ 153.93	$ 476.42	
TANK, PORT SITE FIRE WATER	1000 m3	11 m dia. x 12.5 m H	11		14	FALSE	34.5	1.0	11.0	5.0	70.0	2.0	70.0	151.0	$ 1.58	$ 288.04	$ 290.97	$ 153.93	$ 476.42	
TANK, FIRE AND FRESH WATER		14 m dia. x 14 m H	14		14	FALSE	44.0	2.0	28.0	7.0	98.0	2.0	88.0	214.0	$ 1.12	$ 203.24	$ 205.31	$ 153.93	$ 476.42	
TANK, FLOCCULANT MIXING WATER	92 m3	5 m dia. x 7 m H	5		7	TRUE		-	-										$ 153.93	$ 476.42
TANK, CONTACT WATER	500 m3	9 m dia. x 10 m H	9		10	FALSE	28.3	1.0	9.0	5.0	50.0	1.0	29.0	88.0	$ 2.71	$ 494.25	$ 499.28	$ 153.93	$ 476.42	
TANK, RAW WATER	500 m3	9 m dia. x 10 m H	9		10	FALSE	28.3	1.0	9.0	5.0	50.0	1.0	29.0	88.0	$ 2.71	$ 494.25	$ 499.28	$ 153.93	$ 476.42	
TANK, FRESH WATER, PLANT SITE	340 m3	7.5 m dia. x 9.5 m H	9		10	FALSE	28.3	1.0	9.0	5.0	50.0	1.0	29.0	88.0	$ 2.71	$ 494.25	$ 499.28	$ 153.93	$ 476.42	
TANK, POTABLE WATER, PERMANENT CAMP	145 m3	6 m dia. x 7.8 m H	6		7.8	TRUE		-	-										$ 153.93	$ 476.42

Closure Cost Estimate
User 4

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

TANK, POTABLE WATER, PLANT SITE		5 m dia. x 6.5 m H	5		6.5	TRUE		-	-											$ 153.93	$ 476.42
TANK, POTABLE WATER, PORT SITE	20 m3	3 m dia. x 3.5 m H	3		3.5	TRUE		-	-											$ 153.93	$ 476.42
TANK, FRESH WATER, PERMANENT CAMP	200 m3	6.5 m dia.x 7 m H	6.5		7	TRUE		-	-											$ 153.93	$ 476.42
TANK, DEMINERALIZED WATER TURBINE FI	20 m3	3 m dia. x 3.5 m H	3		3.5	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, ACID WASH COLUMN NO 1	12 tonnes	2 m dia. x 8.6 m H	2		8.6	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, ACID WASH COLUMN NO 2	12 tonnes	2 m dia. x 8.6 m H	2		8.6	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, SLUDGE RETORT, COLLECTOR		1 m dia. x 2 m L	1		2	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, SULPHUR BURNER QUENCH		1 m dia. x 5 m L	1		5	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 1	12.3 m/h	6.35 m dia. x 2.29 m H	6.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 2	12.3 m/h	6.35 m dia. x 2.29 m H	6.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 3	12.3 m/h	6.35 m dia. x 2.29 m H	6.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 4	12.3 m/h	6.35 m dia. x 2.29 m H	6.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 5	12.3 m/h	6.35 m dia. x 2.29 m H	6.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 6	12.3 m/h	6.35 m dia. x 2.29 m H	6.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 7	12.3 m/h	6.35 m dia. x 2.29 m H	6.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 8	12.3 m/h	6.35 m dia. x 2.29 m H	6.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 9	12.3 m/h	6.35 m dia. x 2.29 m H	6.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 10	12.3 m/h	6.35 m dia. x 2.29 m H	6.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, PRESSURE FILTER NO 1	12.3 m/h	2.44 m dia. x 2.13 m H	2.4		2.1	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, PRESSURE FILTER NO 2	12.3 m/h	2.44 m dia. x 2.13 m H	2.4		2.1	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, PRESSURE FILTER NO 3	12.3 m/h	2.44 m dia. x 2.13 m H	2.4		2.1	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, PRESSURE FILTER NO 4			2.4		2.1	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 1	12.3 m/h	2.44 m dia. x 2.29 m H	2.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 2	12.3 m/h	2.44 m dia. x 2.29 m H	2.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 3	12.3 m/h	2.44 m dia. x 2.29 m H	2.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 4	12.3 m/h	2.44 m dia. x 2.29 m H	2.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 5	12.3 m/h	2.44 m dia. x 2.29 m H	2.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 6	12.3 m/h	2.44 m dia. x 2.29 m H	2.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, MULTIMEDIA PRESSURE FILTER NO 7	12.3 m/h	2.44 m dia. x 2.29 m H	2.4		2.3	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, ELUTION COLUMN NO 1	12 tonnes	2.2 m dia. x 8.8 m H	2.2		8.8	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, ELUTION COLUMN NO 2	12 tonnes	2.2 m dia. x 8.8 m H	2.2		8.8	TRUE		-	-											$ 153.93	$ 476.42
VESSEL, COOLING WATER EXPANSION		1.5 m dia. x 2 m H	1.5		2	TRUE		-	-											$ 153.93	$ 476.42
											TOTAL HOURS		$ 300.05	$ 54,641.49	$ 55,196.57	$ 17,394.19	$ 53,835.72	$ 16,778.46	$ 51,930.03	
																	Grand Total Labor			$ 88,814.14	
																	Grand Total Equpment			$ 160,962.33	

NOTES:
1. If tank is smaller than 7 meters in diameter and 10 meters in length it is assumed it can be flattened (by Shear) and hauled directly to burial site. No cutting will be required.

2. Assumed an average of one haul required per tank.

Closure Cost Estimate
User 4

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 4 - Tank Demolition and Disposal Costs

	Labor	Equipment	Totals
Totals Added to the Other Demo & Equip Removal >>>	$88,814	$160,962	$249,776

This sheet calculates the cost to demolish and bury various steel tanks onsite. A demolition shear is used to cut the tanks into manageable sizes, fold and load onto a truck for transport to the pit.

Demolition Crew	#	Labor	Equipment	Total
1 Foreman	1	$ 51.00		
2 Laborer	2	$ 70.30		
1 Cat Excavator 345	1	$ 60.81	$ 109.46	
1 Demolition Shear	1		$ 74.50	
Total Crew Cost ($/Hr)		**$ 182.11**	**$ 183.96**	**$ 366.07**

Shear	Mo. Rate	Hourly Rate	GET	Total Rate
	$ 22,500.00	$ 62.50	$ 12.00	**$ 74.50**

Haulage Crew	Labor	Equipment	Total
777 Haul Truck	$ 62.02	$ 246.26	
Total Crew Cost ($/hr)	$ 62.02	$ 246.26	$ -
Load Time for Trucks (min)	10		
Cost to Load	$ 10.34	$ 41.04	$ 51.38
Demolition Crew Re-position between Tanks (15 Min)	$ 45.53	$ 45.99	$ 91.52
Average Haul Distance (m)	8500.0		
Travel Time Uphill (min)	11.1		
Travel Time Downhill (min)	8.8		
Load Dump Time (min)	15.0		
Total Fleet Time per Load (min)	34.9		
Haulage Cost Per Load ($/hr)	$ 36.05	$ 143.13	$ 179.18
Total Load and Haul Cost per Load ($/Load)	**$ 153.93**	**$ 476.42**	**$ 630.35**

Notes:
Shear rental and GET/maintenance costs based on telephone call to Bejac Equipment 3/30/2017. Quoted model (GXT995R) is equivalent to Caterpillar S3090.

Shear Productivity					
See: (Accessed on 3/30/2017)	http://www.cat.com/en_US/products/new/attachments/shears/mobile-scrap-demolition-shears/1000030717.html				
Model:	CAT S3090 (Equivalent to Genisis 6XT-995R)				
			Cycle Time (s)		
Jaw Opening - 35.8 in.	Position and Open		10.0		
Jaw Depth - 35	Close		3.4		
Cycle Time - Open 4.5 seconds	Jaw Depth (ft)		2.9		
Cycle Time - Close - 3.4 seconds.	Cuts/Hour		268.7		
Cycle Time - Close	Cutting Length per hour (ft)		783.6		
	Cutting Length per hour (m)		238.8		

Closure Cost Estimate
User 5

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 5 - Equipment Mobilization

	Labor	Equipment	Totals
Totals Added to the Other User sheet >>>	$1,382,569	$2,765,137	$4,147,706

The sheet calculates the estimated cost to mobilize and demobilize equipment. Costs include barging and transport from the port at the mine to the project site. Cost also include assembly and disassemby on the larger pieces of equipment. Assumed 1/3 of total cost is labor.

User 5 - Equipment Mobilization

		Assembly/Disassembly			Equip. Time (2)	Shipping (Barge)		
EQUIPMENT TYPE (1)	# of Units	Disassembly	Assembly	Total	Cost ($)	Equip. Wt (lbs)	Equip. Wt (tons)	Shipping costs (3)
Bulldozers								
D6R		$0.00	$0.00	$0.00	$0.00			
D6R w/ Winch		$0.00	$0.00	$0.00	$0.00			
D7R	4	$0.00	$0.00	$0.00	$40,600.00	55000	110.00	$69,750.00
D8R		$0.00	$0.00	$0.00	$0.00	83000		
D9R		$0.00	$0.00	$0.00	$0.00	109000		
D10R	4	$0.00	$0.00	$0.00	$105,000.00	144000	288.00	$181,320.00
D11R		$0.00	$0.00	$0.00	$0.00			
Wheeled Dozers								
824G		$0.00	$0.00	$0.00	$0.00			
834G		$0.00	$0.00	$0.00	$0.00			
844		$0.00	$0.00	$0.00	$0.00			
854G		$0.00	$0.00	$0.00	$0.00			
Motor Graders								
120H		$0.00	$0.00	$0.00	$0.00			
14G/H		$0.00	$0.00	$0.00	$0.00	41000		
16G/H	2	$0.00	$0.00	$0.00	$31,500.00	54000	$54.00	$45,810.00
24M		$0.00	$0.00	$0.00	$0.00			
Track Excavators								
312C		$0.00	$0.00	$0.00	$0.00			
320C		$0.00	$0.00	$0.00	$0.00			
325C	1	$0.00	$0.00	$0.00	$6,265.00	56000	28.00	$13,685.00
330C		$0.00	$0.00	$0.00	$0.00			
345B	4	$0.00	$0.00	$0.00	$45,080.00	105000	210.00	$100,730.00
365BL		$0.00	$0.00	$0.00	$0.00			
385BL		$0.00	$0.00	$0.00	$0.00	183000		
Scrapers								
631G		$0.00	$0.00	$0.00	$0.00			
637G					$0.00			
Wheeled Loaders								
924G		$0.00	$0.00	$0.00	$0.00			
928G	2	$0.00	$0.00	$0.00	$5,810.00	14000	7.00	$7,665.00
950G		$0.00	$0.00	$0.00	$0.00			
966G		$0.00	$0.00	$0.00	$0.00			
972G		$0.00	$0.00	$0.00	$0.00			
980G	2	$0.00	$0.00	$0.00	$23,310.00		0.00	$23,310.00
988G		$0.00	$0.00	$0.00	$0.00			
990		$0.00	$0.00	$0.00	$0.00			
992G	4	$0.00	$0.00	$0.00	$161,000.00	94000	47.00	$173,455.00
994D		$0.00	$0.00	$0.00	$0.00	191000		
L2350		$0.00	$0.00	$0.00	$0.00			

