#### SUPERINTENDENT OF BROKERS AND VANCOUVER STOCK EXCHANGE (Development Company)

# 019898

### **STATEMENT OF MATERIAL FACTS (08/89)**

Effective Date: February 28, 1989



# SUNTAC MINERALS CORPORATION

#860-625 Howe Street, Vancouver, B.C. V6C 2T6 Phone: (604) 687-7545

UER, ADDRESS OF HEAD OFFICE AND TELEPHONE NUMBER

Canada Place, Vancouver, B.C. V6C 3C8

**REGISTERED OFFICES OF ISSUER** 

PORATE SERVICES LIMITED

ve Street, Vancouver, B.C. V6C 3B8

ADDRESS OF REGISTRAR AND TRANSFER AGENT FOR ISSUER'S SECURITIES IN **UMBIA AND RECORDS OFFICE OF ISSUER** 

,350,000 Units, each Unit comprising one common share and two Series "A" share purchase warrants, two warired to purchase one further common share. (The Offering may be increased by up to 15% (202,500 Units) in r subscription. See heading "Plan of Distribution".)

	Estimated (1) Price to Public	Estimated Agents' Commission (2)	Estimated Net Proceeds to be received by the Issuer (3)
Per Unit	\$1.00	\$0.075	\$0.925
Total	\$1,350,000	\$101,250	\$1,248,750

(1) To be calculated in accordance with the rules of the Vancouver Stock Exchange.

(2) In addition the Agents will be granted Agents' Warrants entitling them to purchase up to a total of 675,000 common shares in return for guaranteeing the sale of the Units offered hereby. See heading "Plan of Distribution"

(3) Before deduction of the costs of this Offering estimated to be \$25,000.

#### **ADDITIONAL OFFERING**

The Agents have agreed to purchase (the "Guarantee") any of the Units offered hereby which have not been sold at the conclusion of the Offering. Any shares or Series "A" Warrants acquired by the Agents under the Guarantee will be distributed under this Statement of Material Facts through the facilities of the Vancouver Stock Exchange at the market price at the time of sale.

THE SECURITIES OFFERED HEREUNDER ARE SPECULATIVE IN NATURE. ALL OF THE PROPERTIES IN WHICH THE ISSUER HAS AN INTEREST ARE IN THE EXPLORATION AND DEVELOPMENT STAGE ONLY AND NONE OF THE ISSUER'S PROPERTIES CONTAIN A KNOWN BODY OF COMMERCIAL ORE. EXCEPT FOR THE POLARIS-TAKU PROPERTY NO SURVEY OF ANY PROPERTY OF THE ISSUER HAS BEEN MADE AND THEREFORE IN ACCORDANCE WITH THE LAWS OF THE JURISDICTION IN WHICH THE PROPERTIES ARE SITUATE, THEIR EXIS-TENCE AND AREA COULD BE IN DOUBT.

Information concerning the risks involved may be obtained by reference to this document; further clarification, if required, may be sought from a broker.

#### AGENTS

# CANARIM INVESTMENT CORPORATION LTD.

2200-609 Granville St., Vancouver, B.C. V7Y IH2

C.M. OLIVER & COMPANY LIMITED	CONTINENTAL SECURITIES
2nd Floor, 750 West Pender Street, Vancouver, B.C. V6C 1B5	10th Floor, 1055 Dunsmuir Street, Vancouver, B.C. V7X 1L5
McDERMID ST. LAWRENCE LIMITED	MIDLAND DOHERTY LIMITED
1000-601 West Hastings Street, Vancouver, B.C. V6B 5E2	595 Burrard Street, Vancouver, B.C. V7X IC3

Neither the Superintendent of Brokers nor the Vancouver Stock Exchange has in any way passed upon the merits of the securities offered hereunder and any representation to the contrary is an offence.

The Issuer proposes to drill test the main showing on the property to depth and along the strike. Included in the Issuer's working capital is a reserve of approximately \$96,000 to complete the proposed drilling program which funds were raised under its initial public offering by Prospectus dated July 4, 1988. Management of the Company is of the view that the Good Friday Property, while promising, constitutes a lower corporate priority than the Company's Polaris-Taku Property (see below). Accordingly, upon completion of this Offering the reserved funds for the drilling program on the Good Friday Property will be reallocated and used in conjunction with the proceeds of this Offering as set out under Item 2 herein. The Issuer intends to proceed with the recommended drilling program on the Good Friday Property during the 1989 exploration season, subject to obtaining additional financing.

The property has no known ore reserves.

#### Polaris-Taku Property

#### (a) The Acquisition Agreement

The Issuer has entered into an option agreement made as of the 27th day of July, 1988, (the "Option Agreement") with Rembrandt Gold Mines Ltd. ("Rembrandt"), an Ontario corporation, having an address at #819 - 409 Granville Street, Vancouver, B.C. V6C 1T2, wherein the Issuer has the right (the "Option") to earn an undivided 60% interest in and to the Polaris-Taku property, a former producing property which comprises 61 Crown granted mineral claims located in the Atlin Mining Division, British Columbia. Rembrandt is at arms-length to the Issuer.

Pursuant to a finder's fee agreement dated August 11, 1988, the Issuer issued 15,000 shares at a deemed price of \$0.90 per share to an individual at arms-length to the Issuer as a finder's fee in connection with the acquisition by the Issuer of the Option.

Under the terms of the Option Agreement the Issuer paid \$25,000 to Rembrandt to acquire the Option. In order to exercise the Option the Issuer must, prior to August 1, 1993, incur expenditures on the property aggregating \$3,000,000, complete a feasibility report, and, make annual cash payments to Rembrandt, as follows:

- on or before August 1, 1989, incur expenditures of at least \$300,000;

- on or before August 1, 1990, incur aggregate expenditures of at least \$800,000 and make a cash payment of \$40,000;

- on or before August 1, 1991, incur aggregate expenditures of at least \$1,300,000 and make a cash payment of \$100,000;

- on or before August 1, 1992, incur aggregate expenditures of at least \$1,800,000 and make a cash payment of \$100,000;

- on or before August 1, 1993, incur aggregate expenditures of at least \$3,000,000 and make a cash payment of \$100,000 and complete and deliver a feasibility report recommending commercial production.

