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Memo

To:	Peter Kuhn, Blue Star	**Client:**	Blue Star Gold Corp.
From:	Darryl Godley, SRK	**Project No:**	1CB041.000
Cc:	Mark Liskowich, SRK	**Date:**	December 11, 2020
Subject:	Costing Assumptions Summary for Ulu Gold Project Interim Closure and Reclamation Plan		

1 Introduction

The Ulu Gold Project (the Project) is located on Inuit Owned Lands in the Kitikmeot region of Nunavut, approximately 200 km southeast of Kugluktuk, Nunavut. Underground exploration was conducted in 1996, 1997, 2005 and 2006. Since 2006, the camp has been reopened to support surface exploration and progressive reclamation activities in 2012, 2014, 2018 and 2019. Blue Star Gold Corp. (Blue Star) acquired the Project from Bonito Capital Corp. and is now responsible for activities associated with the Project, including the implementation of the approved Interim Closure and Reclamation Plan (the plan). This plan describes the procedures for progressive reclamation and temporary closure, and outlines considerations for future final closure at the Project. The plan provides details of Blue Star's near-term plan to recommence exploration, progressively reclaim the site to support exploration activities, yet allow for potential future mine development.

This memorandum presents the basis of costing for the plan found in Attachment 1.

2 Estimate Structure

It is stated in the water license that Blue Star shall provide the Nunavut Water Board with an updated estimate of the Ulu Gold Project restoration liability using the most recent version of RECLAIM, it's equivalent or other similar method approved by the Nunavut Water Board (WL no. 2BM-ULU2030). The cost estimate was prepared in a Microsoft Excel workbook with the following worksheets:

- "Cost Estimate", a worksheet presenting all costs.
- "Quantities", a worksheet summarising all quantities utilized in the cost estimate.
- "Task Unit Costs", a worksheet illustrating the calculations for cost per unit quantity based on the labour, equipment and materials required to complete the task. This sheet is broken down into four categories, Relocations, Earthworks, Construction/Demolition and Other.
- "Unit Costs", a worksheet summarising all other unit costs utilized for the cost estimate.

- “Equipment Rates Building”, a worksheet illustrating the components utilized when building the equipment hourly rates.

The methods used by SRK and RECLAIM to estimate costs are similar. Both models are based on the same facilities, use the same quantities, unit rates and indirect costs. The methods differ by how this information is organized within the spreadsheets. The SRK cost estimate was accepted by the relevant parties as an adequate alternative to RECLAIM.

Closure costs are apportioned to water or land to reflect the portion of the closure liability that is accounted for under the Nunavut Water Board Water licences or the land use licences issued by the Kitikmeot Inuit Association. The split between land and water closure liability is open to interpretation.

3 Unit Costs

3.1 Equipment Rates

Existing equipment on site will be used for all reclamation activities. Rates for the equipment are built utilizing the following components:

- Ownership costs (zero costs due to mine owned equipment).
- Mechanical (shared cost of a red seal mechanic per four items of large equipment).
- Fuel consumption (as per best fit equipment in the CAT Performance Handbook).
- Operators costs (adopted contractor rates on Northern site).

Overhead costs for equipment, in addition to the on-site mechanic, such as ground engaging tools (GET), tires and major maintenance required to complete the plan are accounted for as a contingency cost; see Section 4.2. This is due to the level of uncertainty in the equipment condition.

3.2 Labour Rates

Labor rates are adopted from contactor rates on a northern site. The labour rates do not include the costs of camp accommodation or travel to and from site; this is included as indirect costs for camp operations.

3.3 Material and Service Provider Costs

Estimates of costs related to service providers and materials were obtained from the following sources:

- Specific vendor quotes; and
- Recent SRK experience on other projects in northern Canada.

3.4 Task Unit Rates

The “Task Unit Costs” worksheet calculates labor, material, equipment costs per unit quantity for various tasks. Determination of the construction fleet and productivities were obtained based on the following resources:

- Equipment specifications obtained from manufacturer’s data, in this case the Caterpillar Handbook (CAT),
- RSMeans data online, and
- Recent SRK experience on other projects in northern Canada.

“Labour Cost Per Unit Excluding Operators”, “Material Cost Per Unit” and “Equipment Cost Per Unit” ($/Unit) are calculated as the sum of costs divided by the task productivity (Unit/hr).