User 5 - Equipment Mobilization

Unload and Mobilize to site

EQUIPMENT TYPE (1)	Load/ Unload (4) (hours)	Load/ Unload (4) ($)	RSM Crew No.	RSM Bare Cost ($/hr)	Operator (Truck Driver) ($/Hr)	Total Cost (5) ($)
Bulldozers						
D6R	1		A-3D			
D6R w/ Winch	1		A-3D			
D7R	1	$909.86	B-34N	$103.34	$56.78	$1,069.98
D8R	1		B-34K			
D9R	1		B-34K			
D10R	2	$1,819.72	B-34K	$105.38	$56.78	$2,144.04
D11R	3		B-34K			
Wheeled Dozers						
824G	1		B-34K			
834G	1		B-34K			
844	1		B-34K			
854G	1		B-34K			
Motor Graders						
120H	1		B-34N			
14G/H	1		Self			
16G/H	1	$909.86	Self	$313.76	$56.78	$1,280.40
24M	2		B-34K			
Track Excavators						
312C	1		B-34N			
320C	1		B-34N			
325C	1	$909.86	B-34N	$103.34	$56.78	$1,069.98
330C	1		B-34N			
345B	1	$909.86	B-34K	$105.38	$56.78	$1,072.02
365BL	1		B-34K			
385BL	2		B-34K			
Scrapers						
631G	1		B-34K			
637G	1		B-34K			
Wheeled Loaders						
924G	1		Self			
928G	1	$909.86	Self	$313.76	$56.78	$1,280.40
950G	1		Self			
966G	1		Self			
972G	1		Self			
980G	1	$909.86	Self	$313.76	$56.78	$1,280.40
988G	1		Self			
990	1		Self			
992G	2	$1,819.72	Self	$313.76	$56.78	$2,560.80
994D	3		Self			
L2350	4		Self			

RS Means Hvy Construction

Crew	Hourly	Daily
A-3A	$ 72.93	$ 583
A-3D	$ 84.57	$ 677
B-34K	$ 105.38	$ 843
B-34N	$ 103.34	$ 827
B-34Q	$ 11.64	$ 93
D-3	$ 313.76	$ 2,510

EQUIPMENT TYPE (1)		Disassembly	Assembly	Total	Equip. Time (2)	Equip. Wt (lbs)	Total Tonnes	Shipping costs (2)
Shovels								
PC2000		$0.00	$0.00	$0.00				
PC3000		$0.00	$0.00	$0.00				
PC4000		$0.00	$0.00	$0.00				
PC5500		$0.00	$0.00	$0.00				
PC8000		$0.00	$0.00	$0.00				
Hydraulic Hammers								
H-120 (fits 325)		$0.00	$0.00	$0.00		3476		
H-160 (fits 345)	4	$0.00	$0.00	$0.00	$90,160.00	7784	15.60	$94,294.00
H-180 (fits 365/385)		$0.00	$0.00	$0.00	$0.00	9570		

EQUIPMENT TYPE (1)	Load/Unload (3) (hours)	Load/Unload (3) ($)	RSM Crew No.		Operator (Truck Driver) ($/Hr)	Total Cost (4)
Shovels						
PC2000						
PC3000						
PC4000						
PC5500						
PC8000						
Hydraulic Hammers						
H-120 (fits 325)	1		NA			
H-160 (fits 345)	1	$909.86	NA	$313.76	$56.78	$1,280.40
H-180 (fits 365/385)	1		NA			

Closure Cost Estimate
User 5

Demolition Shears								
S340 (fits 322/325/330)		$0.00	$0.00	$0.00		10351		
S365 (fits 330/345)	1	$0.00	$0.00	$0.00	$22,500.00	20000	10.00	$25,150.00
S390 (fits 365/385)		$0.00	$0.00	$0.00		20000		
Demolition Grapples								
G315 (fits 322/325)		$0.00	$0.00	$0.00				
G320 (fits 325/330)		$0.00	$0.00	$0.00				
G330 (fits 345/365)		$0.00	$0.00	$0.00				
Other Equipment								
420D 4WD Backhoe	4	$0.00	$0.00	$0.00	$19,600.00	24251	12.10	$22,806.50
428D 4WD Backhoe		$0.00	$0.00	$0.00				
CS533E Vibratory Roller		$0.00	$0.00	$0.00		23900		
CS633E Vibratory Roller		$0.00	$0.00	$0.00		31901		
CP533E Sheepsfoot Compactor		$0.00	$0.00	$0.00		25750		
CP633E Sheepsfoot Compactor		$0.00	$0.00	$0.00		31901		
Light Truck - 1.5 Ton	4	$0.00	$0.00	$0.00	$13,160.00	20000	10.00	$15,810.00
Supervisor's Truck	2	$0.00	$0.00	$0.00	6,580	6000	3.00	$7,375.00
Flatbed Truck	4	$0.00	$0.00	$0.00	$13,160.00	20000	10.00	$15,810.00
Air Compressor + tools	2	$0.00	$0.00	$0.00	$4,500.00	2500	1.30	$4,844.50
Welding Equipment	2	$0.00	$0.00	$0.00	$11,901.87	1500	0.80	$12,113.90
Heavy Duty Drill Rig	1	$0.00	$0.00	$0.00	$116,037.56	40000	20.00	$121,337.60
Pump (plugging) Drill Rig	1	$0.00	$0.00	$0.00	$116,037.56	40000	20.00	$121,337.60
Concrete Pump	1	$0.00	$0.00	$0.00	$29,562.66	2500	1.30	$29,907.20
Gas Engine Vibrator		$0.00	$0.00	$0.00				
Generator 5KW	4	$0.00	$0.00	$0.00	$7,484.00		0.00	$7,484.00
HDEP Welder (Ram 824)	2	$0.00	$0.00	$0.00	$30,560.18	6600	3.30	$31,434.70
5 Ton Crane		$0.00	$0.00	$0.00	$0.00			
20 Ton Crane	4	$0.00	$0.00	$0.00	$53,200.00	42500	21.30	$58,844.50
50 Ton Crane	1	$0.00	$0.00	$0.00	$20,440.00		0.00	$20,440.00
120 Ton Crane	1	$0.00	$0.00	$0.00	$39,340.00	132000	66.00	$56,830.00
Trucks								
725		$0.00	$0.00	$0.00				
730		$0.00	$0.00	$0.00				
735		$0.00	$0.00	$0.00				
740		$0.00	$0.00	$0.00		72973		
769D		$0.00	$0.00	$0.00				
773E		$0.00	$0.00	$0.00				
777D	10	$0.00	$0.00	$0.00	$581,000.00	175000	87.50	$604,187.50
785C		$0.00	$0.00	$0.00				
793C		$0.00	$0.00	$0.00				
797B		$0.00	$0.00	$0.00				
613E (5,000 gal) Water Wagon		$0.00	$0.00	$0.00				
621E (8,000 gal) Water Wagon		$0.00	$0.00	$0.00				
777D Water Truck	2	$0.00	$0.00	$0.00	$116,200.00	175000	87.50	$139,387.50
785C Water Truck		$0.00	$0.00	$0.00				
Dump Truck (10-12 yd3)	4	$0.00	$0.00	$0.00	$25,200.00	20000	10.00	$27,850.00

Demolition Shears						
S340 (fits 322/325/330)	1		NA			
S365 (fits 330/345)	1	$909.86	NA	$313.76	$56.78	$1,280.40
S390 (fits 365/385)	1		NA			
Demolition Grapples						
G315 (fits 322/325)			NA			
G320 (fits 325/330)			NA			
G330 (fits 345/365)			NA			
Other Equipment						
420D 4WD Backhoe	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
428D 4WD Backhoe	1		A-3D			
CS533E Vibratory Roller	1		B-34N			
CS633E Vibratory Roller	1		B-34N			
CP533E Sheepsfoot Compactor	1		B-34N			
CP633E Sheepsfoot Compactor	1		B-34N			
Light Truck - 1.5 Ton	1	$909.86	Self	$313.76	$56.78	$1,280.40
Supervisor's Truck	1	$909.86	Self	$313.76	$56.78	$1,280.40
Flatbed Truck	1	$909.86	Self	$313.76	$56.78	$1,280.40
Air Compressor + tools	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
Welding Equipment	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
Heavy Duty Drill Rig	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
Pump (plugging) Drill Rig	1	$909.86	Self	$313.76	$56.78	$1,280.40
Concrete Pump	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
Gas Engine Vibrator	1		A-3D			
Generator 5KW	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
HDEP Welder (Ram 824)	1	$909.86	A-3D	$84.57	$56.78	$1,051.21
5 Ton Crane	1		Self			
20 Ton Crane	1	$909.86	Self	$313.76	$56.78	$1,280.40
50 Ton Crane	2	$1,819.72	Self	$313.76	$56.78	$2,560.80
120 Ton Crane	3	$2,729.58	Self	$313.76	$56.78	$3,841.20
Trucks						
725	1					
730	1					
735	11					
740	1		Self			
769D	1					
773E	1					
777D	2	$1,819.72	Self	$313.76	$56.78	$2,560.80
785C	2					
793C	2					
797B	2					
613E (5,000 gal) Water Wagon	1					
621E (8,000 gal) Water Wagon	1					
777D Water Truck	2	$1,819.72	Self	$313.76	$56.78	$2,560.80
785C Water Truck	2					
Dump Truck (10-12 yd3)	1	$909.86	Self	$313.76	$56.78	$1,280.40

Total Mobilization	**$2,073,852.79**
Total De-mobilization	**$2,073,852.79**
Grand Total	**$4,147,705.58**

1. Equipment barged from Anchorage.
2. Mobilization assumed 2-weeks charged for each piece of equipment.
3. Shipping Cost Anchorage to Jung $ 265.00 $/tonne
4. 100 ton crane
5. Assume 1 hour travel time to site. Wheeled equipment assumed to be driven to site.

Closure Cost Estimate
User 6

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 6 -Drain Mobile Equipment

	Labor	Equipment	Totals
Totals Added to the Other User sheet >>>	$1,205,329	$417,643	$1,622,972

This sheet calculates the estimated cost to drain all hydrocarbons out of all of the mine fleet equipment to prepare for disposal in the pit. Assumed that laborers would be able to do this.

Equipment	Crew	Quantity	Hours	Hourly Cost ($)	Units	Total Cost ($)
Original	Laborers	2	8	50.39	645	520,024.80
Additional	Laborers	2	8	50.39	850	685,304.00
					Total Labor	**1,205,328.80**
Equipment						
Original	Lube Vehicle	1	8	34.92	645	180,187.20
Additional	Lube Vehicle	1	8	34.92	850	237,456.00
					Total Equipment	**417,643.20**

* Lube truck assumed equivalent to dump truck cost.

Closure Cost Estimate
User 7

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Remove sheet piling - Jung Port					
			Labor	Equipment	Totals
Totals Added to the Other User sheet >>>			$83,137	$122,426	$205,564
This sheet calculates the estimated time to remove sheet piling at the Jung Port and haul to the project site for burial.					
Crew		**Quantity**	**Hourly Cost**	**Hours**	**Total Cost**
Laborers		3	$35.15	207.4	$21,871
Foreman		1	$51.00	207.4	$10,578
Crane Operator		1	$60.81	207.4	$12,612
Oiler Mechanic		1	$60.75	207.4	$12,600
Haulage and Burial					
Operator (D7)		1	$60.81	207.4	$12,612
Operator (777)		1	$62.02	207.4	$12,863
				Total Labor	**$83,137**
Equipment					
50 ton crane		1	$71.78	207.4	$14,888
Lube Vehicle	Lube Vehicle	1	$34.92	207.4	$7,243
Haulage and Burial					
Dozer D10		1	$237.3	207.4	$49,220
777 Haul Truck		1	$246.3	207.4	$51,076
				Total Equipment	**$122,426**
Assumptions:					
Quantity of sheet piling (linear ft)		1,400			
Crew Hours		207.4			
Crew Productivity		54	Linear feet per day		
		6.8	Linear feet per hour		
Note: Oiler labor same rate as skilled tradesman					
Lube vehicle assumed same cost as dump truck					
Crew and productivity from RS Means 2009, 02.41.13.72-0400.					

from: *Port Sheet pile estimate.xlsx*

Typycal Tailwall Section

Width	Height	Qty	Ft sq
1.84	40	4	294.4
1.84	30	4	220.8
1.84	25	11	506
			1021.2

Tailwall Seciton Ramp

Width	Height	Qty	Ft sq
1.84	25	15	690
1.84	30	4	220.8
1.84	25	0	0
			910.8

Tailwall Seciton Adjacent to Ramp

Width	Height	Qty	Ft sq
1.84	40	4	294.4
1.84	35	4	257.6
1.84	30	11	607.2
			1159.2

Wall Sheet pile

Length	1400
Hight	43.5
Area	60900

Dock Face

Bottom Elevation	103
Top Elevation	146.5
Height	43.5

Tailwall Seciton t	Each	Qty	Total
Typycal Tailwall :	1021.2	33	33699.6
Tailwall Seciton f	910.8	1	910.8
Tailwall Seciton /	1159.2	2	2318.4
Wall			60900
		Total	97828.8
		Width 10%	100000

Closure Cost Estimate
User 8

Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsr
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Camp Costs

This sheet calculates the estimated cost mobilize the reclamation and closure crew to and from the site. This also includes the man camp cost for them to stay at the project site during their rotation. Labor and materials are assumed to be broken out 50-50.

