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REPORT ON  
BANKS ISLAND PROJECT  
DETAILED ANALYSIS OF COST

Vancouver, B.C.  
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By: SPROATT SILVER MINES

Jim McDougall

SPROATT SILVER MINES LTD.  
BANKS ISLAND PROJECT  
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INTRODUCTION

Several assumptions have been made in calculating costs for the Banks Island Project, namely;

1. A tug and barge can safely navigate the waters into Indian Arm on the Islands west coast to permit unloading of equipment and supplies.
2. Diesel fuel will be used for power, cooking and heating. Fuel requirements will be delivered by barge monthly.
3. Water seepage is expected to be normal in the granite and limestone formation.
4. Ground support is expected to be normal for the granite and limestone formation.
5. Labour costs will average \$100.00 per day per man. A payroll burden of 20 percent has been added to carry W.C.B., U.I.C., Holiday Pay etc.
6. A contingency factor of 15 percent has been used throughout the calculations.
7. The District Inspector of Mines will permit a decline to be driven at minus 12.5 percent grade with a cross-section 8 ft. by 9ft. for a distance of 1000 lineal ft.
8. The project will use 13 men and an additional 60 man days have been allowed for engineering assistance.

The work will proceed 3 shifts per day, 7 days per week.

SCOPE OF WORK

A decline 8 ft. by 9 ft. in cross section will be driven for 1000 lineal ft. at a minus 12.5 percent grade on the "Bob zone".

The decline will spiral downward from hangwall to footwall over a strike length of 350 feet. The decline will intersect the mineralized zone at; surface minus 40 ft., surface minus 80 ft., and finally at surface minus 125 ft. The lower intersection will be in the vicinity of ore intersections indicated in diamond drill holes numbered Bl 18, BL 23, and 1-76.

SCOPE OF WORK CONT'D

From the bottom of the decline a minimum of 500 lineal ft. of horizontal exploration drifting will be done following the vein.

Provision has been made to complete 1000 lineal ft. of diamond drilling from several underground locations.

Provision has been made for engineering control of surveys, geology, sampling, and assaying. Broken ore will be stockpiled on surface for future treatment.

skid road will be built from Indian Arm at tide water to the "Bob Zone" a distance of two miles. The road will be located to service the "Tel Group" of showings.

The total project will cost \$527,069 and require 133 days to complete.

Cash flow requirements for the project are as follows:

Day - 30	to day 0	-	\$134,382
Day - 1	to day 30	-	71,908
Day - 31	to day 60	-	88,698
Day - 61	to day 90	-	99,048
Day - 91	to day 120	-	88,698
Day -121	to day completion		<u>44,335</u>
TOTAL			\$527,069

MOBILIZE AND BARGE

Day - 30 to 0

Day - 1 to 6

Fuels will be delivered F.O.B. Banks Island. Explosives will be picked up by barge at Port McNiel.

An initial crew of 4 men will arrive on Banks Island 3 days prior to barge arrival to prepare unloading site.

Tonnage to be shipped	114.2
Value of Cargo via barge	\$202,661

1. Assemble equipment & supplies	
114.2 tons @ 10.00/T	\$ 1,142.00
2. Load and tie down	
114.2 tons @ 8.00/T	914.00
3. Barge to Banks Island	
3 days	5,000.00
4. Pick up explosives	500.00
5. Tents and food for 4 men on	
Banks Island for 5 days	1,000.00
6. Marine cargo insurance	
6.00/M on 202661	1,816.00
7. Contingencies on above @ 15%	1,556.00
8. Equipment rental 6 days @ 630/day	3,780.00
9. Payroll on above time	3,795.00
10. Supply uselage on above time	0.00
TOTAL	<hr/> \$ 19,503.00

CAMP INSTALLATIONS

Days 7 to 9

Days 28 to 30

1. Upon barge arrival 5 additional men will arrive to assist in unloading and set up temporary camp.

Unload barge (2 high tides)

Barge delay 10 hrs. @ \$100/hr. \$ 1,000.00

2. Set up main camp upon completion of road.

More trailers, supplies, set up camp,  
water system, electrics, toilet facilities,  
power magazine, storage using tents

3. Contingencies on above @ 15% 115.00

4. Equipment rentals 6 days @ \$630/day 3,780.00

5. Payroll on above time 7,245.00

6. Supply usage on above time 1,800.00

TOTAL \$ 13,940.00

ROAD CONSTRUCTION

Days 10 to 27

Road length 10,560 ft.