Relocation and Earthworks Costs

Relocations and earthwork unit costs are the costs associated with loading, hauling and dumping of materials, and if applicable placement and compaction of the relocated materials. Calculations make use of equipment specification obtained from manufacture’s data, in this case the Caterpillar Performance Handbook, labor and equipment unit rates described in the Section 3.

Majority of the relocations occur in and around the Ulu camp; less than 500 m. Tasks where importing of borrow material is required, a general haul route profile was assumed and the required materials could be obtained within 3 km. Load and haul operations to utilise a front-end loader (CAT 966D) or excavator (CAT 311) as the loading tool and a maximum of two haul trucks (CAT 769C).

3.5 Quantities

Quantity estimates needed as input to the cost estimates were derived using standard engineering calculations based on topographic maps, drone survey, aerial photographs and other photographs.

Further details related to quantities can be found in the plan, Source/Comments column of the costing “Quantities” worksheet and/or Table 1 and Table 2 in Section 4.

4 Basis of Estimate

4.1 Direct Costs

Table 1 provides a summary of the major direct cost inputs and assumptions.

Table 1 Direct costs inputs and costing assumptions

Item	Inputs and Assumptions
Building Demolition	• All buildings to be dismantled/demolished for disposal in the non-hazardous waste landfill. The core shack was not included as the exploration activities intend on using the building. • Dimensions, volume, of buildings and infrastructure were obtained from the 2019 lidar data provided by Blue Star. The demolition volume was estimated using the total volume of buildings and infrastructure at Ulu camp. The workshop was assumed to have a height of 3 m for the volume calculation due to the large void within the weather haven. • The RSmean 02116130100 of 569 m³/day was selected as the productivity for demolition of steel structures. Demolition unit cost includes the use of a front end loader or dozer with associated general labour and supervision.
Non-Hazardous Waste Landfill	• Waste volumes were estimated using lidar data and waste survey provided by the previous project owners. • Cover materials quantities provided in the facility design drawings (AutoCAD).
Soil Treatment Facility (STF)	• Petroleum Hydrocarbon-contaminated (PHC) material quantity provided from the soil investigation conducted by SRK in 2019. • Liner installation costs provided by A&A technical services quotation (supply and installation) • Facility earthworks assumed 60% of material requirements are sourced locally (<1 km from STF) and 40% sourced from alternative location (>1 km from STF). Load and haul rates based on two haul trucks and a loading tool (excavator or front end loader). • Costing based on design memorandum and drawings (AutoCAD).
Ore Management	• 1,850 m³ of ore identified by previous project owners on surface to be placed within an existing lined facility (underground sump)
Mine Workings	• If required placement of sea cans as temporary portal cover. • Fabrication and installation of the steel vent raise cover include a Labourer, Welder, Supervisor, Engineer and excavator completed over a duration of one week.
Hazardous Material Management	• Hazardous material quantities estimated using photographic survey identifying drums and totes, all drums and totes are assumed full of hazardous material for removal from site (70 m^3). In addition, contaminated esker identified on workshop floor in 2019 investigations (assumed to be 40 m³) will also be removed and disposed of off site. • Costs for treatment of hazardous waste off site supplied by KBL Environmental Ltd.

Item	Inputs and Assumptions
	• Removal from site will be done by means of backhaul on incoming fuel flights.
Borrow and Quarry	• Recontouring of esker borrow assumed to take 3 days.
Construction Material Transport to Site	• Transport of liner to site based on recommendation provided by Buffalo Airways Ltd.

4.2 Indirect Costs

Indirect costs were defined as any costs that cannot be directly associated with individual tasks.

Many of the indirect costs depend on the project duration, the short-term reclamation activities (STF operations) were based on 5-year durations and the long-term monitoring and reporting was based on a 10-year water license.

Table 2 provides a summary of the major indirect cost inputs and assumptions.