User 8 Camp and Crew Mobilization Costs	Cost per man/day	Travel Costs per shift/man
Camp Cost per shift*	$ 120.00	$ 340.00
Rotations per season	26.0	26.0
Days per Rotation/man	14.0	
Trips per Rotation		1.0
Costs per season/man	$43,680	$8,840
Crew size (Average for 4 years)	41.0	41.0
Annual cost	**$1,790,880**	**$362,440**
*Note: The daily camp rate of $120 includeds cost of power generation.		

Water treatment crew costs	Cost per man/day	Travel Costs per shift/man
Camp Cost per shift*	$ 120.00	$ 340.00
Rotations per season	13.0	13.0
Days per Rotation/man	14.0	
Trips per Rotation		1.0
Costs per season/man	$21,840	$4,420
Crew size (Until treatment)	7	7

Annual costs	**$152,880**	**$30,940**
*Note: The daily camp rate of $120 includeds cost of power generation.		

Closure Cost Estimate
User 9

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 9 - Manpower Estimate

This worksheet sums the fleet hours for each piece of equipment by worksheet and facility. This is used to estimate the number of crew and number of pieces of equipment required to complete the reclamation and closure.

Op Hours/Year	**4,320**
Total hours over closure period	**17,280**

Sheet	Activity	Facility	Fleet type	Component 1	Component 2	Component 3	total # Equip.	Fleet hours	Tot. Man-hrs	Grand Total (Man-hrs)
Waste rock dumps	Grading	WRDF - Full Buildout	D10R	**1**			1	14,334	14,334	
		Mine Site Laydown A	D10R	**1**			1	8	8	
		Mine Site Laydown B	D10R	**1**			1	10	10	
		Mine Site - Laydown C	D10R	**1**			1	3	3	
		Mine Site - Laydown D	D10R	**1**			1	7	7	
		Process Plant Pad	D10R	**1**			1	19	19	
		Ore Stockpile Pad	D10R				0		0	
		Fuel storage area pad	D10R	**1**			1	3	3	
		Primary Crusher Pad and Ore stockpile	D10R	**1**			1	6	6	
		Truck Shop Pad	D10R	**1**			1	2	2	
										14,392
	Cover Placement	WRDF - Full Buildout	777D/992G	**1**	8	1	10	4,056	40,560	
		Mine Site Laydown A	777D/992G	**1**	4	1	6	126	756	
		Mine Site Laydown B	777D/992G	**1**	4	1	6	136	816	
		Mine Site - Laydown C	777D/992G	**1**	4	1	6	52	312	
		Mine Site - Laydown D	777D/992G	**1**	4	1	6	130	780	
		Process Plant Pad	777D/992G	**1**	5	1	7	176	1,232	
		Ore Stockpile Pad	777D/992G	**1**	3	1	5	443	2,215	
		Fuel storage area pad	777D/992G	**1**	5	1	7	172	1,204	
		Primary Crusher Pad and Ore stockpile	777D/992G	**1**	3	1	5	110	550	
		Truck Shop Pad	777D/992G	**1**	4	1	6	32	192	
										48,617
	Topsoil Placement	WRDF - Full Buildout	777D/992G	**1**	8	1	10	4,735	47,350	
		Mine Site Laydown A	777D/992G	**1**	4	1	6	108	648	
		Mine Site Laydown B	777D/992G	**1**	4	1	6	116	696	
		Mine Site - Laydown C	777D/992G	**1**	4	1	6	45	270	
		Mine Site - Laydown D	777D/992G	**1**	4	1	6	111	666	
		Process Plant Pad	777D/992G	**1**	5	1	7	150	1,050	
		Ore Stockpile Pad	777D/992G	**1**	3	1	5	379	1,895	
		Fuel storage area pad	777D/992G	**1**	5	1	7	147	1,029	
		Primary Crusher Pad and Ore stockpile	777D/992G	**1**	3	1	5	94	470	
		Truck Shop Pad	777D/992G	**1**	4	1	6	28	168	
										54,242
	Ripping	WRDF - Full Buildout	D10R	**1**			1	1,648	1,648	
		Mine Site Laydown A	D10R	**1**			1	45	45	
		Mine Site Laydown B	D10R	**1**			1	49	49	
		Mine Site - Laydown C	D10R	**1**			1	19	19	
		Mine Site - Laydown D	D10R	**1**			1	47	47	
		Process Plant Pad	D10R	**1**			1	70	70	
		Ore Stockpile Pad	D10R	**1**			1	133	133	
		Fuel storage area pad	D10R	**1**			1	56	56	
		Primary Crusher Pad and Ore stockpile	D10R	**1**			1	40	40	
		Truck Shop Pad	D10R	**1**			1	13	13	
										2,120
Tailings	Embankment grad.	Tailings Storage Area	D10R	**1**			1		0	**0**
	Surface regrading	Tailings Storage Area	D10R	**1**			1	365	365	**365**
	Cover Placement	Tailings Storage Area	777D/992G	**1**	1	2	4	3,457	13,828	**13,828**
	Topsoil Placement	Tailings Storage Area	777D/992G	**1**	1	3	5	5,597	27,985	**27,985**
	Ripping	Tailings Storage Area	16G/H	**1**			1	1,680	1,680	**1,680**
Roads	Grading									
		LAH-1-ORIG	345B	**2**			2	114	228	
		LAH-2-ORIG	D10R	**1**			1	28	28	
		LAH-ACCESS-1	D10R	**1**			1	13	13	
		LAH-ACCESS-4	D10R	**1**			1	2	2	
		LAO-1	345B	**2**			2	77	154	
		LCF-1	D10R	**1**			1	25	25	
		LCF-2-DAM	345B				0	112	0	
		LMF-1	345B				0	150	0	
		LMF-2	D10R	**1**			1	271	271	
		LMF-2-OPT	D10R	**1**			1	8	8	
		SCF-1	D10R	**1**			1	46	46	
		SCF-2	D10R	**1**			1	79	79	
		SCF-2-OPT-2	D10R	**1**			1	13	13	
		SCF-3	345B	**2**			2	125	250	
		JUNGJUK	D10R	**1**			1	42	42	
		Other Road - ID16	345B	**2**			2	760	1,520	
		Other Road - ID17	D10R	**1**			1	204	204	
		Other Road - ID18	D10R	**1**			1	142	142	
		Other Road - ID19	D10R	**1**			1	139	139	
		Other Road - ID20	D10R	**1**			1	12	12	
		Other Road - ID21	D10R	**1**			1	15	15	
		Other Road - ID22	D10R	**1**			1	242	242	
		Other Road - ID23	D10R	**1**			1	28	28	
		Other Road - ID24	D10R	**1**			1	10	10	
		Other Road - ID25	D10R	**1**			1	10	10	
		Other Road - ID26	345B	**2**			2	209	418	
		Other Road - ID27	D10R	**1**			1	16	16	
		Other Road - ID28	D10R	**1**			1	50	50	
		Other Road - ID29	D10R	**1**			1	3	3	
		Other Road - ID30	D10R	**1**			1	1	1	
		Other Road - ID31	D10R	**1**			1	1	1	
		Other Road - ID32	D10R	**1**			1	1	1	
		Other Road - ID33	D10R	**1**			1	2	2	
		Other Road - ID34	D10R	**1**			1	21	21	
		Other Road - ID35	D10R	**1**			1	3	3	
		Other Road - ID36	D10R	**1**			1	2	2	
		Other Road - ID37	D10R	**1**			1	8	8	
		Other Road - ID38	D10R	**1**			1	3	3	
		Other Road - ID39	D10R	**1**			1	3	3	
										4,013

Closure Cost Estimate
User 9

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

	Cover Placement									
		LAH-1-ORIG	777D/992G	1	2	1	4	73	292	
		LAH-2-ORIG	777D/992G	1	2	1	4	15	60	
		LAH-ACCESS-1	777D/992G	1	2	1	4	8	32	
		LAH-ACCESS-4	777D/992G	1	2	1	4	1	4	
		LAO-1	777D/992G	1	2	1	4	52	208	
		LCF-1	777D/992G	1	2	1	4	22	88	
		LCF-2-DAM	777D/992G	1	2	1	4	67	268	
		LMF-1	777D/992G	1	2	1	4	60	240	
		LMF-2	777D/992G	1	2	1	4	150	600	
		LMF-2-OPT	777D/992G	1	2	1	4	5	20	
		SCF-1	777D/992G	1	2	1	4	29	116	
		SCF-2	777D/992G	1	2	1	4	40	160	
		SCF-2-OPT-2	777D/992G	1	2	1	4	8	32	
		SCF-3	777D/992G	1	2	1	4	77	308	
		JUNGJUK	777D/992G	1	2	1	4	32	128	
		Other Road - ID16	777D/992G	1	2	1	4	31	124	
		Other Road - ID17	777D/992G	1	2	1	4	28	112	
		Other Road - ID18	777D/992G	1	2	1	4	28	112	
		Other Road - ID19	777D/992G	1	2	1	4	27	108	
		Other Road - ID20	777D/992G	1	2	1	4	9	36	
		Other Road - ID21	777D/992G	1	2	1	4	12	48	
		Other Road - ID22	777D/992G	1	2	1	4	21	84	
		Other Road - ID23	777D/992G	1	2	1	4	7	28	
		Other Road - ID24	777D/992G	1	2	1	4	3	12	
		Other Road - ID25	777D/992G	1	2	1	4	9	36	
		Other Road - ID26	777D/992G	1	2	1	4	22	88	
		Other Road - ID27	777D/992G	1	2	1	4	4	16	
		Other Road - ID28	777D/992G	1	2	1	4	14	56	
		Other Road - ID29	777D/992G	1	2	1	4	1	4	
		Other Road - ID30	777D/992G	1	2	1	4	1	4	
		Other Road - ID31	777D/992G	1	2	1	4	1	4	
		Other Road - ID32	777D/992G	1	2	1	4	1	4	
		Other Road - ID33	777D/992G	1	2	1	4	1	4	
		Other Road - ID34	777D/992G	1	2	1	4	5	20	
		Other Road - ID35	777D/992G	1	2	1	4	1	4	
		Other Road - ID36	777D/992G	1	2	1	4	1	4	
		Other Road - ID37	777D/992G	1	2	1	4	2	8	
		Other Road - ID38	777D/992G	1	2	1	4	3	12	
		Other Road - ID39	777D/992G	1	2	1	4	3	12	
										3,496
	Ripping									
		LAH-1-ORIG	Large Dozer	1			1	19	19	
		LAH-2-ORIG	Large Dozer	1			1	4	4	
		LAH-ACCESS-1	Large Dozer	1			1	2	2	
		LAH-ACCESS-4	Large Dozer	1			1	1	1	
		LAO-1	Large Dozer	1			1	14	14	
		LCF-1	Large Dozer	1			1	6	6	
		LCF-2-DAM	Large Dozer	1			1	17	17	
		LMF-1	Large Dozer	1			1	15	15	
		LMF-2	Large Dozer	1			1	40	40	
		LMF-2-OPT	Large Dozer	1			1	1	1	
		SCF-1	Large Dozer	1			1	8	8	
		SCF-2	Large Dozer	1			1	11	11	
		SCF-2-OPT-2	Large Dozer	1			1	2	2	
		SCF-3	Large Dozer	1			1	20	20	
		JUNGJUK	Large Dozer	1			1	9	9	
		Other Road - ID16	Large Dozer	1			1	8	8	
		Other Road - ID17	Large Dozer	1			1	7	7	
		Other Road - ID18	Large Dozer	1			1	7	7	
		Other Road - ID19	Large Dozer	1			1	7	7	
		Other Road - ID20	Large Dozer	1			1	2	2	
		Other Road - ID21	Large Dozer	1			1	3	3	
		Other Road - ID22	Large Dozer	1			1	5	5	
		Other Road - ID23	Large Dozer	1			1	2	2	
		Other Road - ID24	Large Dozer	1			1	1	1	
		Other Road - ID25	Large Dozer	1			1	2	2	
		Other Road - ID26	Large Dozer	1			1	5	5	
		Other Road - ID27	Large Dozer	1			1	1	1	
		Other Road - ID28	Large Dozer	1			1	3	3	
		Other Road - ID29	Large Dozer	1			1	1	1	
		Other Road - ID30	Large Dozer	1			1	1	1	
		Other Road - ID31	Large Dozer	1			1	1	1	
		Other Road - ID32	Large Dozer	1			1	1	1	
		Other Road - ID33	Large Dozer	1			1	1	1	
		Other Road - ID34	Large Dozer	1			1	1	1	
		Other Road - ID35	Large Dozer	1			1	1	1	
		Other Road - ID36	Large Dozer	1			1	1	1	
		Other Road - ID37	Large Dozer	1			1	1	1	
		Other Road - ID38	Large Dozer	1			1	1	1	
		Other Road - ID39	Large Dozer	1			1	1	1	
										233
Pits	Berm construction	Final Pit	Med	1			1		0	
									0	
	Haul	Final Pit	Med Truck	1	2		3	123	369	
									0	
Hauling material	Hauling/Crush/Screen/Compact									
		NAG rock fill (Capillary Break Fill)	777D/992G	1	1	2	4	14,043	56,172	
		NAG rock fill (Capillary Break/Consolidation Fill)	777D/992G	1	1	2	4	34,005	136,020	
		Tailings Spillway (Excavate and Fill)	777D/992G	1	1	4	6	1,069	6,414	
		Removal of Contact Pond Dam	777D/992G	1		7	8	287	2,296	
		Removal of Rock Groyne (Primary Crusher)	777D/992G	1	1	2	4	502	2,008	
		Reclaimed WRF Runoff Collection Channel - liner bedding	777D/992G	1	1	3	5	22	110	
		Reclaimed WRF Runoff Collection Channel - pea gravel	777D/992G	1	1	3	5	8	40	
		Upper Contact Water Pond Backfill, growth media, reveg	777D/992G	1	1	2	4	4,242	16,968	
		Lower CWD Breach and Slope	777D/992G	1	1	2	4	244	976	
		Snow Gulch Fresh Water Dam Breach	777D/992G	1	1	2	4	498	1,992	
		Primary Channel (WRF) cushion layer	777D/992G	1	1	10	12	346	4,152	
		Primary Channel (WRF) Armor Layer	777D/992G	1	1	10	12	210	2,520	
		Secondary Channel (WRF) Armor Layer	777D/992G	1	1	10	12	90	1,080	**174,576**