Road width 15 ft.

Advance road 200 lineal ft./shift

Advance road 600 lineal ft./day

Days to complete 18

COSTS

Equipment rental 18 days @ 630 = \$ 11,340

Payroll on above time 20,700

Supply usage on above 7,700

TOTAL \$ 39,740

MINE CHARGES

Days 31 to 123

1. Portal preparation		
Face off, drill,blast, muck and install two portal sets.		
3 days		
2. Decline		
Advance decline 3 shifts per day to average 500 lineal ft. per month		
60 days		
3. Drifting		
Advance drift 3 shifts per day to average 500 ft. per month.		
30 days		
4. Safety days - 3 days		
5. Diamond drilling		
1000 lineal ft. @ \$7.00/ft.		7,000.00
6. Sampling and Assaying		
200 samples @ \$10.00 each		2,000.00
7. Contingencies on above @ 15%		1,350.00
8. Equipment rental 93 days @630		58,590.00
9. Payroll on above time		145,245.00
10. Supply userage on above time		95,121.00
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TOTAL		309,306.00

DEMOBILIZE AND BARGE OUT - Days 124-133

It is expected most supplies will be used up and the return trip will bring out equipment and some special items:

Tonnage out	65 tons
Value of cargo	\$200,000
Manpower reqd.	7

1. Dismantle, move equipment and supplies to loading site, clean up camp, store items left.

3 days

2. Load barge and tie down 2 tides

Barge delay 10 hrs. @ \$100/hr. 1,000.00

2 days

3. Barge charges to Vancouver 4,000.00

4. Marine cargo insurance

\$6.00/M on 200,000 1,200.00

5. Unload and return rentals

65 tons @ 18.00 1,170.00

6. Contingencies on above @15% 1,105.00

7. Equipment rentals 10 days @630 6,300.00

8. Payroll on above time 11,270.00

9. Supply usage on above time 3,000.00

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TOTAL \$29,045.00

AIR SUPPORT

1. Crew		
26 men Vancouver to Rupert return @ 140	= \$	3,640.00
allow 50% additional for hires & quits		1,820.00
Crew from Rupert to Banks by charter		
4 Beaver flights @ 200		1,600.00
2. Administration		
Allow 8 man trips per month from Vancouver to Banks Island return @ #200 each over a 4 month period		6,400.00
3. Service		
Allow 1 scheduled trip per week by Beaver over 18 weeks @ \$200 per flight		3,600.00
4. Emmergency trips		
Allow 10 helicopter trips @ 700		7,000.00
allow 10 Beaver trips @ 200		2,000.00
5. Contingencies @ 15%		3,909.00
TOTAL		<u>\$29,969.00</u>

VANCOUVER OFFICE

1. Employee overhead		
Allowance for U.I.C., W.C.B., Holiday Pay, fringe benefits:		
20% of labour costs of 188,255 =		\$37,651.00
2. Administration		
Allowance for rent, taxes, insurance, telephone, legal, accounting, etc:		
10% of project cost		<u>\$47,915.00</u>
TOTAL		<u>\$85,566.00</u>

TOTAL PROJECT

Mobilize & Barge	\$ 19,503
Camp Installations	13,940
Road Construction	39,740
Mine Charges	309,306
Demobilize	29,045
Air Support	29,969
Vancouver Overhead	37,651
Administration 10% of project	47,915
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	\$ 527,069

MANPOWER ESTIMATES

Vancouver payroll

- 1 Project Manager
- ½ Engineering Assistant (60 man days)