Following exercise of the Option and on or before August 1 in each year thereafter, until commencement of commercial production, the Issuer must continue to make annual cash payments of \$100,000 to Rembrandt.

The annual cash payments made to Rembrandt (except for the initial \$25,000 paid to acquire the Option) will be accumulated and either:

(a) credited toward the Issuer's obligation to pay a net profits royalty, when and if Rembrandt becomes entitled to receive such a royalty, or

(b) recovered by the Issuer from Rembrandt's share of mineral products, when and if Rembrandt becomes entitled to receive such mineral products,

as the case may be.

Upon the Issuer exercising its Option and delivering a production notice to Rembrandt, Rembrandt must elect to either:

- (a) maintain a 40% working interest;
- (b) reduce its interest to a lesser working interest (not less than 15%), or
- (c) convert its working interest to a net profits royalty.

If Rembrandt elects to retain a working interest the parties will proceed with a production program on a joint venture basis to develop and mine the property, with the Issuer acting as operator.

If Rembrandt elects to convert its interest to a net profits royalty the Issuer will have acquired a 100% interest in and to the Polaris-Taku Property subject only to the obligation to:

(a) continue to make annual cash payments to Rembrandt until commencement of commercial production;

(b) upon commencement of commercial production issue 250,000 shares to Rembrandt (as described below); and

(c) following commencement of commercial production, pay a 15% net profits royalty or minimum royalty, whichever is the greater, to be calculated and paid in accordance with the terms of the Option Agreement.

Upon commencement of commercial production and subject to regulatory approval the Issuer must issue a total of 250,000 common shares in its capital, as such shares are presently constituted, to Rembrandt.

If commercial production has not occurred within 12 months after Rembrandt has made its election then the subsequent annual August 1 cash payment to Rembrandt shall be increased from \$100,000 to \$150,000 and for every year thereafter that the Issuer has not substantially commenced to place the property into commercial production the cash payments shall be increased by a further 50%.

The Issuer has separately arranged with Rembrandt to lease certain equipment located on the property for aggregate rental payments of \$12,500 per month commencing September 30, 1988 for a minimum of four rental months during the first year of the lease agreement. To December 31, 1988, the Issuer has made rental payments totalling \$37,500 pursuant to these arrangements and expects to continue to rent the equipment for the purpose of conducting the Phase II program on the property which is anticipated to take approximately four months to complete.

#### (b) History of the Property

The former Polaris-Taku gold mine is located on the property. The former mine workings are located in the north-west quadrant of the claims area. Gold mineralization was first discovered in 1929 and surface exploration was carried out from 1929 to 1932 and underground development commenced in 1933. The mine on the property operated from 1938 to 1942 and again from 1946 to 1951 and produced a total of 760,000 tons of ore yielding some 231,000 ozs of gold at an average grade of 0.30 oz/ton Au. The mine was closed because of increasing operating costs and a relatively low gold price. Mine records indicate the mining grade increased during the final years of operation and that in a number of areas ore grade material remains undeveloped.

The upper part of the mine was developed on five levels - Canyon (elev. 580 ft. above sea level), C (elev. 482 ft.), B (elev. 364 ft.), AJ (elev. 246 ft.) and Polaris (elev. 136 ft.) All levels, except C were developed from adits. Prior to the suspension of operations during wartime the majority of the production was derived from the upper levels of the mine. In 1940 a vertical three compartment timbered shaft was sunk from AJ level to a depth of 900 feet, from which five levels, namely the 150, 300, 450, 600 and 750 were excavated. The 750 level is some 620 feet below sea level. After the war, the production rate gradually increased and most of the ore was mined from the levels below Polaris and at grades notably higher than had previously been obtained from the upper levels of the mine.

The following data, obtained from the B.C. Ministry of Energy, Mines and Petroleum Resources is a record of the annual mine production during the operating period 1938 - 1951:

	Tons	Tons	Ozs Gold	Av. Gold	Ozs Silver	Av. Silver
Year	Mined	Milled	(net)	<u>Grade (oz/t)</u>	<u>(net)</u>	Grade (oz/t)
1938	52,678	58,759	12,765	0.22	495	0.008
1939	69,044	68,967	16,995	0.25	874	0.012
1940	80,320	80,364	22,954	0.29	1371	0.017
1941	89,684	89,609	19,091	0.21	1212	0.014
1942	30,966	31,335	17,506	0.56	1175	0.037
1946	25,724	25,724	3,267	0.13	486	0.019
1947	92,039	92,039	22,714	0.25	1589	0.017
1948	102,622	102,622	29,156	0.28	1311	0.013
1949	93,806	93,806	39,345	0.42	1384	0.015
1950	95,666	95,666	33,228	0.35	1182	0.012
1951	20,700	20,700	14,583	0.70	681	0.033
	753,249	759,600	231,604	0.30	11,760	0.015

Up until 1949 the concentrates produced by the mill were stored on site over the winter and shipped in summer to a freight anchorage at the head of the Taku Inlet. In an attempt to improve gold recoveries and reduce the high cost of shipping, an "Edwards" roaster and cyanide plant were installed and tested in 1949 and commenced commercial operation in September of 1950. Although the addition of the roaster helped to improve the economics of the operation it could only treat approximately one-third of the concentrates produced from the flotation plant. The mine and mill ceased operation in March of 1951.

Based on available historical data, the Issuer's consulting engineers, Beacon Hill Consultants Ltd., has estimated reserves on the property of 244,000 tons grading 0.33 ounces of gold per ton using a .15 ounce per ton cutoff grade and a minimum five foot mining width. The reserve consists of 132,000 tons in the "probable" category and 112,000 tons classified as "possible".

#### (c) Issuer's Exploration Work

To date the Issuer has completed an initial Phase I exploration program which was designed to provide an initial evaluation of the property and consisted of surface diamond drilling, rehabilitation of the AJ Portal and other existing underground workings on the property, geochemistry, an environmental study and re-establishment of the old townsite as a camp facility, at an approximate cost of \$482,769 A total of eight surface drill holes were completed for a total of 3,372 feet to test targets within the old mine workings but in areas outside of the present delineated ore reserves. Results of this drilling program include:

Drill holes 88-1 and 88-2 intercepted a vein system at the bedrock-overburden contact. The vein is up to 21 feet thick and could represent a faulted or folded splay of the same "Y" vein system;

Drill holes 88-3 and 4 intercepted several vein systems whichwere generally narrower but with some very high grades; hole 88-3 intersected three feet of 1.190 oz/ton Au;

Drill hole 88-5 - 6.0 feet from 172 to 178 feet graded .480 oz/ton Au;

Drill hole 88-6 did not encounter any economic values;

Hole 88-7 - 10.3 feet from 202.0 to 212.3 feet graded 0.569 oz/ton Au, and

Hole 88-8 - 11.0 feet from 257 to 268 feet graded 0.510 oz/ton Au.