Table 2 Indirect costs inputs and costing assumptions

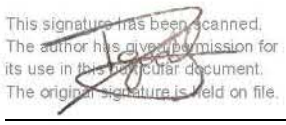
Item	Inputs and Assumptions
Mobilization	• The mobilization and camp operations costs are based on previous project owner costs for reclamation activities and an allowance for minor equipment repair. These include salary/wage, transport, food and general supplies for a team comprising of a Camp Manager, General Foreman, Cooks, General Labourers and a Bear Monitor. Cost supplied by Blue Star. • The total costs for mobilization and camp operations are shared between the interim closure and reclamation activities (45% of total) and exploration activities (55% of total). • Equipment mobilization was not necessary as all equipment planned for use are on site with no additional equipment planned. A mechanical allowance of $80,000.00 (see contingency below) was agreed for mechanical upgrades to 4 items of large equipment. • Annual camp closure includes 3 days for a team of three employees for camp closure.
Waste Rock ML/ARD Investigation	• Costing based on one week staff consultant fieldwork and associated reporting. • Blue Star excavator team conducting test pit program.
Monitoring and Reporting	• Blue Star will utilize the exploration team resources to adhere to the water license (WL no. 2BM-ULU2030) requirements for annual monitoring. Exploration is scheduled to commence concurrently with reclamation activities. • Annual visual inspection of the project infrastructure to be completed by STF operations teams for the initial 5-year period followed by the exploration team supervision and/or annual Geotechnical inspection team for 5 years thereafter; total of 10 years visual inspection of facilities. • Annual geotechnical inspection; 10-year duration. Investigation includes site inspection and reporting.

Item	Inputs and Assumptions
Management and QA/QC	• On-site engineering supervision for landfill and STF construction (as per SRK proposal to conduct engineering support for Landfill and STF). • Survey requirements (initial layout and as built survey).
Bonding and Insurances	• 1% indirect percentage add-on costs as per RECLAIM.
Health and Safety	• 1% indirect percentage add-on costs as per RECLAIM.
Project Management	• 5% indirect percentage add-on costs as per RECLAIM. • Project management includes costs for staffing to provide on-site management of the contractor to ensure the project is implemented as per plan.
Engineering	• 5% indirect percentage add-on costs as per RECLAIM. • The costs associated with site visits, sample analysis, and reporting are included in this item.
Contingency	• 20% indirect percentage add-on costs as per RECLAIM. • Additional $320,000.00 for large equipment repair/rebuild added ($80,000.00 per item of large equipment required to complete the plan).

This memorandum, Basis of Estimate for Ulu Gold Project Interim Closure and Reclamation Plan, was prepared by SRK Consulting (Canada) Inc.

Regards,

SRK Consulting (Canada) Inc.



Darryl Godley
Consultant

Reviewed by

Mark Liskowich, PGeo
Principal Consultant

5 References

Blue Star 2020. Interim Closure and Reclamation Plan for Ulu Gold Project, Blue Star Gold Corp. March 2020.

CAT. Caterpillar Performance Handbook 48. A publication by Caterpillar, June 2018.

RSMean. RSMeans from Gordian Version 8.7, accessed July 2020, <https://www.rsmeansonline.com/>

Attachment 1 – Interim Closure and Reclamation Plan Costing (Appendix C in the Interim Closure and Reclamation Plan)