Closure Cost Estimate
User 9

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Buildings	Slab demolition	Mine Site Washbay	345B	1	1		2	196	393	
		Mine Site Truck Shop	345B	1	1		2	2,197	4,393	
		Repair Shop	345B	1	1		2	162	325	
		Primary Crusher	345B	1	1		2	158	316	
		Primary Crusher - Concrete	345B	1	1		2	113	226	
		Primary Crusher - Steel Bldg. Below Ground	345B	1	1		2	49	98	
		Primary Crusher - Steel Bldg. Above Ground	345B	1	1		2	76	153	
		Take-up Tower	345B	1	1		2	55	109	
		Conveyor (Total)	345B	1	1		2	94	188	
		Drive House	345B	1	1		2	85	170	
		Ore Stockpile Cover	345B	1	1		2	0	0	
		Pebble Crusher	345B	1	1		2	243	486	
		Grinding Building	345B	1	1		2	2,103	4,206	
		Ball Mill Foundations (two total)	345B	1	1		2	23	46	
		Ball Mill Foundations (Concr.Piers Above Grade Slab.)	345B	1	1		2	25	49	
		SAG Mill Foundation	345B	1	1		2	14	27	
		SAG Mill Foundation (Concr.Piers Above Grade Slab.)	345B	1	1		2	14	29	
		POX Process Building - High Section	345B	1	1		2	1,439	2,877	
		POX Process Building - Lower Section	345B	1	1		2	1,555	3,110	
		POX Process Building - End additioin	345B	1	1		2	96	191	
		POX Misc. Small Tanks (8)	345B	1	1		2	8	17	
		Autoclaves (2)	345B	1	1		2	19	37	
		Stock Tanks Concrete Contain.	345B	1	1		2	12	23	
		Concrete Thickener Concrete	345B	1	1		2	12	23	
		Flot./POX Thickener Concrete	345B	1	1		2	0	0	
		Hot Cure Tanks	345B	1	1		2	122	244	
		Flotation Building	345B	1	1		2	5,249	10,498	
		CIL Building	345B	1	1		2	1,903	3,806	
		Refinery	345B	1	1		2	352	704	
		Cyanide Reagent Building	345B	1	1		2	1,404	2,807	
		Water Treatment Plant Building - Construction	345B	1	1		2	31	62	
		Water Treatment Plant Building - Operation	345B	1	1		2	212	425	
		Man Camp - Airstrip	345B	1	1		2	221	443	
		Man Camp - Airstrip	345B	1	1		2	221	443	
		Man Camp - Airstrip	345B	1	1		2	334	668	
		Man Camp - Airstrip	345B	1	1		2	334	668	
		Man Camp - Airstrip	345B	1	1		2	245	490	
		Man Camp - Airstrip	345B	1	1		2	353	705	
		STP Building	345B	1	1		2	20	41	
		Power Station A/B Buildings	345B	1	1		2	701	1,403	
		Power Station A Gensets	345B	1	1		2	55	109	
		Power station A Transformers	345B	1	1		2	25	50	
		Power Station A Tanks	345B	1	1		2	78	156	
		Power Station A Building	345B	1	1		2	112	224	
		Power Station A Building (small)	345B	1	1		2	45	90	
		Power Station B Gensets	345B	1	1		2	55	109	
		Power station B Transformers	345B	1	1		2	25	50	
		Power Station B Tanks	345B	1	1		2	78	156	
		Power Station B Building (small)	345B	1	1		2	45	90	
		Cold Storage Building	345B	1	1		2	114	228	
		Autoclave Feed Tanks	345B	1	1		2	59	118	
		Quench/Flash/Heaters	345B	1	1		2	55	110	
		Absorber Towers	345B	1	1		2	4	7	
		Cooling Towers	345B	1	1		2	15	30	
		Mercury Scrubbing	345B	1	1		2	7	15	
		Quench Building (60 m total H)	345B	1	1		2	545	1,090	
		Autoclave	345B	1	1		2	19	37	
		HP cooling tank	345B	1	1		2	26	52	
		Demin Tank	345B	1	1		2	7	13	
		Seal Water Tank	345B	1	1		2	2	3	
		Autoclave Feed Pumps	345B	1	1		2	1	2	
		LP Column	345B	1	1		2	19	37	
		HP Column	345B	1	1		2	19	37	
		Main Heat Exchanger	345B	1	1		2	25	50	
		Wash Water Tower	345B	1	1		2	4	9	
		Chilled Water Tower	345B	1	1		2	4	9	
		Compressors (3)	345B	1	1		2	71	143	
		Warehouse	345B	1	1		2	167	333	
		Boiler Room	345B	1	1		2	99	199	
		STP Building	345B	1	1		2	93	186	
		Utilidor	345B	1	1		2	98	195	**44,839**
	Cover Placement	Mine Site Washbay	777D/992G	1	1	1	3	1	3	
		Mine Site Truck Shop	777D/992G	1	1	1	3	13	39	
		Repair Shop	777D/992G	1	1	1	3	3	9	
		Primary Crusher	777D/992G	1	1	1	3	1	3	
		Primary Crusher - Concrete	777D/992G	1	1	1	3	1	3	
		Primary Crusher - Steel Bldg. Below Ground	777D/992G	1	1	1	3	1	3	
		Primary Crusher - Steel Bldg. Above Ground	777D/992G	1	1	1	3	1	3	
		Take-up Tower	777D/992G	1	1	1	3	3	9	
		Conveyor (Total)	777D/992G	1	1	1	3	6	18	
		Drive House	777D/992G	1	1	1	3	1	3	
		Ore Stockpile Cover		1			1		0	
		Pebble Crusher	777D/992G	1	1	1	3	1	3	
		Grinding Building	777D/992G	1	1	1	3	7	21	
		Ball Mill Foundations (two total)	777D/992G	1	1	1	3	11	33	
		Ball Mill Foundations (Concr.Piers Above Grade Slab.)	777D/992G	1	1	1	3	3	9	
		SAG Mill Foundation	777D/992G	1	1	1	3	7	21	
		SAG Mill Foundation (Concr.Piers Above Grade Slab.)	777D/992G	1	1	1	3	2	6	
		POX Process Building - High Section	777D/992G	1	1	1	3	3	9	
		POX Process Building - Lower Section	777D/992G	1	1	1	3	6	18	
		POX Process Building - End additioin	777D/992G	1	1	1	3	1	3	
		POX Misc. Small Tanks (8)	777D/992G	1	1	1	3	1	3	
		Autoclaves (2)	777D/992G	1	1	1	3	1	3	
		Stock Tanks Concrete Contain.	777D/992G	1	1	1	3	14	42	
		Concrete Thickener Concrete	777D/992G	1	1	1	3	15	45	
		Flot./POX Thickener Concrete	777D/992G	1	1	1	3	54	162	
		Hot Cure Tanks	777D/992G	1	1	1	3	1	3	
		Flotation Building	777D/992G	1	1	1	3	18	54	
		CIL Building	777D/992G	1	1	1	3	6	18	
		Refinery	777D/992G	1	1	1	3	1	3	
		Cyanide Reagent Building	777D/992G	1	1	1	3	5	15	
		Water Treatment Plant Building - Construction	777D/992G	1	1	1	3	1	3	
		Water Treatment Plant Building - Operation	777D/992G	1	1	1	3	2	6	
		Man Camp - Airstrip	777D/992G	1	1	1	3	1	3	
		Man Camp - Airstrip	777D/992G	1	1	1	3	1	3	
		Man Camp - Airstrip	777D/992G	1	1	1	3	2	6	
		Man Camp - Airstrip	777D/992G	1	1	1	3	2	6	
		Man Camp - Airstrip	777D/992G	1	1	1	3	1	3	
		Man Camp - Airstrip	777D/992G	1	1	1	3	3	9	
		STP Building	777D/992G	1	1	1	3	1	3	
		Power Station A/B Buildings	777D/992G	1	1	1	3	6	18	
		Power Station A Gensets	777D/992G	1	1	1	3	2	6	
		Power station A Transformers	777D/992G	1	1	1	3	1	3	
		Power Station A Tanks	777D/992G	1	1	1	3	1	3	
		Power Station A Building	777D/992G	1	1	1	3	1	3	
		Power Station A Building (small)	777D/992G	1	1	1	3	1	3	
		Power Station B Gensets	777D/992G	1	1	1	3	2	6	
		Power station B Transformers	777D/992G	1	1	1	3	1	3	
		Power Station B Tanks	777D/992G	1	1	1	3	1	3	
		Power Station B Building (small)	777D/992G	1	1	1	3	1	3	
		Cold Storage Building	777D/992G	1	1	1	3	1	3	
		Autoclave Feed Tanks	777D/992G	1	1	1	3	1	3	
		Quench/Flash/Heaters	777D/992G	1	1	1	3	1	3	
		Absorber Towers	777D/992G	1	1	1	3	1	3	
		Cooling Towers	777D/992G	1	1	1	3	1	3	
		Mercury Scrubbing	777D/992G	1	1	1	3	1	3	
		Quench Building (60 m total H)	777D/992G	1	1	1	3	2	6	
		Autoclave	777D/992G	1	1	1	3	1	3	
		HP cooling tank	777D/992G	1	1	1	3	1	3	
		Demin Tank	777D/992G	1	1	1	3	1	3	
		Seal Water Tank	777D/992G	1	1	1	3	1	3	
		Autoclave Feed Pumps	777D/992G	1	1	1	3	1	3	
		LP Column	777D/992G	1	1	1	3	1	3	
		HP Column	777D/992G	1	1	1	3	1	3	
		Main Heat Exchanger	777D/992G	1	1	1	3	1	3	
		Wash Water Tower	777D/992G	1	1	1	3	1	3	
		Chilled Water Tower	777D/992G	1	1	1	3	1	3	
		Compressors (3)	777D/992G	1	1	1	3	1	3	
		Warehouse	777D/992G	1	1	1	3	2	6	
		Boiler Room	777D/992G	1	1	1	3	1	3	
		STP Building	777D/992G	1	1	1	3	1	3	
		Utilidor	777D/992G	1	1	1	3	2	6	**732**