The geologist's view is that the 88 series of holes, taken together with the "L" series of holes drilled in the 1940's by the previous operators, indicates an extension of the existing reserve block with a significant increase in the strike length of the "Y" vein system above the Polaris level. The data suggests additional reserve blocks which were not included in the previous reserve calculations.

In addition, a preliminary inspection of the AJ level indicates that the old workings remain in excellent condition. The manway leading to the Polaris level is currently being rehabilitated and will allow personnel to inspect the Polaris level before commencing work to re-open the portal, which served as the main haulage level during the production years. Preliminary inspection of the Polaris level also indicates that it remains in good condition. This level will be reopened at the portal as part of the next work program.

The Issuer's consulting engineers, Beacon Hill Consultants Ltd., have recommended a Phase II exploration program in a letter report (the "Letter Report") dated December 16, 1988, which supplements the Geology Review and Exploration Program Report (the "Report") dated September 1988, by the same authors. The Report recommended a Phase I exploration program which has now been completed. Both the Letter Report and the Report are annexed to and form part of this Statement of Material Facts.

The recommended Phase II exploration program is based on the results of the Phase I program. The objective of the Phase II program is to further the exploration and data gathering in respect of the area above the Polaris level and to upgrade the level of reserves previously estimated. The Phase II program is estimated to cost \$950,000 and will consist of further assays, geophysics, line cutting, sampling, surveying, mapping, logging and 10,000 feet of diamond drilling (NQ). The Issuer intends to use the majority of the proceeds of this Offering to carry out the recommended Phase II program.

#### Jessy Claims

Pursuant to an agreement dated the 14th day of December, 1988 between the Issuer and Robert Schlase of 1756 Lilac Drive, Surrey, British Columbia, the Issuer has acquired a 100% interest in two groups of mineral claims in the Coquihalla River area of the New Westminster Mining Division, approximately 18 kilometres northwest of Hope, British Columbia, known as the Jessy 1 and 2 claims. The consideration for the acquisition of the Jessy Claims was the issuance of 100,000 shares at a deemed price of \$0.85 per share to Mr. Schlase. Mr. Schlase is at arms-length to the Issuer.

The Issuer anticipates carrying out an initial exploratory work program on the property in the Spring of 1989 in accordance with recommendations to be made by the Issuer's consulting engineer and subject to the availability of financing.

#### GROUP III - Other presently held properties upon which the Issuer's acquisition and exploration costs to date exceed \$100,000

The Issuer at present does not hold any other properties upon which its acquisition and exploration costs to date exceed \$100,000.

#### 4. PARTICULARS OF NON-RESOURCE ASSETS

The Issuer does not own or have any interest in any non-resource assets.

# **POLARIS - TAKU MINE**

# GEOLOGICAL REVIEW AND

# **EXPLORATION PROGRAM**

# SUMMARY REPORT

# ATLIN, BRITISH COLUMBIA

# ATLIN MINING DISTRICT

# N.T.S Map: 104 k/12E

# Latitude: 58° 42' N Longitude: 133° 37' E

Prepared For: Suntac Minerals Corporation 860-625 Howe Street Vancouver, B.C V6C 2T6

September 6, 1988

•

.

.

Beacon Hill Consultants Ltd.

# POLARIS - TAKU MINE

# GEOLOGY REVIEW AND EXPLORATION PROGRAM

# TABLE OF CONTENTS

Section 2:Introduction48Section 3:Property Description3.1Location and Access483.2Claims Status513.3Property History533.4Mine Development and Production53Section 4:Geology and Reserves4.14.1General Geology544.2Property Geology544.3Reserves564.4Exploration Potential57Section 5:Conclusions and Recommendations575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase 1585.3.3Phase I585.3.3Phase I585.3.3Phase I585.3.4Float I585.3.4Float I585.3.3Phase I585.3.4Float I585.3.5Phase I585.3.3Phase I585.3.4Float I585.3.5Phase I585.3.6Float I585.3.7Phase I585.3.8Float I585.3.3Phase II60	Section 1:	Summary		47
Section 3:Property Description3.1Location and Access483.2Claims Status513.3Property History533.4Mine Development and Production53Section 4:Geology and Reserves4.14.1General Geology544.2Property Geology544.3Reserves564.4Exploration Potential55Section 5:Conclusions and Recommendations575.1Conclusions575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase I Cost Estimate605.3.3Phase I I60	Section 2:	Introductio	Dn	48
3.1Location and Access483.2Claims Status513.3Property History523.4Mine Development and Production53Section 4:Geology and Reserves544.1General Geology544.2Property Geology544.3Reserves564.4Exploration Potential57Section 5:Conclusions and Recommendations575.1Conclusions575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase 1585.3.3Phase II60	Section 3:	Property D	Description	
3.2Claims Status513.3Property History533.4Mine Development and Production53Section 4:Geology and Reserves544.1General Geology544.2Property Geology544.3Reserves564.4Exploration Potential57Section 5:Conclusions and Recommendations575.1Conclusions575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase 1585.3.3Phase 1585.3.3Phase 1605.3.3Phase 160		3.1	Location and Access	48
3.3Property History533.4Mine Development and Production53Section 4:Geology and Reserves4.14.1General Geology544.2Property Geology544.3Reserves564.4Exploration Potential57Section 5:Conclusions and Recommendations575.1Conclusions575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase 1585.3.3Phase II60		3.2	Claims Status	51
3.4Mine Development and Production53Section 4:Geology and Reserves4.14.1General Geology544.2Property Geology544.3Reserves564.4Exploration Potential57Section 5:Conclusions and Recommendations575.1Conclusions575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase 1585.3.3Phase II60		3.3	Property History	53
Section 4:Geology and Reserves4.1General Geology544.2Property Geology544.3Reserves564.4Exploration Potential57Section 5:Conclusions and Recommendations575.1Conclusions575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase 1585.3.3Phase I605.3.3Phase I60		3.4	Mine Development and Production	53
4.1General Geology544.2Property Geology544.3Reserves564.4Exploration Potential57Section 5:Conclusions and Recommendations5.1Conclusions575.2Recommendations575.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase 1585.3.3Phase I605.3.3Phase II60	Section 4:	Geology an	nd Reserves	
4.2Property Geology544.3Reserves564.4Exploration Potential57Section 5:Conclusions and Recommendations575.1Conclusions575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase 1585.3.3Phase I Cost Estimate605.3.3Phase II60		4.1	General Geology	54
4.3Reserves564.4Exploration Potential57Section 5:Conclusions and Recommendations575.1Conclusions575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase 1585.3.3Phase I Cost Estimate605.3.3Phase II60		4.2	Property Geology	54
4.4Exploration Potential57Section 5:Conclusions and Recommendations575.1Conclusions575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase 1585.3.3Phase II605.3.3Phase II60		4.3	Reserves	56
Section 5:Conclusions and Recommendations5.1Conclusions575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase I Cost Estimate605.3.3Phase II60		4.4	Exploration Potential	57
5.1Conclusions575.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase I Cost Estimate605.3.3Phase II60	Section 5:	Conclusion	s and Recommendations	
5.2Recommendations585.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase I Cost Estimate605.3.3Phase II60		5.1	Conclusions	57
5.3Recommended Exploration Program585.3.1Phase 1585.3.2Phase I Cost Estimate605.3.3Phase II60		5.2	Recommendations	58
5.3.1 Phase 1 58   5.3.2 Phase I Cost Estimate 60   5.3.3 Phase II 60		5.3	<b>Recommended Exploration Program</b>	58
5.3.2Phase I Cost Estimate605.3.3Phase II60		5.3.1	Phase 1	58
<b>5.3.3 Phase II</b> 60		5.3.2	Phase I Cost Estimate	60
		5.3.3	Phase II	60