Mine payroll

- 1 foreman
- 6 miners
- 3 helpers
- 1 cook
- 1 mechanic

TOTAL 13½

MISCELLANEOUS INFORMATION

1. The District Inspector of Mines is Jim Hutter located in Smithers. His assistant is Bert Barkonyi at the Inspection Branch, 1837 Fort Street, Prince Rupert.
2. There are two contractors that could be available for the type of work planned. Both have or have access to equipment. Both should be checked out for reliability and financial strength. They are:

Jerry White	Vancouver	681-0419
Bob Golac	Nelson	352-7665
3. Jarvis Clark has one ST2 mucker priced at \$61,500 with rental at 8% per month, minimum 4 months.
4. Wajax Industries has one 912 Eimco, rent negotiable.
5. Cal Van Caterers estimate board costs for 12 men will be \$25.00 per man day F.O.B. Prince Rupert. Anything over 12 men would be \$33.40/man day.
6. Bute Towing are familiar with the area and believe they could put a barge into Indian Arm. They will unload only at high tide (4 hrs.).
7. North Arm Transportation has an oil service barge going north every 3 weeks or more. They can deliver fuel and could handle all equipment and supplies on deck. They would deliver fuel and supplies on trips through the area from time to time.

Both estimate about the same price.
8. Don Tweedy of Delta Tractor has a D6 for rent at \$3,500/month. Reportedly in good condition - 588-3084
9. A marine chart of the Foul Bay area may be available at Gundry Bilmach on Powell St.
10. Atco have available two trailers 10x52 and 10x44. Rentals 1365/month for 2.
11. North Coast Air Lines quote a Beaver aircraft cost of \$1.25 per mile. Payload about 1,100 lbs.

OPERATING STATISTICS

1. Labour as a percent of rentals and supplies

Equipment rentals	\$ 83,790
Supplies	107,621
Wages	<u>188,255</u>
TOTAL	\$379,666
% labour 49.6	

2. Direct cost of sinking and drifting

	<u>TOTAL COST</u>	<u>COST/FT</u>
Labour	\$145,240	\$ 97
Rentals	58,590	39
Supplies	95,121	63
Other	51,052	34
	<u>\$350,003</u>	<u>233</u>

3. Board Costs

Groceries 21,431 x 1.15	=	\$ 24,646
Labour 127 man days @ 115	=	14,605
Other - fuels, help, breakage etc.	=	5,887 (15%)
TOTAL		<u>\$ 45,138</u>

Man days in camp 1,622

Cost per man day \$ 27.00

EQUIPMENT RENTALS

	<u>WEIGHT</u>	<u>VALUE</u>	<u>RENTAL</u>
	<u>TONS</u>	<u>\$</u>	<u>/MONTH</u>
D 6 bulldozer & wench	18.0	50,000	5,000
ST2 mucker or equivalent	12.0	50,000	4,500
12B mucker (track)	3.0	7,000	600
End dump cars (2)	1.2	3,000	200
Diamond Drill & rods	1.0	7,000	500
Rock Drills (5)	0.5	5,000	700
Ventilation fan	0.1	1,600	150
Water pumps (2)	0.1	2,000	200
Compressor 600cfm	5.0	18,000	1,500
Lighting plant 10 kw	0.2	4,000	400
Trailer accomodation	10.0	22,000	1,600
B.C.S.S. @ 77. on rentals			1,075
Contingencies @ 15%	7.9	25,440	2,463
	<u>59.9</u>	<u>195,040</u>	<u>18,888</u>