COST ESTIMATE

Task	Qnty	Unit	Unit Rate	Cost	Total
1. DIRECT COSTS					
1.1 Building Demolition					**$33,490.77**
Demolition of Existing Weather Havens					
Demolition of Ulu Camp	4,569	m³	$7.33	$33,490.77	
1) Disposal of waste accounted for under Section 1.2 Non-Hazardous Landfill *2) Decommissioning of electrical and mechanical accounted for in camp costs*					
1.2 Non-Hazardous Waste Landfill					**$287,597.16**
Existing Waste Handling					
Transport to Facility (Load and Haul)	6,900	m³	$9.98	$68,862.00	
Transport to Facility (Utilizing Dozer Push/Pull)	4,600	m³	$6.68	$30,728.00	
Placement/Packing in Facility (Excavator/Front End Loader/Dozer)	11,500	m³	$2.27	$26,105.00	
Additional Waste Handling					
Transport Ulu Camp Demolition Waste to Facility (Load and Haul)	1,142	m³	$9.98	$11,399.66	
Transport Additional Waste to Facility - esker, equipment etc. (Load and Haul)	3,400	m³	$9.98	$33,932.00	
Placement/Packing in Facility (Excavator/Front End Loader/Dozer)	4,542	m³	$2.27	$10,310.91	
Closure					
Intermediate Cover (Load, haul and place)	2,485	m³	$8.79	$21,843.15	
Final Cover (Load, haul and place)	3,130	m³	$16.16	$50,580.80	
Contouring of Cover Material	5,615	m³	$2.27	$12,746.05	
Water Management					
Drainage Contouring/Sloping Around Facility Perimeter	480	m³	$2.27	$1,089.60	
Allowance (Pumping, diversion trenching etc.)	1	ea	$20,000.00	$20,000.00	
1.3 Soil Treatment Facility					**$517,773.30**
Facility Earthworks					
Foundation and Berm Construction - Dozer	9,173	m³	$1.69	$15,502.54	
Foundation and Berm Construction - Excavator & Truck	6,115	m³	$15.96	$97,601.78	
Bedding Placement	845	m³	$11.14	$9,407.73	
Liner Cover Placement	2,252	m³	$11.14	$25,087.28	
Liner Installation					
Geotextile and LLDPE Installation	6,756	m²	$15.00	$101,340.00	
Material Sorting and Placement					
Sorting of PHC Contaminated Material	6,000	m³	$7.91	$47,460.00	
Load and Haul to Facility	4,000	m³	$8.79	$35,160.00	
Placement in STF Facility	4,000	m³	$11.14	$44,560.00	
Monitoring					
Baseline and Post Closure PHC Contamination Testing	10	ea	$176.75	$1,767.50	
Operational PHC Contamination Testing	123	ea	$98.78	$12,149.94	
Water Quality Sampling	38	ea	$169.30	$6,433.40	

COST ESTIMATE

Task	Qnty	Unit	Unit Rate	Cost	Total
Annual Operations					
Tilling/mechanical turning of material 2020	16	days	$1,602.30	$25,636.80	
Material Removal 2021	2,400	m³	$11.14	$26,736.00	
Material Transfer/Placement 2021	800	m³	$11.14	$8,912.00	
Material Removal 2022	800	m³	$11.14	$8,912.00	
Material Transfer/Placement 2022	800	m³	$11.14	$8,912.00	
Material Removal 2023	800	m³	$11.14	$8,912.00	
Material Transfer/Placement 2023	800	m³	$11.14	$8,912.00	
Material Removal 2024	800	m³	$11.14	$8,912.00	
Closure					
Liner removal	5,630	m²	$0.91	$5,123.30	
Levelling of Facility Berms	6,115	m³	$1.69	$10,335.03	
1.4 Ore Management					**$80,410.72**
Repair of Mine Sump					
Remove of Mineralised Material in Sump Berms	50	m³	$2.27	$113.50	
Load and Haul Material for Sump Berms	50	m³	$15.96	$798.00	
Placement of Material for Sump Berms	50	m³	$2.27	$113.50	
Replace Base Liner System	680	m²	$15.00	$10,200.00	
Ore Placement in Mine Sump					
Load and Haul Ore in Mine Sump	1,850	m³	$15.96	$29,526.00	
Placement of Ore in Sump	1,850	m³	$11.14	$20,609.00	
Cover					
Liner Cover	1,040	m²	$15.00	$15,600.00	
Esker Sand Cover Load and Haul to Sump	312	m³	$8.79	$2,742.48	
Esker Sand Placement and Contouring	312	m³	$2.27	$708.24	
1.5 Mine Workings					**$55,760.32**
Portal Cover (Allowance)					
Placement of Temporary Barrier (Sea Cans)	1	allow	$1,309.76	$1,309.76	
Steel Vent Raise Cover (Allowance)					
Engineering Design	1	allow	$23,360.00	$23,360.00	
Fabrication and Installation of Steel Vent Cover	1	allow	$31,090.56	$31,090.56	
1.6 Hazardous Material Management					**$55,491.59**
Hazardous Materials					
Treatment of Hazardous Material on site (Allowance)	1	allow	$7,000.00	$7,000.00	
Treatment of Hazardous Material Removed from Site	110	m³	$260.00	$28,600.00	
Hydrocarbon Contaminated Material Initial Earthworks and sampling					
Dozer work ripping frozen ground	6,000	m³	$1.69	$10,140.00	
PHC Contamination sampling	81	ea	$120.39	$9,751.59	