Certificate:

.

**References:** 

----

# LIST OF DRAWINGS

.

Figure 1:	Location Map
Figure 2:	Property Location Plan
Figure 3:	Claims Map
Figure 4:	Surface Plan
Figure 5:	Property Geology
Figure 6:	Composite Level Plan
Figure 7:	Longitudinal Section A & B veins - Footwall Geology
Figure 8:	Geology Section 4050 N
Figure 18:	Plan of Proposed Exploration Program - Phase I

•

-

#### SECTION 1

#### SUMMARY

The Polaris - Taku property is located approximately 40 miles north-east of Juneau, Alaska and 60 miles south of Atlin in the Coast Range mountains of British Columbia. This report summarizes the history of the property, the development of the former mining operation, reviews the geology, reserves, and exploration potential, and recommends a phased exploration program. The report is written at the request of Suntac Minerals Corporation which can earn an interest in the property presently owned by Rembrandt Gold Mines Ltd.

The property lies on the west side of the Tulsequah River Valley, approximately 6 miles upstream from the confluence of the Tulsequah and Taku Rivers. The former mine facilities and townsite are situated on the western edge of the valley bottom at an elevation of about 100 feet. The claims cover an area of some 2100 acres and consist of 61 contiguous Crown grants.

The Polaris - Taku property covers a sequence of volcanic and sedimentary rocks which forms part of the Tulsequah synclinorium. The ore deposits are hosted principally by the volcanics and the mineralization occurs in a series of quartz veins and associated host rock alteration zones. The mine workings are situated in a wedge - shaped shear zone apexing to the northwest and bounded on both sides by strong faults, the Limestone zone on the south west and the Whitewater Creek zone on the north. The veins have been explored and developed over a length of some 3500 feet along the strike of the wedge.

Gold mineralization was first discovered on Whitewater Creek in 1929. Surface exploration was carried out during 1929 to 1932 and underground development commenced in 1933. The Polaris-Taku mine operated from 1938 to 1942 and again from 1946 to 1951, and produced a total of 760,000 tons of ore at an average grade of 0.30 oz Au/t. The mine was closed because of steadily increasing operating costs and a relatively low gold price. Mine records indicate the ore grade increased during the final years of operation and that areas of mineable grade mineralization remain undeveloped.

The reserves remaining within the developed area of the mine are estimated to be 243,000 tons at an average grade of 0.33 oz Au/t, based on a cut-off grade of 0.15 oz/t and a minimum mining width of 5 feet. The reserve consists of 132,000 tons in the 'probable' category and 110,000 tons classified as 'possible'.

The report concludes that the Polaris - Taku property has excellent potential for developing additional vein systems both along strike and at depth, and that the present reserves should be greatly enhanced through further exploration.

It is recommended that a two phase exploration program be undertaken to complete an evaluation of the property. The first phase, estimated to cost about \$400,000, will complete a preliminary investigation of the property and provide the necessary input to the second phase which will cost an estimated \$2.6 m and bring the project to the feasibility stage.

#### **SECTION 2**

#### INTRODUCTION

Suntac Minerals Corporation has recently taken an option on the Polaris - Taku property, a former producing gold mine located in the Atlin District of northwestern B.C., some 40 miles north-east of Juneau, Alaska. Under the terms of the agreement Suntac may earn an interest in the property, owned by Rembrandt Gold Mines Ltd., by funding an exploration program and completing an evaluation of the project.

The property was originally developed in the 1930's as an underground mining operation, and was in production over a period of 11 years before being closed in 1951.

In August, 1988, Beacon Hill Consultants Ltd. was requested by Suntac to undertake a review of the available data from the mine, and prepare a report to be used in support of raising finances for the first phase of the exploration program.

This summary report, in addition to the main report, has been prepared by Beacon Hill Consultants Ltd. under the direction of Mr. B.M. Briggs, P. Eng., with the assistance of Mr. W.P. Stokes, P. Eng., and Mr. R.J. Morris, all of whom visited the property on August 21, 1988, accompanied by Mr. C.A. Angus, President of Suntac Minerals Corporation.

#### SECTION 3

#### PROPERTY DESCRIPTION

#### 3.1 Location and Access

The Polaris - Taku mine is located on the eastern flank of the Pacific Coast Range Mountains in northwestern British Columbia, approximately 40 miles north-east of Juneau, Alaska, and 60 miles south of Atlin, B.C. (Figures 1 & 2). The property lies about 5 miles from the Alaska - B.C. International Boundary.