Closure Cost Estimate
User 9

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Drainage	Construction	Reclaimed WRF RO Collection	345B	1			1	239	239	
		Primary Channel (WRF)	345B	1			1	689	689	
		Secondary Channel (WRF)	345B	1			1	308	308	
		Tailings Spillway Structure (exc. 724,000m3)	345B	1			1	1,973	1,973	
										3,209
Process Ponds	Backfilling		0	1	0		1	0	0	
	Topsoil		0	1	0		1	0	0	
	Liner cut/fold			1			1	0	0	**0**
Yards	Grading	Permanent Man Camp Yards	Med	1			1	158	158	
		Material Sites	Med	1			1	2,112	2,112	
		Lower Contact Water Dam (see "Haul Material" sheet)	0							
		Upper Contact Water Dam (see "Haul Material" sheet)	0							
		Jung Port Disturbance (not reclaimed)	0	1			1		0	
		Mine Borrow Areas	Med	1			1	789	789	
		Growth media - TSF Stockpile 1	Med	1			1	520	520	
		Growth media - TSF Stockpile 3	Med	1			1	855	855	
		Growth media - TSF Stockpile 2	Med	1			1	244	244	
		Growth media - North Overburden Stockpile 2028	Med	1			1	689	689	
		Growth media - Airstrip Overburden Stockpile	Med	1			1	40	40	
		Growth media - Airstrip Overburden Stockpile	Med	1			1	51	51	
		Growth media - Jungjuk Port Site Overburden Stockpile	Med	1			1	22	22	
		Growth media - North Overburden Stockpile 2028 - buffer	Med	1			1	181	181	
		Growth media - South Overburden Stockpile 2019	Med	1			1	240	240	
		Misc. Yards	Med	1			1	5,153	5,153	
		Plant Site	Med	1			1	104	104	
		Primary Crusher	Med	1			1	20	20	
		Truck Shop	Med	1			1	1	1	
		Airstrip (Not Reclaimed)	0	1			1		0	
										11,179
	Topsoil	Permanent Man Camp Yards	777D/992G	1	2	1	4	64	256	
		Material Sites	777D/992G	1	1	1	3	1,213	3,639	
		Upper Contact Water Dam (see "Haul Material" sheet)		0						
		Jung Port Disturbance (not reclaimed)		0						
		Mine Borrow Areas	777D/992G	1	2	1	4	320	1,280	
		Growth media - TSF Stockpile 1		1		1	2		0	
		Growth media - TSF Stockpile 3		1		1	2		0	
		Growth media - TSF Stockpile 2		1		1	2		0	
		Growth media - North Overburden Stockpile 2028		1		1	2		0	
		Growth media - Airstrip Overburden Stockpile		1		1	2		0	
		Growth media - Airstrip Overburden Stockpile		1		1	2		0	
		Growth media - Jungjuk Port Site Overburden Stockpile		1		1	2		0	
		Growth media - North Overburden Stockpile 2028 - buffer		1		1	2		0	
		Growth media - South Overburden Stockpile 2019		1		1	2		0	
		Misc. Yards	777D/992G	1	2	1	4	2,089	8,356	
		Plant Site	777D/992G	1	2	1	4	42	168	
		Primary Crusher	777D/992G	1	2	1	4	8	32	
		Truck Shop	777D/992G	1	2	1	4	1	4	
		Airstrip (Not Reclaimed)		1		1	2		0	
										13,735
	Reveg	Permanent Man Camp Yards	Large Dozer	1			1	25	25	
		Material Sites	Large Dozer	1			1	332	332	
		Upper Contact Water Dam (see "Haul Material" sheet)		0						
		Jung Port Disturbance (not reclaimed)	0	1			1		0	
		Mine Borrow Areas	Large Dozer	1			1	117	117	
		Growth media - TSF Stockpile 1	Large Dozer	1			1	77	77	
		Growth media - TSF Stockpile 3	Large Dozer	1			1	127	127	
		Growth media - TSF Stockpile 2	Large Dozer	1			1	36	36	
		Growth media - North Overburden Stockpile 2028	Large Dozer	1			1	103	103	
		Growth media - Airstrip Overburden Stockpile	Large Dozer	1			1	6	6	
		Growth media - Airstrip Overburden Stockpile	Large Dozer	1			1	8	8	
		Growth media - Jungjuk Port Site Overburden Stockpile	Large Dozer	1			1	3	3	
		Growth media - North Overburden Stockpile 2028 - buffer	Large Dozer	1			1	27	27	
		Growth media - South Overburden Stockpile 2019	Large Dozer	1			1	36	36	
		Misc. Yards	Large Dozer	1			1	762	762	
		Plant Site	Large Dozer	1			1	16	16	
		Primary Crusher	Large Dozer	1			1	3	3	
		Truck Shop	Large Dozer	1			1	1	1	
		Airstrip (Not Reclaimed)	0	1			1		0	
										1,679
				Grand Total - Man-hrs						**420,920**

Operator Crew Size		25	Total Man-hours divided by total planned working hours.
Misc. Crew		**12**	Estimated from misc other tasks.
Supervisor		**2**	See Const.Mgmt. Worksheet
G & A Site Crew		**2**	See Human Resources Worksheet
	Total Crew	**41**	

Closure Cost Estimate
User 10

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 10 - Long Term Monitoring Costs

Samping.monitoring events for long term water treatment plant and site sampling are entered here. The total is entered in the Other User Sheet.

Description	Samples #	Events/Year	No. Years	First Sample Year closure year (1-100)	No. of Samplers	Days/Event	Hrs/Day	Analysis Cost $/sample	Supplies $/sample	Lab Cost $	Material Cost $	Equipment Cost $	Labor Cost $	Cost $	Comments
Water Analysis (Complete) (1)	9	1	5	18				$1,055.00	$5.75	$47,475	$270	$1,125		$48,870	02202015 Post Closure Sampling_Rev01.docx Yrs 2056-2060
Water Analysis (Complete) (1)	7	4	5	1				$1,055.00	$5.75	$147,700	$840	$3,500		$152,040	02202015 Post Closure Sampling_Rev01.docx Yrs 2051-2055
Water Analysis (Complete) (1)	9	1	35	23				$1,055.00	$5.75	$332,325	$1,890	$7,875		$342,090	02202015 Post Closure Sampling_Rev01.docx Yrs 2061-2095
Water Analysis (Complete) (1)	8	1	170	58				$1,055.00	$5.75	$1,434,800	$8,160	$34,000		$1,476,960	02202015 Post Closure Sampling_Rev01.docx Yrs 2096-2266
Water Analysis (Complete) (1)	8	1	170	58				$1,055.00	$5.75	$1,434,800	$8,160	$34,000		$1,476,960	02202015 Post Closure Sampling_Rev01.docx Yrs 2096-2266 WTP
Water Analysis (Complete) (1)	1	1	170	58				$1,055.00	$5.75	$179,350	$1,020	$4,250		$184,620	02202015 Post Closure Sampling_Rev01.docx Yrs 2096-2266 WTP
Water Analysis (Complete) (1)	1	1	170	58				$1,055.00	$5.75	$179,350	$1,020	$4,250		$184,620	02202015 Post Closure Sampling_Rev01.docx Yrs 2096-2266 WTP
Water Analysis (Complete) (1)	1	1	210	18				$1,055.00	$5.75	$221,550	$1,260	$5,250		$228,060	A QA/QC sample is added for each sample event and captured in Sample #
										$3,977,350.00	$22,620.00	$94,250.00			
													Subtotal Sampling Costs	$4,094,220	

Notes and Assumptions 1. WTP staff will collect samples. Costs are already inlcuded in the WTP staff, see Human Resources tab.

Misc. Material Costs (per sample)	$ 6.00
Equipment Costs (per sample)	$ 25.00

Ground & Surface Water Monitoring

Reporting

Description	Hrs/Event	Rate $/hr	Cost $/Event	Cost $
Field Geologist/Engineer	40	$48.83	$1,953	$410,172

Notes: **Assume 210 years with one report per year**
Site staff would compile report and data
Offsite consultant would review and submit.
No cost added for onsite staff to compile.
Costs for WTP staff are in Human Resources worksheet.

Closure Cost Estimate
User 11

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 11 - Tailings Geotextile Assumptions

This sheet documents assumptions about how the equipment will be used to cover the tailings facility. For bonding the assumed truck size is a CAT 777. The assumptions are used to calculate the square-feet of geotextile required to support the trucks on the tails.

From: Clint Logue
To: Jeffress, Bill

Sent: Wed Aug 24 17:26:21 2011

Subject: Geogrid/geotextile
Bill:

Based on experience with closing tailings facilities in the oil sands, the following are the two main options typically used for getting out on what would otherwise be untrafficable tailings:
1. No heavy haul truck: Nilex 4553 geotextile ($1.27/m2)+Tensar Biaxial type 1 geogrid ($1.18/m2) will do. This only supports our cover and light reclamation equipment. The geotextile is to prevent tailings squeezing through the geogrid.
2. Heavy haul truck: higher strength biaxial geogrid BX1200-BX1500 ($2-3+/m2)+geotextile. We've seen one of the companies go with woven geotextile (strong but will need sewing) in favour of non-woven, but either would work.
Option 1 is what I had in mind for Donlin, but if heavier haul equipment was required, option would be workable.

I hope this helps.

Cheers,

Clint.

RS Mean Liner Installation Crew (2 clab)

Productivity	Units		
2,500	CY/day	(8 hours per day)	
2090	m2/8hrs		
Crew	**Qty**	**Cost/hr ($)**	**Cost/M2 ($)**
General Labor	2	70.30	0.27
This number used in Other User sheet for liner installation labor costs (Doubled because two liners).			^^^^

Closure Cost Estimate
User 11

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

GeoGrid Quantity

777 truck has a turning radius of 94 feet. Assumed causeway is 125' (29 meters) wide. Causeways are 100 meters apart.	
Area of causeway (% of total)	22%
Assume that geogrid will only be required on 2/3 of the causeways.	
Total geogrid needed (m2)	1,451,775

Geotextile Quantity

Area of tailings (ha):	968
Area of tailings (m2):	9,682,000
Area of causeway at 22% (m2):	2,176,574
Geogrid required on 2/3 of causeway (m2):	
Total used in the Other User worksheet >>>	**1,451,049**

Closure Cost Estimate
User 12

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Used 12 - Water Treatment Schedule.

This sheet collects the annual water treatment cost from the Solution Management sheet and schedules out by year. The sums of this schedule is entered (by formula) in the Cost Schedule worksheet in the rows referenced below (in Red). This work is based on the data in: Per Figure 5.1-Figure 5.4 in "Water Resources Management Plan: Advanced Water Treatment – Rev 2". Entries in green are used to schedule the costs. No original costs are calculated in this sheet. GPM numbers are converted to l/s in column I and entered by formula in the Solution Mangmt worksheet.