COST ESTIMATE

Task	Qnty	Unit	Unit Rate	Cost	Total
1.7 Borrow & Quarry					**$4,806.90**
Contouring of Borrow Area(s)					
Contouring of Esker Borrow Area	3	days	$1,602.30	$4,806.90	
1.8 Construction Material Transport to Site					**$39,418.49**
Liner					
Soil Treatment Facility Liner	9,323	kg	$3.37	$31,419.45	
Mine Sump and Ore Management Liner	2,374	kg	$3.37	$7,999.03	
				SUBTOTAL - DIRECT COSTS	**$1,074,749.25**
2. INDIRECT COSTS					
2.1 Mobilization					**$421,140.00**
Mobilization	1	ea.	$148,500.00	$148,500.00	
Camp Operations	1	ea.	$198,000.00	$198,000.00	
Miscellaneous Small Camp Equipment Rebuild/Repair	1	ea.	$30,000.00	$30,000.00	
Annual Camp Closure (Temporary closure: Buildings, Storage Facilities, Mobile Equipment and Waste Management during STF operations)	4	years	$11,160.00	$44,640.00	
2.2 Waste Rock ML/ARD Investigation					**$43,418.35**
Site Investigation and Reporting					
Transport and Accommodation	1	ea	$3,000.00	$3,000.00	
Consultant Fieldwork	84	hrs	$167.00	$14,028.00	
Test Pits (Excavator)	5	days	$1,379.60	$6,898.00	
Laboratory Testing	37	ea	$256.55	$9,492.35	
Reporting	1	ea	$10,000.00	$10,000.00	
2.3 Monitoring and Reporting					**$205,539.34**
Annual Visual Inspections (Landfill and STF)					
Visual Inspection of STF and Landfill	5	years	$2,820.00	$14,100.00	
Annual Geotechnical Inspection					
Field Inspection and Technical Report	10	Years	$17,848.00	$178,480.00	
Water Quality Laboratory Testing					
Water Quality Laboratory Testing	86	ea	$150.69	$12,959.34	
2.4 Management and QA/QC					**$145,600.00**
Survey					
Survey Control STF and Landfill	4	day	$2,400.00	$9,600.00	
Transport to/from Site	2	allow	$3,000.00	$6,000.00	

COST ESTIMATE

Task	Qnty	Unit	Unit Rate	Cost	Total
Construction Oversight					
Consulting (Construction Support STF and Landfill)	1	ea	$130,000.00	$130,000.00	
2.5 Bonding/Insurance					**$10,747.49**
Bonding/Insurance	1%	of direct costs	$1,074,749.25	$10,747.49	
2.6 Health and Safety					**$10,747.49**
Health and Safety	1%	of direct costs	$1,074,749.25	$10,747.49	
2.7 Project Management					**$53,737.46**
Project Management	5%	of direct costs	$1,074,749.25	$53,737.46	
2.8 Engineering					**$53,737.46**
Engineering	5%	of direct costs	$1,074,749.25	$53,737.46	
2.9 Contingency					**$534,949.85**
Contingency	20%	of direct costs	$1,074,749.25	$214,949.85	
Large Equipment Rebuild/Repair	4	ea.	$80,000.00	$320,000.00	
				SUBTOTAL - INDIRECT COSTS	**$1,479,617.45**
				SUBTOTAL - DIRECT COSTS	**$1,074,749.25**
				TOTAL	**$2,554,366.70**

Notes: Direct/Indirect costs based on Contaminated Sites Program, Natural Resources and Environment Branch, Northern Affairs Program, Indian and Northern Affairs Canada. 2006. Contaminated Sites Cost Estimating Guide, October 23, 2006