Rental cost/day \$630

for 133 days rental = \$83,790

SUPPLY PURCHASES

	WT. <u>TONS</u>	VALUE <u>\$</u>
Diesel Fuel 26,000 gal @ 0.58	F.O.B.	\$15,080*
Gasoline 2,000 gal @ 0.68	F.O.B.	1,360*
Lub oils 500 gal @ 1.25	2.6	625
Storage tanks 3 x 3,000	4.0	3,000
Explosives 11.5 tons @ \$62/100 lbs.	11.5	14,260*
Fuse & Caps 6,000 x 10 ft. @ \$64/100)	0.3	3,840
4,000 x 3 ft. @ \$50/100)		2,000
Rail 1,000 ft. of 20 lbs. @ 450/T	3.4	1,530
Steel & bits	0.5	2,300
Air pipe 1200 lineal ft. 4" @ 1.90 )		2,280
Water pipe 1200 lineal ft. 1" @ 0.72)	1.0	864
Vent pipe 1200 lineal ft. 2 1/2" @ 0.92)		1,104
Air hose 600 lineal ft. 1" @ 1.40)		840
Water hose 600 lineal ft. 1/2" @ 0.95)		570
Timber 20,000 Bd. Ft. @ \$385/M	10.0	7,700
Mine tools & hardware		
shovels, picks, saws, air tools, valves,		
rope, cable, wire, nails, tarps, slickers,		
F.A. etc.	2.0	4,600
Spare parts - estimate \$5/ft of drive	3.0	7,500
Groceries 10 lbs/man/day @ 1.25/lb.	8.5	21,431*
Utensils, bedding, etc. @ \$200/man	0.5	2,700
* Items exempt from B.C.S.S.		
B.C.S.S. @ 7% on \$41,453		2,902
Contingencies @ 15% on \$93,584	7.0	14,037
	<hr/> 54.3	<hr/> 107,621

Radio telephone is currently owned by Sproatt Siver

TIME ESTIMATES

Day - 30 to 0

30 days to make supply purchase, equipment rentals, and assemble all for loading. (1 man 15 day)

Day 0 to 6

Mobilize and barge to Banks Island.

Day 7 to 9

Unload and set up temporary camp.

Day 10 to 27

Construct road

Day 28 to 30

Move and set up permanent camp.

Day 31 to 123

Complete mining

Day 124 - 133

Demobilize and barge to Vancouver

Time required for payroll crew 127 days.

Time required for Vancouver Office 163 days.

Time required for rentals 133 days

DISTRIBUTION OF SUPPLIES

Day - 30 to + 6	-
Mobilize	
Day 7 to 9	
28 to 30	1,800
Camp Installation	
Day 10 to 27	
Road Construction	
Fuel           1,080	
Explosives 2,880	
Steel Bits    630	
Food           2,106	
Conting.    1,004	7,700
Day 31 to 123	
Mining	95,121
Day 124 to 133	
Demobilize	3,000
TOTAL	<u>107,621</u>

SALARIES & WAGES

Salaries and wages are based on \$100 per day per man with a contingency of 15%.

Salary and wage distribution is as follows:

	<u>VANCOUVER OFFICE</u>	<u>MINE PAYROLL</u>
Day 30 to 0 ( 15 man days )	1,725	-
Day 1 to 6 ( 6 man days )		
12 man days	690	1,380
Day 7 to 9 ( 3 man days )		
27 man days	345	3,105
Day 10 to 27 ( 18 man days )		
162 man days	2,070	18,630
Day 28 to 30 ( 6 man days )		
27 man days	690	3,105
Day 31 to 123(147 man days )		
1116 man days	16,905	128,340
Day 124 to 133 (13 man days)		
70 man days	1,495	8,050
Day 133 on 15 man days	1,725	
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	25,645	162,610
TOTAL	188,255	
TOTAL MANDAYS	1,637	

CASH FLOW REQUIREMENTS

	<u>PAYROLL</u>	<u>SUPPLIES</u>	<u>RENTALS</u>	<u>OTHER</u>	<u>TOTAL</u>
Day 30 to 0	1,725	107,621		25,036	134,382
Day 1 to 30	30,015	-	18,900	22,993	71,908
Day 31 to 60	46,805	-	18,900	22,993	88,698
Day 61 to 90	46,805	-	18,900	33,343	99,048
Day 91 to 120	46,805	-	18,900	22,993	88,698
Day 120 on	16,100	-	8,190	20,045	44,335
	<u>188,255</u>	<u>107,621</u>	<u>83,790</u>	<u>147,403</u>	<u>527,069</u>