Item	Water Management Years	Begin Yr	End Yr	# yrs	Years	gpm	l/s	Total cost	Cost per year	Treatment (m3/mo)
TSF to ACMA pit	1-5	**1**	**5**	5	2046 - 2050	**2,085**	132	$ 9,420	$ 1,884	
TSF SRS to ACMA pit	1-5	**1**	**5**	5	2046 - 2050	**448**	28	$ 156,420	$ 31,284	
TSF to ACMA pit	6-10	**6**	**10**	5	2051 - 2055	**1,439**	91	$ 20,700	$ 4,140	
TSF SRS to ACMA pit	6-10	**6**	**10**	5	2051 - 2055	**448**	28	$ 156,660	$ 31,332	
TSF to ACMA pit	11-51	**11**	**51**	41	2056 - 2096	**476**	30	$ 9,348	$ 228	
TSF SRS to ACMA pit	11-51	**11**	**51**	41	2056 - 2096	**448**	28	$ 1,996,536	$ 48,696	
ACMA pit to Treatment plant	52-220	**52**	**220**	169	2097 - 2265	**2,916**	184	$ 19,249,776	$ 113,904	**483,287**

^^^

Linked back to Solution Mgmt. worksheet

Items	elev. (masl)
TSF pond	**253.0**
Seepage collection (SRS Pond)	**116.0**
ACMA pit in (Rim)	**196.0**
ACMA pit out (pit lake elev.)	**99.5**
Treatment plant (Long term)	**120.0**
Treatment Plant (Mill)	**295.0**
	Annual cost (Pump Opex)
Pumping Years - 1-5	$ 33,168
Pumping Years - 6-10	$ 35,472
Pumping Years - 11-51	$ 228
Pumping Years - 11-51	$ 48,696
Pumping Years - 52-220	$ 113,904
Pumping Years -	

<< These elevations are used in the Solutions Management worksheet to calculate head.
Pipelines run down pit access to just above Lake level.

<< These numbers are used in layout below to assign to years in schedule.

^^^
These numbers from Figures B-4a - B-7a, undated drawings, no reference to which document they are from.

Closure Cost Estimate
User 14

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

Post Closure Road/Airport Maintenance Costs

This sheet estimates the annual cost for road and airport maintenance. The costs are entered in the Other User Sheet.

Equipment	Qty.	h/day/unit	Total hrs/year	Equip. Unit Costs ($)	Labor Unit Costs ($)	Total Annual Equip ($)	Total Annual Labor ($)	Total Annual Cost ($)
325C Excavator	1	0.5	182.5	$ 66.88	$ 60.81	$ 12,205.60	$ 11,097.83	$ 23,303.43
14G Grader, All-Wheel Drive, Cat 16H or Equivalent, site & off-site roads	1	0.5	182.5	$ 147.31	$ 60.81	$ 26,884.08	$ 11,097.83	$ 37,981.90
Water truck (5000 Gallon)	1	0.5	182.5	$ 45.06	$ 60.81	$ 8,223.45	$ 11,097.83	$ 19,321.28
CS533E Vibratory Roller	1	0.5	182.5	$ 53.21	$ 60.81	$ 9,710.83	$ 11,097.83	$ 20,808.65
Dump Truck, 12 cub yds, yard maintenance, snow removal	1	0.5	182.5	$ 34.92	$ 56.78	$ 6,372.90	$ 10,362.35	$ 16,735.25
Small Dozer D7R	1	0.5	182.5	$ 92.34	$ 60.81	$ 16,852.05	$ 11,097.83	$ 27,949.88
Light Truck (Truck and Foreman included in Water Treatment Crew)	0	0.5	0.0	$ 14.11	$ 30.47	$ -	$ -	$ -
Total Annual Costs (Entered in Other User Sheet)						**$ 80,248.90**	**$ 65,851.48**	**$ 146,100.38**

Closure Cost Estimate
User 17

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

User 17 - R.S. Means Crews

This sheet links the equipment and labor costs from the model to the various defined RS Means crews for miscellaneous tasks in the model.

Equipment to be updated:							
Flatbed trailer ($/hr)	$ 11.64		Assumed equal to 1/3rd dump truck hourly cost				
Truck tractor ($/hr)	$ 34.92		Assumed equal to dump truck hourly cost				
Lowbed trailer ($/hr)	$ 11.64		Assumed equal to 1/3rd dump truck hourly cost				
Pipe fitter	$ 60.75						

A-3A

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Pickup truck	Yes	1	$ 58.82	$ 14.11	$ 58.82	$ 14.11	$ 72.93
				Total Crew Cost	**$58.82**	**$14.11**	**$72.93**

A-3D

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Pickup truck	Yes	1	$ 58.82	$ 14.11	$ 58.82	$ 14.11	$ 72.93
Flatbed trailer	No	1		$ 11.64	$ -	$ 11.64	$ 11.64
				Total Crew Cost	**$58.82**	**$25.75**	**$84.57**

B-34K

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Truck tractor	No	1	$ 58.82	$ 34.92	$ 58.82	$ 34.92	$ 93.74
Lowbed trailer	No	1		$ 11.64	$ -	$ 11.64	$ 11.64
				Total Crew Cost	**$58.82**	**$46.56**	**$105.38**

B-34N

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Dump truck	Yes	1	$ 56.78	$ 34.92	$ 56.78	$ 34.92	$ 91.70
Flatbed trailer	No	1		$ 11.64	$ -	$ 11.64	$ 11.64
				Total Crew Cost	**$56.78**	**$46.56**	**$103.34**

B-34Q

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Pipe fitter	No	1	$ 60.75		$ 60.75	$ -	$ 60.75
Dump truck	Yes	1	$ 56.78	$ 34.92	$ 56.78	$ 34.92	$ 91.70
Hydraulic crane, 25 ton	Yes	1	$ 60.81	$ 49.72	$ 60.81	$ 49.72	$ 110.53
Flatbed trailer	No	1		$ 11.64		$ 11.64	$ 11.64
				Total Crew Cost	**$178.34**	**$96.28**	**$274.62**

D-3

Item	In cost data file?	# of item	Labor rate ($/hr)	Equipment rate ($/hr)	Labor cost	Equipment cost	Subtotal
Bricklayer	No	3	$ 60.03		$ 180.09	$ -	$ 180.09
Bricklayer helper	No	2	$ 59.37		$ 118.74	$ -	$ 118.74
Carpenter	Yes	0	$ 59.72		$ 14.93	$ -	$ 14.93
				Total Crew Cost	**$313.76**	**$0.00**	**$313.76**

Closure Cost Estimate
User 20

Project Name: Donlin Gold - Reclamation Bond - LOM - Reclamation Plan
Date of Submittal: July 2017
File Name: Donlin_RecBond_LOM_181202_20170718_REV02_FNL.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: Donlin_RecBond_Cost_data_v1_12_181202_017_20170510_pl_REV02.xlsm
Cost Estimate Type: Surety Cost Basis: Alaska Davis Bacon 2016