QUANTITIES

Item	Quantity	Units	Source/Comment
LANDFILL			
Total Non-Hazardous Waste	11,500	m³	Site Inspection with Lidar 2019 incl 30% contingency. Mandalay Supplied volumes 2018 reviewed
Allocated to Load and Haul to Facility	6,900	m³	Allocated 60% total waste
Allocated to Dozer Push/Pull to Facility	4,600	m³	Allocated 40% total waste
Total Material to be Packed/Placed in Facility	11,500	m³	Site Inspection with Lidar 2019 incl 30% contingency. Mandalay Supplied volumes 2018 reviewed
Intermediate Cover	2,485	m³	Landfill Design Drawing
Final Cover	3,130	m³	Landfill Design Drawing
Boundary Contouring (Water Management)	480	m³	Estimated
SOIL TREATMENT FACILITY			
Foundation and Berm Construction	15,289	m³	STF design drawings
Allocated to dozer work	9,173	m³	60% of total volume
Allocated to Load and Haul	6,115	m³	40% of total volume
Liner System Area	5,630	m²	SF design drawings
Liner System Area	6,756	m²	STF design drawings + 20% for overlap
Liner Weight	9,323	kg	Tech Spec Sheets (SKAPS and Solmax)
Bedding	845	m³	STF design drawings
Liner Cover	2,252	m³	STF design drawings
In Situ PHC Contaminated Material for initial excavations	6,000	m³	Results of 2019 Contaminated Soil Investigation at Ulu Gold Project
PHC Contaminated Material (Initial for sorting)	6,000	m³	Results of 2019 Contaminated Soil Investigation at Ulu Gold Project
PHC Contaminated Material (STF Treatment)	4,000	m³	Results of 2019 Contaminated Soil Investigation at Ulu Gold Project
Tilling of material 2020	16	days	8 weeks @ 2 days per week
Annual Treated Soil Removal 2021	2,400	m³	Estimated. Total treatment after one full season of mechanical turning.
Annual Treated Soil Placement 2021	800		Estimated. Placed 0.5m thick in larger cell for treatment without mechanical turning. Conservative approach.
Annual Treated Soil Removal 2022	800	m³	Estimated
Annual Treated Soil Placement 2022	800	m³	Estimated. Placed 0.5m thick in larger cell for treatment without mechanical turning. Conservative approach.
Annual Treated Soil Removal 2023	800	m³	Estimated
Annual Treated Soil Placement 2023	800	m³	Estimated. Placed 0.5m thick in larger cell for treatment without mechanical turning. Conservative approach.
Annual Treated Soil Removal 2024 (allowance for additional PHC contaminated material)	800	m³	Estimated
Baseline and post-closure sampling	10	units	SRK Estimate
Operations soil sampling	123	units	SRK Estimate
Water quality sampling	38	units	SRK Estimate
OTHER PROGRESSIVE RECLAMATION ACTIVITIES			
Total Contaminated Material for Removal from Site	110	m³	Site photos and Results of 2019 Contaminated Soil Investigation at Ulu Gold Project
Contouring of Sand (Esker) Borrow Source	3	days	Estimated
Ore Management			
Ore volume	1,850	m³	Reported by previous owner
Mine sump berm repair	50	m³	Assumed remove and replace
Mine Sump floor liner	680	m²	Sump dimension of 30mx15m - 25% additional for overlap
Ore Liner Cover	1,040	m²	Cover based on a 4m high ore pile
Esker Cover	312	m³	0.3m cover
Liner Weight	2,374	kg	Tech Spec Sheets (SKAPS and Solmax). Geotextile 0.64kg/m² and LLDPE 0.74/kg.
Sampling Program			
Seep water quality	86	unit	SRK Estimates
ML/ARD Investigation	27	unit	SRK Estimate
Borrow Investigation	10	unit	SRK Estimate if required
PHC Contamination Initial Sampling	81	unit	SRK Estimate
Additional Waste			
Additional Non-Hazardous Waste	3,400	m³	Estimate for additional equipment and PHC material allocated to landfill
Remaining building demolition (excl core shack)	1,720	m²	Drone Image 2019
Remaining building demolition (excl core shack)	4,569	m³	Global Mapper. Workshop assumed 3m height due to large interior void.
Demolition waste for landfill	1,142	m³	Global Mapper - assumed 75% reduction in volume. Burning of material where possible.
Total Duration	10	years	Water License duration
Visual Inspection Duration	5	years	No. of years after Progressive Reclamation activities are completed
Annual camp closures	4	years	4 years of STF operations