Access to the site is presently by helicopter, with service available from both Juneau and Atlin. A 4000 ft. airstrip, built to serve the former operation and located 4 miles south of the mine, is currently in use and can accommodate DC-3 aircraft. An access road from the airstrip, which extends along the west bank of the Tulsequah River through extensive sand and gravel flats, requires upgrading before it can be utilized for vehicular traffic.

The former mine and townsite facilities are situated at the western edge of the level valley bottom, near the area where Whitewater Creek descends into the valley from the west. Elevations on the property range from less than 100 feet at river level, to over 2400 feet on the western edge.

Water supply is available in adequate quantities from creeks running through the property. There is no electrical power at the site.





#### 3.2 Claims Status

The property consists of 61 contiguous Crown granted mineral claims, covering an area of approximately 2100 acres. The claims, held by Rembrandt Gold Mines Ltd., and under option to Suntac Minerals Corporation are listed as follows:

Claim Name	Lot No.	Folio No.	Claim Name	Lot No.	Folio No.
Polaris No.1	6109	4472	Polaris No.5	6143	5223
Polaris No.2	6140	5223	Polaris No.6	6144	5223
Polaris No.3	6141	5223	Polaris No.7	6145	5223
Polaris No.4	3498	4545	Polaris No.8	6146	5223
Polaris No.9	6147	5223	Snow	3497	4545
Polaris No.10	6148	5290	Snow No.2	3495	5088
Polaris No.11	6149	5290	Snow No.3	3494	5495
Polaris No.12 Fr	6150	5290	Snow No.4	3499	5495
Polaris No.13 Fr	6151	5290	Snow No.5	6105	4472
Polaris No.14	6152	5290	Snow No.6	6107	4472
Polaris No.15	6153	5290	Snow No.7	3500	4472
Silver King No.1	5489	4804	Snow No.8	6106	4472
Silver King No.2	5490	4804	Snow No.9	6108	4472
Silver King No.3	5493	4804	Black Diamond	3491	4472
Silver King No.4	5494	4804	Black Diamond No	o.36030	4944
Silver King No.5	5491	4804	Blue Bird No.1	5708	4545
Silver King No.6	5492	4804	Blue Bird No.2	5707	4545
Silver King No.7	5495	4804	Lloyd	6035	5010
Silver King No.8	5717	4545	Lloyd No. 2	6036	5010
Silver Queen No.1	6026	4545	Rand No. 1	6039	5010
Silver Queen No.2	6027	4545	Rand No. 2	6040	5010
Silver Queen No.3	6028	4944	Minto No.2	6033	4944
Silver Queen No.4	6029	4944	Minto No.3	6034	4944
Silver Strand	6037	5010	Jumbo No.5	6031	4944
Silver Strand No.2	6038	5010	<b>Ready Bullion</b>	6032	4944
Roy	6042	5088	Francis	6041	5010
Eve Fraction	6170	5495	Eve No.1 Fraction	6171	5495
P.T. Fraction	3493	5495	Ant Fraction	3492	5088
Atlin Fraction	3496	5088	<b>Powder Fraction</b>	6043	5088
F.M. Fraction	6044	5088	Jay Fraction	6045	5088
Par Fraction	6154	5290	-		

The mine workings are located in the north-west quadrant of the claims area at approximately  $58^{\circ}$  42' N,  $133^{\circ}$  37' W.

The claim boundaries are shown in Figure 3.



#### 3.3 Property History

The property was originally staked in 1929 and exploration was carried out by various groups until 1936 when the Polaris-Taku Mining Company acquired the property. A 250 tpd mill was erected on the property in 1937 and mining operations continued until 1942. In 1946 operations resumed until 1951 when the mine closed down because of high operating costs. During the 11 years of operation the mine produced a total of 760,000 tons of ore, yielding some 231,000 ozs of gold at an average grade of 0.30 oz/t.

Shortly after mine closure the mill was leased to Tulsequah Mines Ltd., and modified to process 500 tons per day from two adjacent mines, Tulsequah Chief and Big Bull. This operation ceased in 1957.

All major pieces of equipment were removed from the site and no further work took place at the property. The buildings and services fell into disrepair.

#### 3.4 Mine Development & Production

The upper part of the mine had been developed on five levels - Canyon (elev. 580 ft. ASL), C (elev. 482 ft.), B (elev. 364 ft.), AJ (elev. 246 ft.) and Polaris (elev. 136 ft.). All levels, except C, were developed from adits. A vertical three compartment timbered shaft sunk from the AJ level to a depth of 900 feet, provides access to the five lower levels, the 150, 300, 450, 600 and 750.

The ore veins were generally mined by shrinkage stoping methods, with some cut and fill and open stoping where applicable. The ground conditions for the most part were reportedly quite good with few areas requiring extensive ground support.

During almost the entire operating period, the Polaris - Taku mill produced concentrates which were stored on site over the winter and shipped in summer by shallow draught barges along the Taku River to a freight anchorage at the head of Taku Inlet.

In an attempt to improve gold recoveries and reduce the high cost of shipping concentrates to the Tacoma smelter, an Edwards roaster, and a cyanide plant, were installed and tested in 1949, and, after some modifications to the equipment and circuits were made, commenced operation in September, 1950. Although the addition of the roaster helped to improve the economics of the operation, it could only treat about one - third of the concentrates produced from the flotation plant. The roaster continued to treat flotation concentrates for a short period after the mine and mill ceased operation in March, 1951.

Power for the mine and surface facilities was provided by an on-site hydro-electric plant utilizing water from Whitewater Creek during the heavy summer run-off period, and by diesel generators which provided additional power in the summer as well as all the power in the winter.

#### **SECTION 4**

#### **GEOLOGY & RESERVES**

#### 4.1 General Geology

The Polaris - Taku property covers Upper Paleozoic volcanics and sedimentary rocks which are part of the Tulsequah synclinorium. The sequence comprises basal sediments, quartzites and schists, irregularly occurring limestone, and volcanics which are the principle host of the ore deposits.

#### 4.2 **Property Geology**

The descriptions and comments provided herein are derived from the geological descriptions by Smith (1950), Kerr (1932) and to a lesser extent Black (1947, 1948), Hemsworth (1949, 1950) and Ash (1983).