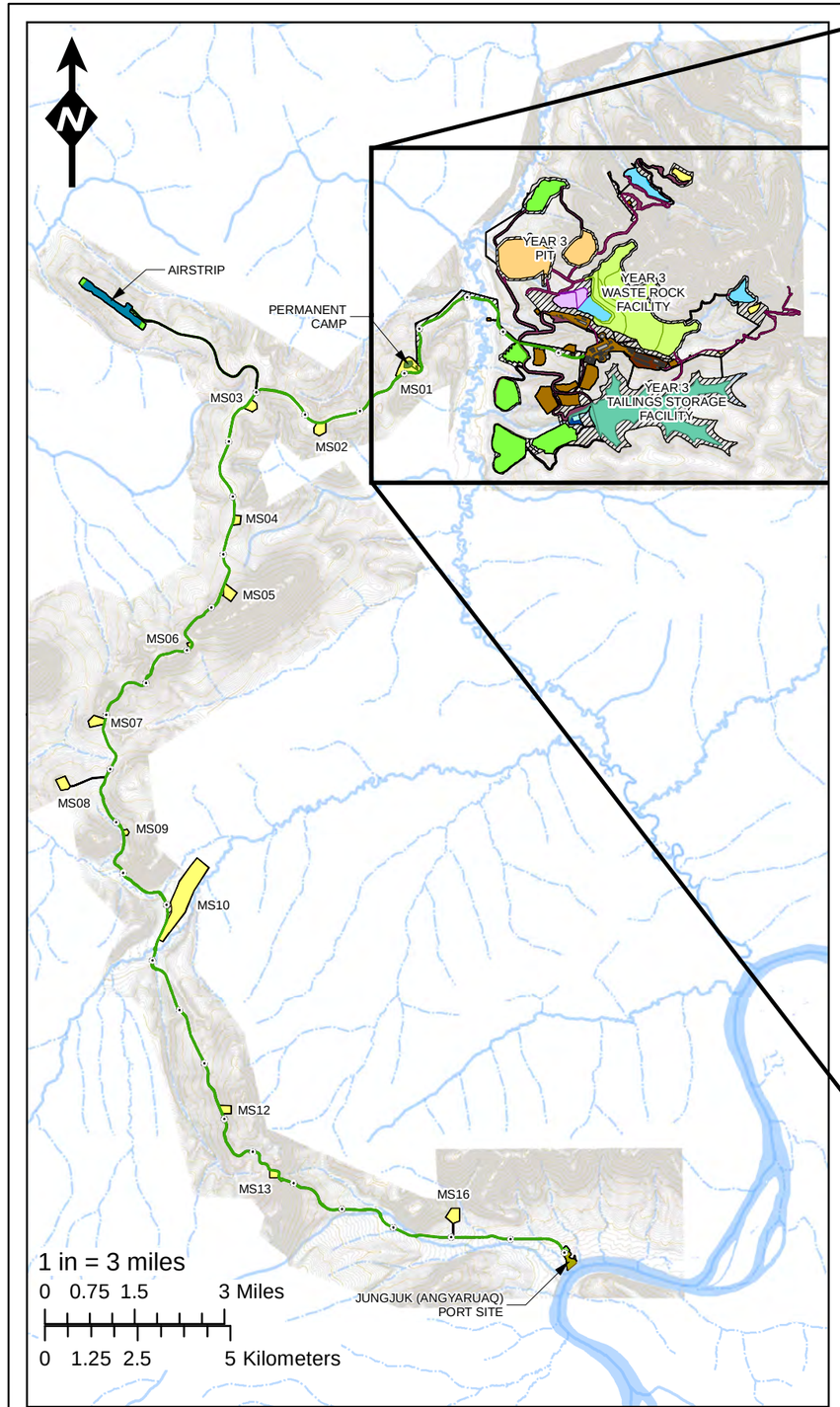
User 20 - Inflation Adjustment Factor

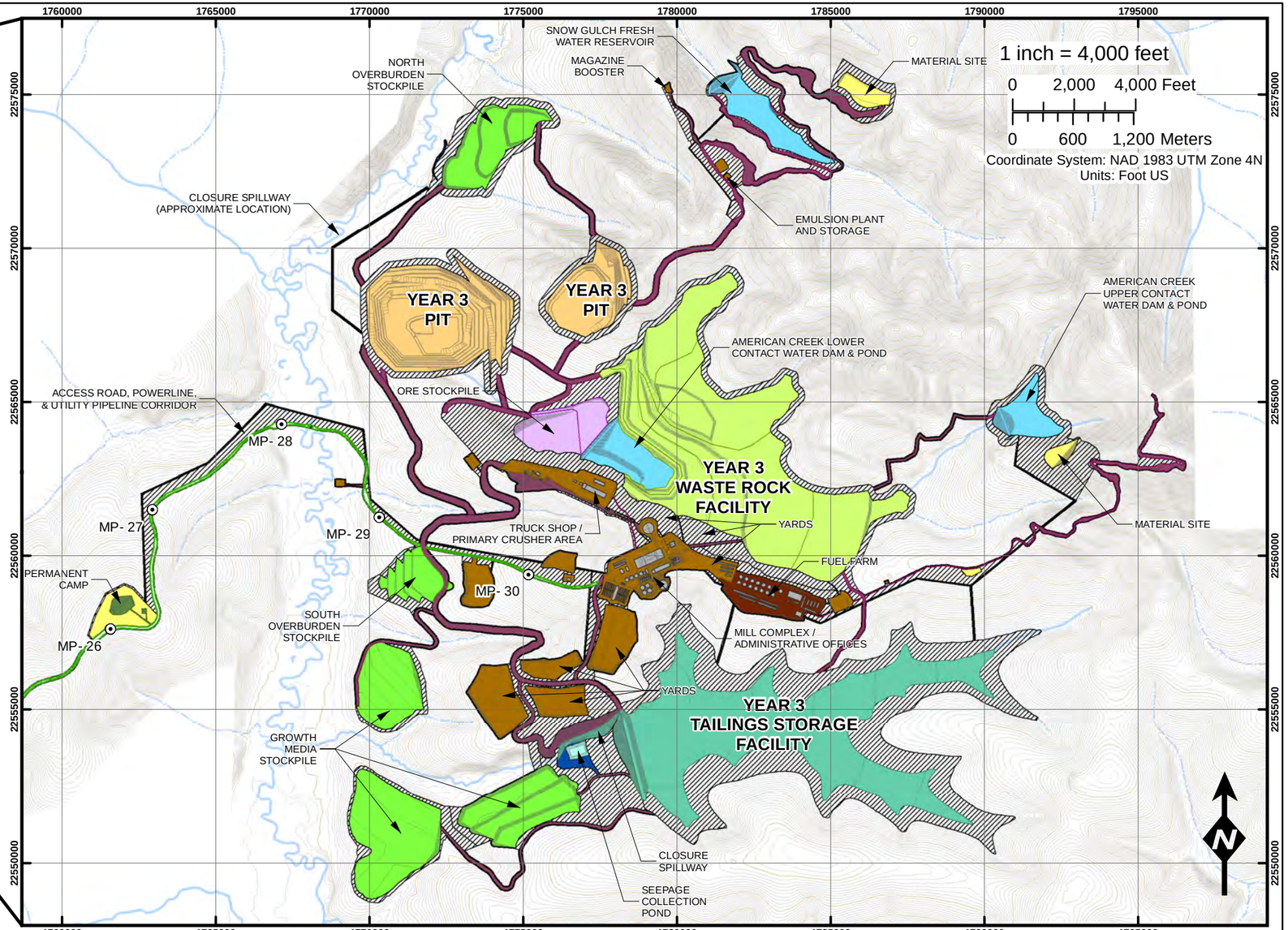
The calculations in this sheet caculate indexes used to adjust quotes to current rates based on Anchorage Consumer Price Index for Anchorage.

http://laborstats.alaska.gov/cpi/cpi.htm		
Last retrieved June 8, 2016		
Consumer Price Index for Anchorage Municipality & U.S.		
Not Seasonally Adjusted		
All Items - All.1 Urban Consumers		
(CPI-U) 1960-Present		

Year	Average	Percent Change From Previous Year
2016	217.830	
2015	216.909	0.500
2014	215.805	1.600
2013	212.381	3.100
2012	205.916	2.200
2011	201.427	3.200
Adjustment factor:	1.1	

Attachment E: SRCE Figures





Group	Acres	Hectares
Buffer	2257	913
Growth Media/Overburden Stockpile	621	251
Material Sites	461	186
Mine Roads	444	180
Diversion/Drainage	12	5
Powerlines	25	10
Seepage Collection Pond	7	3
Snow Gulch Fresh Water Reservoir	77	31
American Creek Lower Contact Water Dam and Pond	74	30

Group	Acres	Hectares
American Creek Upper Contact Water Dam and Pond	53	22
Open Pit	438	177
Tailings Dam and Storage Area	688	278
Ore Stockpile	841	36
Waste Rock Facility (Year 3)	88	341
Laydown Areas	391	158
Fuel Tank Storage Yard	63	26
Mill and Process Buildings and Foundations	24	10
Primary Crusher Buildings and Foundations	5	2

Group	Acres	Hectares
Fuel Farm Buildings and Foundations	14	6
Truck Shop Buildings and Foundations	0	0
Airstrip (Not Reclaimed)	92	37
Jungjuk (Angyaruaq) Port Site (Not Reclaimed)	21	9
Permanent Man Camp Yards (Not Reclaimed)	10	4
Mine Roads (Not Reclaimed)	258	104
Crooked Creek Bridge (Not Reclaimed)	1	0
Water Treatment Plant (Not Reclaimed - Not Shown)	2	1
Total	6969	2820

DONLIN GOLD

PREMATURE CLOSURE DISTURBANCE FOOTPRINT

DONLIN GOLD PROJECT

FIGURE:

E-1

PATH: H:\Donlin Gold\181202.017_Donlin_Gold_LLC_2017\040_Drafting\Task_300.11_Reclamation_&_Closure\E-1_YR3_Facility_Disturbance_20170522_ml.mxd

ID	Area (Acres)	Area (Hectars)	Average Lift Height (m)	Mid-bench Length (m)
Waste Rock Facility				
1	32.8	13.3	18	2211.7
2	111.3	45.0	18	2337.6
3	276.2	111.8	27	2302.1
4	102.5	41.5	27	670.5
5	184.9	74.8	18	1771.9
6	133.8	54.2	25	656.9
Ore Stockpile				
1	55.8	22.6	21	607.3
2	32.1	13.0	5	829.1

1 in = 1,500 ft
0 375 750 1,500 Feet
0 250 500 Meters

Coordinate System: NAD 1983 UTM Zone 4N
Units: Foot US

1770000 1775000 1780000 1785000 1790000
22570000 22565000 22560000

YEAR 3 PIT
YEAR 3 PIT
ORE STOCKPILE
AMERICAN CREEK LOWER CONTACT WATER DAM & POND
AMERICAN CREEK UPPER CONTACT WATER DAM & POND
MINE FLEET ASSEMBLY AREA
TRUCK SHOP / PRIMARY CRUSHER AREA
YEAR 3 WASTE ROCK FACILITY
MATERIAL SITE
MP- 29
LAYDOWN YARD
SOUTH OVERBURDEN STOCKPILE
LAYDOWN YARD
MP- 30
MILL COMPLEX / ADMINISTRATIVE OFFICES
FUEL FARM
CORE STORAGE YARD
LAYDOWN YARD
1 2 3 4 5 6

- Buffer
- Growth Media/Overburden Stockpile
- Material Sites
- Mine Roads
- Diversion/Drainage
- Powerlines
- Seepage Collection Pond
- Snow Gulch Fresh Water Reservoir
- American Creek Lower Contact Water Dam and Pond
- American Creek Upper Contact Water Dam and Pond
- Open Pit
- Tailings Dam and Storage Area
- Ore Stockpile
- Waste Rock Facility (Year 3)
- Laydown Areas
- Fuel Tank Storage Yard
- Mill and Process Buildings and Foundations
- Primary Crusher Buildings and Foundations
- Fuel Farm Buildings and Foundations
- Truck Shop Buildings and Foundations
- Airstrip (Not Reclaimed)
- Jungjuk (Angyaruaq) Port Site (Not Reclaimed)
- Permanent Man Camp Yards (Not Reclaimed)
- Mine Roads (Not Reclaimed)
- Crooked Creek Bridge (Not Reclaimed)
- Mid-Bench Lengths

DONLIN GOLD

PREMATURE CLOSURE WRF MID-BENCH LENGTHS

DONLIN GOLD PROJECT

FIGURE: **E-2**

PATH: H:\Donlin Gold\181202.017_Donlin_Gold_LLC_2017\040_Drafting\Task_300.11_Reclamation_&_Closure\E-2_YR3_Mid-Bench_20170522_mt.mxd

1 in = 3,000 ft
0 1,500 3,000 Feet
0 500 1,000 Meters

Coordinate System: NAD 1983 UTM Zone 4N
Units: Foot US

ID	Road Width (m)	Road Length (m)
1	9.14	3990.49
2	9.14	989.80
3	9.14	644.72
4	4.87	193.39
5	4.87	3972.08
6	21.94	1124.26
7	21.94	1964.86
8	31.69	2242.76
9	31.69	5444.31
10	12.8	1920.24
11	12.8	2885.44
12	12.8	627.16
13	12.8	2665.95
14	6	66.50
15	45	1402.77
16	45	1373.31
17	45	1379.06
18	45	969.07
19	45	416.95
20	45	522.00
21	45	942.31
22	45	375.24
23	45	183.64
24	25	1750.31
25	25	1282.45
26	25	116.22
27	6	63.99
28	6	182.68
29	6	40.11
30	6	169.08
31	6	1732.56
32	25	528.12
33	6	91.72
34	6	580.54
35	14	1220.33
36	20	1036.42
37	20	381.35
38	4.5	98.64
39	Not Reclaimed	4858.52
40	Not Reclaimed	3552.43
41	Not Reclaimed	43677.66

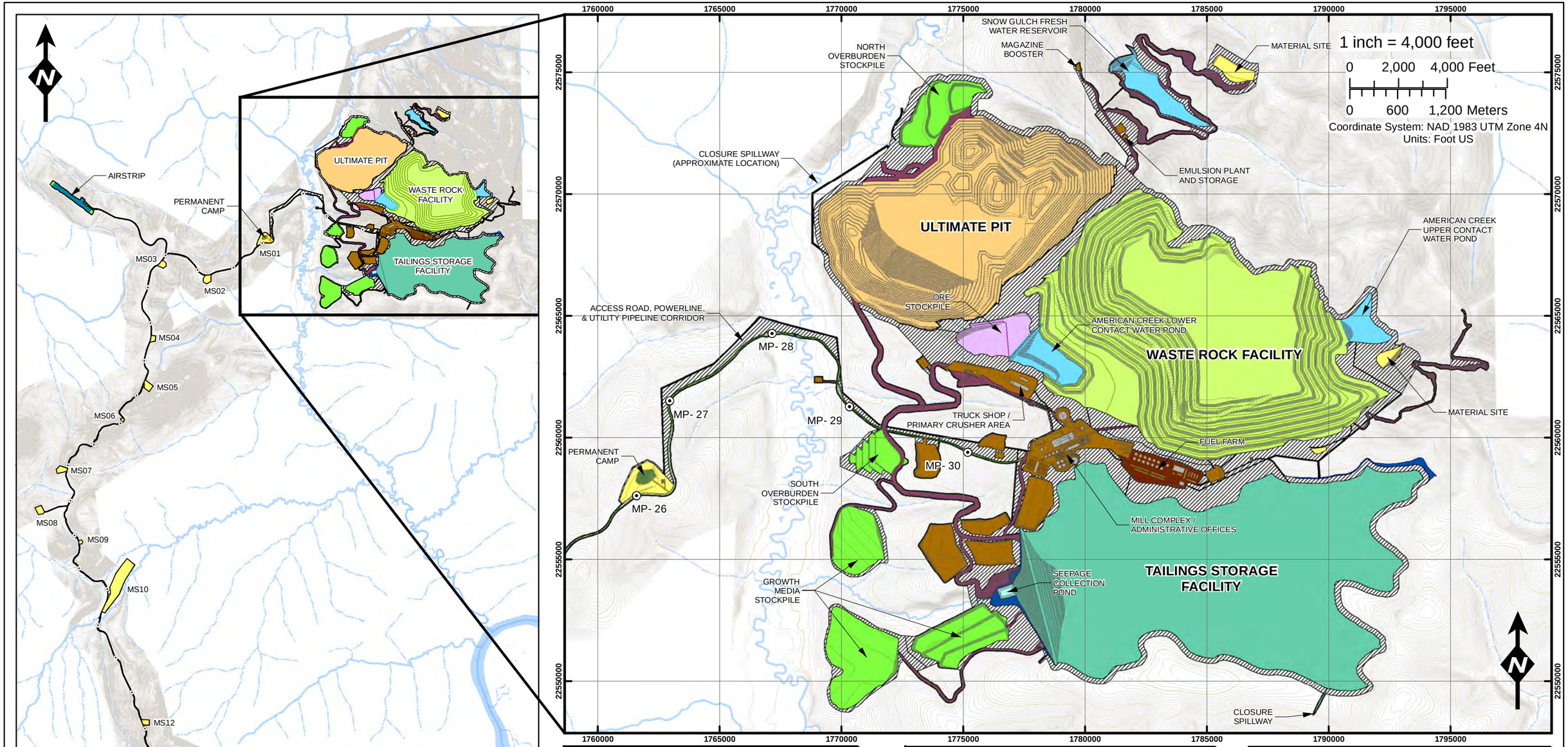
- Buffer
- Growth Media/Overburden Stockpile
- Material Sites
- Mine Roads
- Diversion/Drainage
- Powerlines
- Seepage Collection Pond
- Snow Gulch Fresh Water Reservoir
- American Creek Lower Contact Water Dam and Pond
- American Creek Upper Contact Water Dam and Pond
- Open Pit
- Tailings Dam and Storage Area
- Waste Rock Facility (Year 3)
- Laydown Areas
- Fuel Tank Storage Yard
- Mill and Process Buildings and Foundations
- Primary Crusher
- Truck Shop
- Fuel Farm Buildings and Foundations
- Airstrip (Not Reclaimed)
- Jungjuk (Angyaruaq) Port Site (Not Reclaimed)
- Permanent Man Camp Yards (Not Reclaimed)
- Mine Roads (Not Reclaimed)
- Crooked Creek Bridge (Not Reclaimed)
- Mine Road Centerline (ID)