TASK UNIT COSTS

			Rates				
Item	Unit	Productivity (unit/hr)	Total Unit Cost	Labour Cost Per Unit, excluding operators ($/Unit)	Material Cost Per Unit ($/Unit)	Equipment Cost Per Unit ($/Unit)	Remark / Source
Relocations							
Waste Rock: load, haul <1km	**m³**	**30**	**$ 15.96**	$ 1.07	$ -	$ 14.89	Estimated assisted by SRK Production Estimator
Sand: load, haul <1km	**m³**	**57**	**$ 8.79**	$ 0.56	$ -	$ 8.23	SRK Production Estimator 0.5km haul
Sand: load, haul >1km	**m³**	**31**	**$ 16.16**	$ 1.03	$ -	$ 15.13	SRK Production Estimator 3km haul
Debris: load, haul, dump <1km	**m³**	**40**	**$ 9.98**	$ 2.68	$ -	$ 7.31	Assumed Production
Debris: dozer push/pull	**m³**	**40**	**$ 6.68**	$ 2.68	$ -	$ 4.01	Assumed Production
Earthworks							
Dozer general works	**m³**	**152**	**$ 1.69**	$ 0.63	$ -	$ 1.06	RSmean 3123164622000 (45m haul) 65% utilization over a 10 hour shift
Sand Sorting (PHC Contaminated sorting)	**m³**	**60**	**$ 7.91**	$ 2.67	$ -	$ 5.24	Assumed rate to test and sort PHC contaminated material 50m haul.
Sand Placement	**m²**	**29**	**$ 11.14**	$ 5.57	$ -	$ 5.57	RSMeans 312323160200
Waste Placement & Compaction	**m³**	**202**	**$ 2.27**	$ 0.79	$ -	$ 1.48	SRK Excavator productivity Estimator 65% Utilization
Sand Sloping/Contouring/Shaping	**m³**	**202**	**$ 2.27**	$ 0.79	$ -	$ 1.48	SRK Excavator productivity Estimator 65% Utilization
Construction/Demolition							
Vent Raise Cap	**ls**	**1**	**$ 31,090.56**	$ 26,124.00	$ -	$ 4,966.56	5 day task
Vent Raise Eng Design	**ls**	**1**	**$ 23,360.00**	$ 13,360.00	$ -	$ 10,000.00	Assumption
Demolition of building (Steel)	**m³**	**57**	**$ 7.33**	$ 4.52	$ -	$ 2.82	RSMean 024116130100 (569m³/day)
Portal Temporary Barrier	**ls**	**1**	**$ 1,309.76**	$ 482.00	$ -	$ 827.76	Surveyor Including Equipment
Other							
Survey	**day**	**1**	**$ 2,004.00**	$ 2,004.00	$ -	$ -	Surveyor Including Equipment
Liner removal	**m²**	**100**	**$ 0.91**	$ 0.75	$ -	$ 0.16	Assumed production
Annual Visual Inspection	**ls/yr**	**1**	**$ 2,820.00**	$ 2,820.00	$ -	$ -	Exploration team to conduct inspections for Blue Star
Annual Geotechnical Inspection - Field Inspection	**ls/yr**	**1**	**$ 17,848.00**	$ 7,848.00	$ -	$ 10,000.00	
Annual Camp Closure	**ls/yr**	**1**	**$ 11,160.00**	$ 11,160.00	$ -	$ -	
ML/ARD Investigation	**ls**	**1**	**$ 25,000.00**	$ -	$ -	$ -	Allowance

EQUIPMENT AND LABOUR RATES

EQUIPMENT RATES

Model	Units Available	Equipment Rate, including Operator and Fuel ($/hour)	Source/Comments
Dozer			
CAT D8	hr	**$160.23**	SRK Constructed. Incl. Operator, fuel and mechanic. No capital costs.
CAT D8	day	**$1,602.30**	Daily Cost (10 hour shift)
Excavator			
CAT 311	hr	**$137.96**	SRK Constructed. Incl. Operator, fuel and mechanic. No capital costs.
CAT 311	day	**$1,379.60**	Daily Cost (10 hour shift)
Grader			
CAT 140	hr	**$138.65**	SRK Constructed. Incl. Operator, fuel and mechanic. No capital costs.
Truck			
CAT 769C	hr	**$154.43**	SRK Constructed. Incl. Operator, fuel and mechanic. No capital costs.
Misc. Equipment	**Unit**	**Rate**	**Source/Comments**
C-46 Cargo Aircraft	ea	**$15,000.00**	Client Supplied
C-46 Cargo cost per kg	$/kg	**$2.59**	C-46 cargo 5800kg
C-46 Cargo cost per kg (factored)	$/kg	**$3.37**	30% contingency added due to aircraft volumetric allowances
Water Pump 2"	ea	**$850.00**	Xylem Super 8