Mining has been confined to a northwest - southeast wedge of rock called the "mine wedge". It is bounded on both sides by faults, the westerly Limestone zone and the Whitewater zone on the east.

The limestone fault zone is a series of faults striking to the southeast with steep dips which separate the limestone with interbedded volcanics from the mine wedge. The Whitewater zone forms the north boundary of the mine area and represents a fault or shear zone which separates grabbroic rock from the mine wedge. The location of the Limestone fault zone appears to have been tested at each level during mining, although the location of the Whitewater zone shows limited testing. Both zones continue northerly from the apex of the mine wedge and their surface expression can be traced for several kilometers.

Within the mine wedge the principle host rock is volcanic, comprising tuffs and pyroclastics with limited continuity. Within the volcanics are numerous dykes of highly variable composition. Ultramafics have also been recognized including serpentine and amphiboli.

Gold mineralization is in quartz veins and associated, altered volcanics. The best gold values are from fine needles of arsenopyrite disseminated in the carbonatized greenstone adjacent to fractures. The carbonatization of the volcanics is either ankerite or ferro-dolomite.

The quartz vein system as described is an example of a Riedel shear. The veins follow fractures in the sheared body, the mine wedge, and include the following orientations:

- 1. Northwest fractures; example, the "A" shear, up to 6 m wide.
- 2. North south fractures; typically narrower and more fault related; examples include Y, 25, and 42 veins.
- 3. Northeast fractures; examples, 25, 2, 3, and 5 veins.
- 4. East west fractures; no major vein systems developed along E-W fracture.



Up to 80% of the mine production was from "structural knots" where the main A-B veins have been intersected by both northeast and north-south veins.

Shear zones are common features in terrains dominated by wrench - fault tectonics. Massive, competent rock fractures brittly to produce brecciated zones allowing the flow of hydrothermal solutions. A combination of this structurally prepared ground and chemically attractive host rock yields lode gold deposits.

Multi-event structural and hydrothermal features are common in shear bodies, including:

- stretching and pulling-apart of lithologies creating a "discontinuous" appearance.
- multiple fault events resulting in rotation.
- brecciation and reworking of fracture zones and multiple dyke orientations.
- multiple mineralogy of veins and dykes.

The Polaris - Taku deposit can be classified as a mesothermal lode gold deposit. It is similar both structurally and chemically to the deposits in the Bridge River camp.

#### 4.3 Reserves

A compilation of the remaining reserves have been estimated and are summarized below:

	Geological Undiluted		Diluted Mining Reserves	
	Tons (short)	Grade (oz/t)	Tons (short)	Grade (oz/t)
Probable	103,610	0.43	132,210	0.33
Possible	86,560	0.42	112,210	0.32
Total	190,170	0.43	244,420	0.33

#### Summary of Probable and Possible Reserves

The reserve estimated is based on the following:

- available mine plans, geological sections and sampling records
- sampling data along drifts, raises and stope backs, where it appears that minimal development work would be required to access those reserves.
- probable reserves located within 25 ft. of a well sampled drift or raise, along strike or dip of the vein.

- possible reserves blocks extending for 25 ft. to 50 ft. from the sample points.
- a cut-off grade of 0.15 oz/t, minimum mining width 5 feet.

A reserve calculation was completed by Adtec Consultants in 1983 and indicated the remaining reserves to be 223,000 tons at an average grade of 0.32 oz/t (diluted) based upon a 0.15 oz/t cut-off and a minimum mining width of 4 feet.

The reserve estimate provides a basis on which to build a reserve picture for the Polaris-Taku property and it is expected that a phased exploration program as outlined in this report will greatly enhance the present reserves.

#### 4.4 Exploration Potential

A shear body as large as the Polaris - Taku mine wedge has significant potential both along strike and at depth. Listed below are some important areas where future exploration should be focussed:

- 1. West of the mine wedge, both in the volcanics and the limestone (the Banker and Erickson - Ashby deposits are partially in the limestone).
- 2. Depth potential is indicated by Drill Hole L 84 which cut 10 feet of 0.32 oz/t, and the inferrence that the mine wedge is a structural block with unlimited depth (?).
- 3. Extension to the northwest is indicated by 50 ft of 0.1 oz/t found on surface which may be the A shear extension.
- 4. Extension to the southeast is essentially untested though several holes located the Y vein up to 230 ft northeast of the mill.
- 5. Ultramafic lenses within the mine wedge have carried free gold as well as high grades; these units should be located and further explored.

A number of these areas will be tested in the Phase 1 program, while the others are considered as targets for Phase II.

#### **SECTION 5**

#### **CONCLUSIONS & RECOMMENDATIONS**

#### 5.1 Conclusions

The conclusion of this report is that the Polaris - Taku is a property of merit with significant potential of developing additional reserves and therefore warrants further investigation by an aggressive exploration program.

#### 5.2 Recommendations

It is recommended that a phased exploration program be carried out in order to evaluate the property and define the necessary reserves. The initiation of the second phase will be contingent upon the results obtained from the first phase of the program.

#### 5.3 Recommended Exploration Program

#### 5.3.1 Phase 1

The Phase 1 exploration program has been designed to provide an initial evaluation of the Polaris - Taku property and provide the information and data required as input into the design of the much larger Phase II program.

The Phase 1 program has been divided into three sections:

- A. Surface Geological Work.
- B. Underground Access and Inspection.
- C. Phase I Report & derivation of the Phase II Exploration Program.
- A. Surface Geological Work

A multi phase exploration program is proposed with the objective to confirm the most accessible ore blocks within the mined area, to follow-up thick, well mineralized drill intercepts, and to test by using orientation surveys, modern highly accepted surface exploration techniques.

- (i) Surface Exploration the terrain is fairly gentle and a grid system should be established to tie in all surface work. As the overall structural trend is northwesterly and perpendicular to the hill side a grid oriented N 30<sup>o</sup> E will cross-cut all of the geology and approach the contours of the hill side. A grid 750 m by 600 m with the Polaris entry as the lowest elevation will be established (Figure 18).
- (ii) Geological mapping will be completed over the entire grid and property. A geologist with a strong structural background will aid in the ultimate analysis of the deposit.
- (iii) Soil geochemistry will be completed over the entire grid. Sample spacing should be 20 m in the N 30<sup>o</sup> E direction and 50 m in the N 60<sup>o</sup> W direction. This will yield approximately 500 samples, allowing for comprehensive statistical analysis. The samples will be tested by a certified Canadian laboratory and include a 30 element ICP and gold assay by A.A.