DONLIN GOLD

PREMATURE CLOSURE
ROAD DISTURBANCE ID & LENGTHS
DONLIN GOLD PROJECT

FIGURE: E-3

PATH: H:\Donlin Gold\181202.017_Donlin_Gold_LLC_2017\040_Drafting\Task_300.11_Reclamation_&_Closure\E-3_YR3_Roads_20170522_ml.mxd



Group	Acres	Hectares
Buffer	2003	811
Growth Media/Overburden Stockpile	621	251
Material Sites	461	186
Mine Roads	365	148
Diversion/Drainage	36	14
Powerlines	24	10
Seepage Collection Pond	7	3
Snow Gulch Fresh Water Reservoir	77	31
American Creek Lower Contact Water Pond	74	30

Group	Acres	Hectares
American Creek Upper Contact Water Pond	48	20
Open Pit	1458	590
Tailings Dam and Storage Area	2364	957
Waste Rock Facility (Full Build-out)	2227	901
Ore Stockpile	88	36
Laydown Areas	391	158
Fuel Tank Storage Yard	63	26
Mill and Process Buildings and Foundations	24	10
Primary Crusher Buildings and Foundations	5	2

Group	Acres	Hectares
Fuel Farm Buildings and Foundations	14	6
Truck Shop Buildings and Foundations	0	0
Airstrip (Not Reclaimed)	92	37
Jungjuk (Angyaruaq) Port Site (Not Reclaimed)	21	9
Permanent Man Camp Yards (Not Reclaimed)	10	4
Mine Roads (Not Reclaimed)	258	104
Crooked Creek Bridge (Not Reclaimed)	1	0
Water Treatment Plant (Not Reclaimed - Not Shown)	2	1
Total	10735	4344

DONLIN GOLD

LOM CLOSURE DISTURBANCE FOOTPRINT
DONLIN GOLD PROJECT

FIGURE:
E-4

PATH: H:\Donlin Gold\181202.017_Donlin_Gold_LLC_2017\040_Drafting\Task_300.11_Reclamation_&_Closure\E-4_LOM_Facility_Disturbance_20170522_ml.mxd

1 in = 1,500 ft

0 375 750 1,500 Feet

0 250 500 Meters

Coordinate System: NAD 1983 UTM Zone 4N
Units: Foot US

1770000 1775000 1780000 1785000 1790000

22570000 22565000 22560000

ULTIMATE PIT

WASTE ROCK FACILITY

ORE STOCKPILE

AMERICAN CREEK UPPER CONTACT WATER DAM & POND

AMERICAN CREEK LOWER CONTACT WATER DAM & POND

MINE FLEET ASSEMBLY AREA

TRUCK SHOP / PRIMARY CRUSHER AREA

LAYDOWN YARD

MP- 30

MILL COMPLEX / ADMINISTRATIVE OFFICES

FUEL FARM

CORE STORAGE YARD

MATERIAL SITE

LAYDOWN YARD

ID	Area (Acres)	Area (Hectars)	Average Lift Height (m)	Mid-bench Length (m)
Waste Rock Facility				
1	33.9	13.7	18	2211.7
2	112.2	45.4	18	2337.6
3	134.3	54.4	30	2547.0
4	90.2	36.5	30	4530.9
5	128.6	52.0	30	5795.9
6	205.4	83.1	30	8145.2
7	181.6	73.5	30	7870.7
8	184.2	74.5	30	7731.2
9	169.3	68.5	30	7198.1
10	185.0	74.9	30	7539.0
11	802.1	324.6	30	7217.8
Ore Stockpile				
1	55.8	22.6	21	607.3
2	32.1	13.0	5	829.1

- Buffer
- Growth Media/Overburden Stockpile
- Material Sites
- Mine Roads
- Diversion/Drainage
- Powerlines
- Seepage Collection Pond
- Snow Gulch Fresh Water Reservoir
- American Creek Lower Contact Water Pond
- American Creek Upper Contact Water Pond
- Open Pit
- Tailings Dam and Storage Area
- Waste Rock Facility (Full Build-out)
- Ore Stockpile
- Laydown Areas
- Fuel Tank Storage Yard
- Mill and Process Buildings and Foundations
- Primary Crusher Buildings and Foundations
- Fuel Farm Buildings and Foundations
- Truck Shop Buildings and Foundations
- Airstrip (Not Reclaimed)
- Jungjuk (Angyaruaq) Port Site (Not Reclaimed)
- Permanent Man Camp Yards (Not Reclaimed)
- Mine Roads (Not Reclaimed)
- Crooked Creek Bridge (Not Reclaimed)
- Mid-bench Lengths

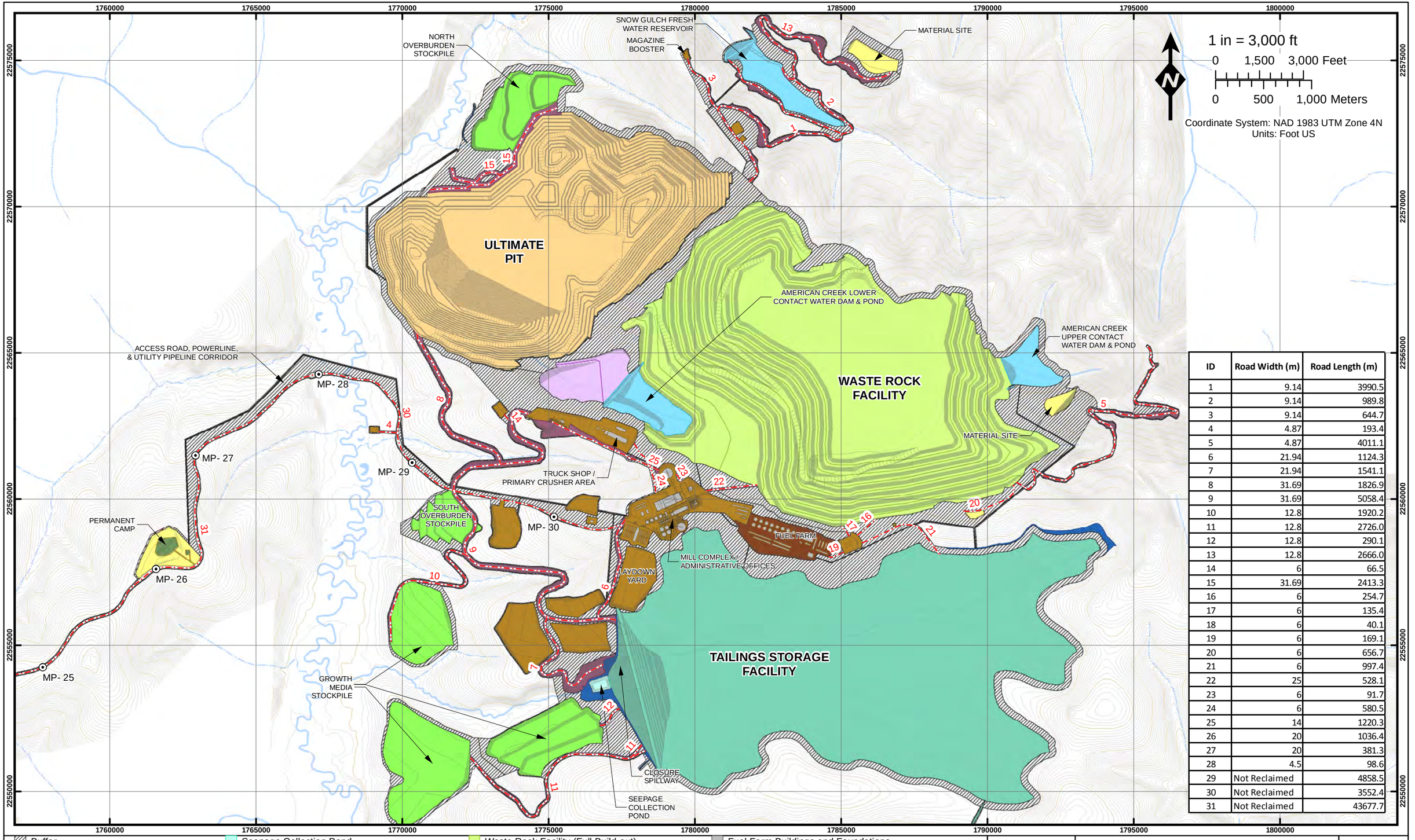
DONLIN GOLD

LOM CLOSURE
WRF MID-BENCH LENGTHS
DONLIN GOLD PROJECT

FIGURE:

E-5

PATH: H:\Donlin Gold\181202.017_Donlin_Gold_LLC_2017\040_Drafting\Task_300.11_Reclamation_&_Closure\E-5_LOM_Mid-Bench_20170522_ml.mxd



ID	Road Width (m)	Road Length (m)
1	9.14	3990.5
2	9.14	989.8
3	9.14	644.7
4	4.87	193.4
5	4.87	4011.1
6	21.94	1124.3
7	21.94	1541.1
8	31.69	1826.9
9	31.69	5058.4
10	12.8	1920.2
11	12.8	2726.0
12	12.8	290.1
13	12.8	2666.0
14	6	66.5
15	31.69	2413.3
16	6	254.7
17	6	135.4
18	6	40.1
19	6	169.1
20	6	656.7
21	6	997.4
22	25	528.1
23	6	91.7
24	6	580.5
25	14	1220.3
26	20	1036.4
27	20	381.3
28	4.5	98.6
29	Not Reclaimed	4858.5
30	Not Reclaimed	3552.4
31	Not Reclaimed	43677.7

- Buffer
- Growth Media/Overburden Stockpile
- Material Sites
- Mine Roads
- Diversion/Drainage
- Powerlines
- Seepage Collection Pond
- Snow Gulch Fresh Water Reservoir
- American Creek Lower Contact Water Pond
- American Creek Upper Contact Water Pond
- Open Pit
- Tailings Dam and Storage Area
- Waste Rock Facility (Full Build-out)
- Ore Stockpile
- Laydown Areas
- Fuel Tank Storage Yard
- Mill and Process Buildings and Foundations
- Primary Crusher Buildings and Foundations
- Fuel Farm Buildings and Foundations
- Truck Shop Buildings and Foundations
- Airstrip (Not Reclaimed)
- Jungjuk (Angyaruaq) Port Site (Not Reclaimed)
- Permanent Man Camp Yards (Not Reclaimed)
- Mine Roads (Not Reclaimed)
- Crooked Creek Bridge (Not Reclaimed)
- Mine Road Centerline (ID)

DONLIN GOLD

LOM CLOSURE
ROAD DISTURBANCE ID & LENGTHS
DONLIN GOLD PROJECT

FIGURE:
E-6

PATH: H:\Donlin Gold\181202.017_Donlin_Gold_LLC_2017\040_Drafting\Task_300.11_Reclamation_&_Closure\E-6_LOM_Roads_20170522_mt.mxd