LABOUR RATES

Designation	Units Available	Rate	Source/Comments
Labour			
General Labour	hr	**$75.00**	SRK Project Experience - contractor rates on northern site, adjusted for inflation
Supervision	hr	**$160.00**	SRK Project Experience - contractor rates on northern site, adjusted for inflation
Trades -Mechanical, Welder, Electrician etc.	hr	**$109.00**	SRK Project Experience - contractor rates on northern site, adjusted for inflation
Engineering Consultant	hr	**$167.00**	Estimated
Heavy Equipment Operator	hr	**$85.00**	SRK Project Experience - contractor rates on northern site, adjusted for inflation
Survey Crew (surveyor, helper and equipment)	day	**$2,400.00**	Estimated ($200/hour *12 hours/day)
Construction Support (Consulting)	ea	**$130,000.00**	SRK Proposal 1CB041.001

OTHER RATES

Item	Units Available	Rate	Source/Comments
Fuel			
Diesel Fuel	litre.	**$1.16**	Client supplied.
Mobilization			
Transportation and general supplies	allow	**$148,500.00**	Client Supplied, based on pervious mine owner operational costs, all inclusive.
Camp Running Costs	allow	**$198,000.00**	Client Supplied, based on pervious mine owner operational costs, all inclusive.
Equipment mechanical work/rebuild	ea.	**$80,000.00**	CAT Inspection confirming equipment "in good shape" not trusted, visual inspection only. Allowance value specified by client
Miscellaneous mechanical work (Generators, LDV, pumps etc.)	allow	**$30,000.00**	CAT Inspection confirming equipment "in good shape" not trusted, visual inspection only. Allowance value specified by client
Flight and Accommodation to/from Site (per person)	ea.	**$3,000.00**	Assumption
Materials			
Liner System (Geotextile and LLDPE Liner)	m^2	**$15.00**	Supplier quotation supply and install (A&A Technical Services) - excl transport
Laboratory Testing			
Water Quality	ea.	**$150.69**	Supplier quotation (varied).
STF Water Quality	ea.	**$169.30**	Supplier quotation (varied).
ML/ARD Investigation Testing	ea.	**$256.55**	Supplier quotation (varied).
STF Baseline Soil Sampling	ea.	**$176.75**	Supplier quotation (varied).
STF Operational Sampling	ea.	**$98.78**	Supplier quotation (varied).
STF Initial Excavation Sampling	ea.	**$120.39**	Supplier quotation (varied).
Borrow Investigation Sampling	ea.	**$223.30**	Supplier quotation (varied).
Hazardous Material Treatment			
Treatment of Hazardous Material/Contaminated Soils (Off Site)	m^3	**$260.00**	Supplier quotation (KBL) including transport from Yellowknife airport.
Allowances			
Water Management	allow	**$20,000.00**	Allowance for pumps, hoses, trenching etc.
Technical Memorandum/Report	ea.	**$10,000.00**	Assumption
Hazardous Material Treatment (On Site)	allow	**$7,000.00**	Allowance specified by client

EQUIPMENT RATE BUILDING

Equipment	Total $/hr	Operator rate/hr	Fuel cost/hr	Mechanical Costs	Fuel consumption/hr	Reff machine	Comment
Dozer	$160	$84	$37	$39	32	D8R	Fuel consumption high value CAT handbook ed 29
Excavator	$138	$84	$15	$39	13	311DRR	Fuel consumption high value CAT handbook ed 30
Truck	$154	$84	$31	$39	27	770G	Fuel consumption high value CAT handbook ed 31
Grader	$139	$84	$16	$39	13	140K	Fuel consumption high value CAT handbook ed 32
Loader	$160	$84	$37	$39	32	996 Series 2	Fuel consumption high value CAT handbook ed 33

Notes:

Mechanical Costs - Mechanic full work day of 12 hours shared over 4 pieces of equipment assumed to run 70% of the time (8.4hrs/day).

No capital costs included due to mine owned equipment