(iv) Geophysical techniques will include a ground magnetometer survey using the same spacing as the geochemistry. The magnetometer survey will assist the geological mapping. A VLF-EM survey is included, which has been successful in mapping structural features in the Bridge River camp.

#### (v) Surface Drilling

Several attractive targets will be tested by diamond drilling using 'NQ' size core to maximize core recovery. The initial program is intended to focus on areas of interest where previous drilling and sampling had indicated the presence of additional vein systems, or extensions to known veins previously developed. The program will cover the most favourable areas which can be reached economically from surface and thus will generally be targeting the upper levels of the mine.

The general location of the proposed drill holes are shown in Figure 18.

The total amount of drilling is estimated to be 2500 feet, and the planned program may be modified as drilling proceeds depending on the results obtained.

B. Underground Access and Inspection

The underground openings at the Polaris - Taku mine were last inspected in 1951 and a report prepared by Mr. Alexander Smith, a geologist. During a site visit on August 21, 1988, three portals were visited at the Polaris, AJ and B levels. All three portals were caved and inaccessible.

Phase 1 of the exploration program includes opening two adits, Polaris and AJ, establishing a ventilation circuit, and inspecting the two levels.

The purpose of inspecting the two levels is to provide a basis for designing and costing the Phase II program of rehabilitation, dewatering, equipment installation, underground diamond drilling, survey, sampling and geologic mapping.

C. Phase 1 Report & Derivation of the Exploration Program.

Upon completion of the on-site work a complete geological review of the exploration results and underground inspection will be completed. The Phase II exploration plans will be devised and costed and a detailed report on Phase 1 completed and presented.

#### 5.3.2 Phase 1 Cost Estimate

#### Cost Summary

Surface Work Underground Access and Inspection Project Management are Phase 1 report	\$122,675 \$195,675 <u>\$29,430</u>
Subtotal	\$347,680
Contingency @ 10%	\$35,000
Total Phase 1	\$382,680
Say	\$385,000

#### 5.3.2 Phase II

The Phase 1 work program is intended to provide the necessary information and data to design an effective Phase II program which in turn will provide the necessary input into a feasibility study to evaluate the mining potential of the Polaris - Taku property.

Although it is not possible to detail the work program and expected cost for the Phase II prior to completion of Phase 1, it is possible to outline the overall requirements and provide an approximate cost estimate.

It is intended, based upon present information, to limit the cost of the Phase II program to \$2.6 million. This cost will be fully reviewed upon preparation of the Phase II program.











.

# POLARIS - TAKU MINE

# PHASE II

# **EXPLORATION PROGRAM**

### ATLIN, BRITISH COLUMBIA

#### ATLIN MINING DISTRICT

# N.T.S Map: 104 k/12E

Latitude: 58° 42' N Longitude: 133° 37' E

Prepared For: Suntac Minerals Corporation 860-625 Howe Street Vancouver, B.C V6C 2T6

December 16, 1988

.

.

۰.

,

,

\_

Beacon Hill Consutants Ltd.

16th December, 1988

Suntac Minerals Corporation. 860-625 Howe St. Vancouver, B.C. V6C 2T6

Attention: Mr. C.A. Angus, President

Dear Sir,

I enclose the letter report, as per your request, outlining the recommended program for the Phase II Exploration of the Polaris-Taku property.

This letter report should be read in conjunction with the report "Geology Review and Exploration Program" dated September, 1988. A follow up report providing the details and back-up for the letter report will be prepared shortly, as per our discussion.

An important part of the Phase II Exploration Program is the assembly of the geologic data in a format that enables easier and more verifiable interpretation of the data available, presently and in the future. I would suggest this work commence as soon as possible to ensure that upon completion of Phase II, the new information can be adequately incorporated and interpreted to ensure that an effective accurate assessment can be made.

I have also included the cost of site visits by ourselves to the property and I would suggest that these occur at the beginning and the end of the program to enable the most accurate assessment and the most effective use of our services to be made.

If you should need any further information or clarification please contact me at 681-4100.

W.P. Stokes, P. Eng. Principal

#### POLARIS-TAKU MINE

#### PHASE II EXPLORATION

#### Summary

The Polaris-Taku Phase I Exploration Program has indicated the potential for additional ore reserves above the Polaris level with attractive thicknesses and grade.

The work completed to date indicates that further exploration is warranted and it is thus recommended that a Phase II Program, generally as outlined in this report, be implemented as soon as possible.

#### Introduction

The Polaris-Taku mine, a property under option by Suntac Minerals Corporation from the owners, Rembrant Gold Mines Ltd., was the subject of an initial exploration program during the last quarter of 1988. The results of this program are listed below.

Suntac Minerals Corporation has requested Beacon Hill Consultants Ltd. to review the results of the Phase I exploration program and recommend the work to be conducted in Phase II.

This letter report is intended to be read in conjunction with the report "Geological Review and Exploration Program" and provide an overview of the phase II program. A follow-up report is to be presented thereafter.

#### **Objectives of Phase II Exploration Program**

The objective of the Phase II program is to further the exploration and data gathering of the area above the Polaris level and upgrade the level of reserves previously estimated. This is a continuation of the work completed in Phase I and described in the report "Geological Review and Exploration Program" Polaris-Taku Mine, by Beacon Hill Consultants Ltd. dated September 6, 1988.

#### **Exploration Results of Phase I.**

Eight holes were completed in 1988 for a total of 3,372 feet. The holes were confined to the lower elevations of the property because of the limited availability of road building equipment.

Drill holes 88-5, 6, 7 and 8 appear to have tested a vein system which was identified previously by drilling on the Polaris level. Drill hole results include:

Intercept (ft)				
Hole No.	From	То	Thickness (ft)	Grade (oz/t)
88-5	172.0	178.0	6.0	0.480
88-6	samp	oles in for re-ass	say	
88-7	202.0	212.3	10.3	0.569
88-8	257.0	268.0	11.0	0.510
L58	-	-	25.0	0.930
			(true width = 6.2')	
L59	-	-	8.0	0.170
L50	-	-	18.8	0.394
L52	-	-	8.5	0.324

The 88 series of holes, together with the previously drilled L series, indicates an extension of an existing reserve block with a significant increase in the strike length of the 'Y' vein system above Polaris level.

Drill holes 88-1 and 2 intercepted a vein system at the bedrock-overburden contact. The vein is up to twenty-one feet thick and could represent a faulted or folded splay of the same vein as described above.

Drill holes 88-3 and 4 intercepted several vein systems which were generally narrower but with some very high grades; hole 88-3 intersected three feet of 1.190 oz/t.

The Phase I drilling results are very encouraging as additional reserve blocks have been indicated which were not included in previous estimates.

#### **Proposed Phase II Exploration**

A 10,000 foot drill program is included in the exploration program to test ore blocks and to follow-up previous intercepts. All of the drilling will be from surface from either existing or newly constructed roads. The new road system is designed to access all of the old mine entries and provide drill sites. A bulldozer and backhoe will be used to build the roads.

In order to provide safe access to the underground openings it is proposed that the Polaris portal be opened and made safe. A complete inspection and rehabilitation of the underground openings would then take place with additional support being installed where required.

A large accumulation of water on the Polaris level would be pumped or syphoned to surface.

Surface water is presently entering the mine via a raise to Polaris level. It is proposed that this water be diverted away from mine openings.

It is recommended that all of the rehabilitated underground openings be mapped and the ore blocks sampled to confirm existing reserve estimates. A detailed surface mapping program is also proposed to correlate the geochemical and geophysical data.

The enlargement of the existing surface grid to the northwest and northeast is included. The grid will provide access for additional soil sampling, geological mapping, a ground magnetometer survey and a VLF-EM survey.

A comprehensive assay program has been designed to provide check assays as well as soil, drill core and underground sample assays.

It is also proposed to begin a petrographic study on ore and host rocks as well as preliminary metallurgical testing.

The exploration program includes provision for assembling all the available data in a format that is easily useable for future geological evaluations and reserve calculations. This is deemed necessary due to the complicated geological nature of the orebody.

Phase III of the exploration program will require access to areas below the Polaris level (water table). Thus allowance has been made in Phase II for the evaluation of the rehabilitation of the hoist and dewatering requirements.

Allowance has also been made for completion of an evaluation report at the end of the Phase II program.

#### Manpower Requirements

Project Geologist	1
Geologist	1
Drilling	4
Geological Helper	2
Shift Boss	1
Mech/Elec.	1
Cook	1
Cat/backhoe operator	1
Miners	2
Helpers	2
Allowance for Contractors, visitors, etc.	1
Total	17

#### Recommendations

It is recommended that the Polaris-Taku property be further explored in those areas above Polaris level i.e. those areas above the water table which are accessible without large expenditures of funds for dewatering or rehabilitation.

The Phase II Exploration Program is estimated to cost \$950,000 and is detailed as follows:

# POLARIS-TAKU MINE

.....

# **EXPLORATION PROGRAM - PHASE II**

# COST ESTIMATE

1.	Mobilization and Demobilization	
	Fly-in materials, supplies and equipment 25 loads @ \$1,500/load Labour 4 Men 18 days @ \$250/day Miscellaneous rentals	\$37,500 18,000 2,500
	Total	\$58,000
2.	Exploration	
(a)	Topo Map and Orthophoto, 1:5000 scale	\$5,000
(b)	Assays Check assays, 65 @ \$25.75 ea. Soil samples 250 @ \$15.25 ea. Drill core 1000 @ \$25.75 ea. U.G. samples 300 @ \$25.75 ea.	1,673 3,812 25,750 7,725
(c)	Geophysics Ground mag. with base VLM-EM+ inclusive of filtering and interpretation	4,300
(d)	Line cutting 5 km @ \$750/km	3,750
(e)	Petrography 65 samples @ \$70 ea.	4,550
(f)	Metallurgy 3 samples @ \$1,500 ea.	4,500
(g)	Downhole Survey Rental @ \$1,610/month, 4 months	6,440
(h)	Mapping and Core logging Surface, 10 days @ \$400/day Underground, 40 days @ \$400/day Core logging, 55 days @ \$400/day	4,000 16,000 22,000
(i)	Drilling 10,000 ft. @ \$33/ft. (NQ)	330,000
	Total	\$439,500

# 3. Manpower

(1) Project Geologist, 100 days @ \$450/day	\$45,000
(1) Shift boss, 90 days @ \$335/day	30,150
(1) Mechanic Electrician, 100 days @ \$285/day	28,500
(1) Cook, 100 days @ \$200/day	20,000
(1) Cat/Backhoe operator, 100 days @ \$285/day	28,500
(2) Miners, 75 days @ \$285/day	42,750
(2) Helpers, 75 days @ \$150/day	22,500
Total	\$217,400
Camp	
Average, 100 days stay per person, 17 @ \$30/manday	\$51,000

# 5. Equipment Rental

4.

-----

D6 Cat @ \$9,800/month, 3 months	\$29,400
450 John Deer Backhoe @ \$5,500/month, 3 months	16,500
Generators, 40 kw 2 required @ \$6,000/month, 4 months	48,000
Compressors, 450 cfm, 1 required @ \$1,500/month, 4 months	6,000
Scooptram, 1 yd. machine @ \$2,000/month, 3 months	6,000
Pumps, 2 required @ \$300/month, 4 months	2,400
Radio	600
Fans, 2 required @ \$300/month, 4 months	2,400
Miscellaneous, \$2,000/month, 4 months	8,000

Total	\$119,300
1 Otal	ψ117,500

# 6. Equipment Purchases

Spare parts 10% of rental cost	\$12,000
4" pipe @ \$2.18/ft., 3000 ft.	6,540
Miscellaneous supplies	10,000
Total	\$28,250

# 7. Fuel oil and grease

	Fuel, 10,000 gals. @ \$2.20/gal 10% allowance for grease and oil	22,000 2,200
	Total	\$24,200
8.	Computerization of surface and underground geologic information and data	\$25,000
9.	Environmental Studies	\$5,000
10.	Evaluation of hoist and dewatering	\$5,000
11.	Evaluation of data and report preparation	\$30,000
		<u>-</u>
	Total	\$951,650
	Say	\$950,000