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PROSPECTUS REPORT

SURF INLET PROJECT

PRINCESS ROYAL ISLAND

SURF INLET MINES LTD.

TRM ENGINEERING LTD.

SEPTEMBER 1986

PROSPECTUS REPORT

SURF INLET PROJECT

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Mineral Reserves

Reserves	Waste Dumps: estimated 300,000 tons at the Surf Mine (550 level); Dumps, estimated to grade 0.08 - 0.10 ounces per ton.
	Tailings: 950,000 tons in Bear Lake and Paradise Creek, grading between 0.025 - 0.05 ounces per ton.
	Underground: 57,000 tons reserves at 0.44 ounces per ton; Excellent potential for additional reserves in Pugsley Mine.

Mining and Milling

Mine and Mill Operation	Processing of low grade ore in old waste dumps and possibly tailings followed by re-development of underground reserves.
Production	300 tons per day.
Process Plant	Conventional metallurgical techniques, sulfide flotation gravity concentrates.
Mine Life	Minimum of 3 years; potential up to 10 years.
Work Period	350 days per year.

Transportation

Air Access	Float plane to camp site.
Period	3 to 4 flights per week.
Materials	Personnel and light freight.
Sea Access	Barge from Vancouver/Prince Rupert.
Period	Monthly.
Materials	Fuel, bulk freight and food.

Work Force

Total Operational	70 to 80
Housing	Prince Rupert
On-Site	Single status camp for 50 people.
Rotation	Two to three weeks in, one week out.

Schedule

Exploration camp construction	1986
Engineering and environmental studies	1986 - 1987
Mine site construction and rehabilitation	1987
Powerplant and barge site construction	1987
Operation	1988

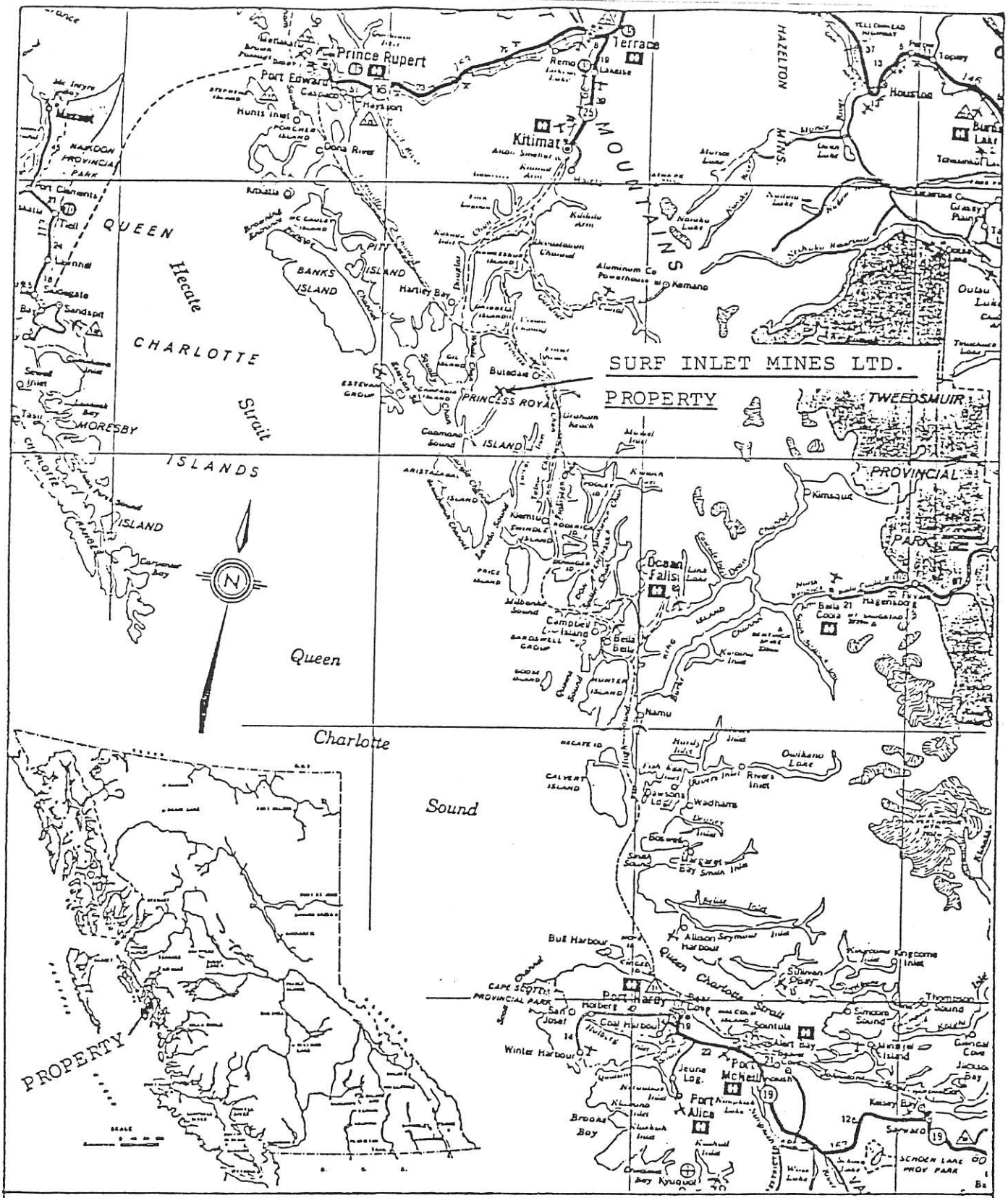
2.0 PROJECT DESCRIPTION

2.1 Introduction

Surf Inlet Mines Ltd. is incorporated in British Columbia with the head office located in Vancouver. The Company is proposing to re-develop the old Surf Inlet property: a former gold, silver and copper producer. The Surf and Pugsley mines are located on Princess Royal Island, along the north central British Columbia coastline approximately 160 km southeast of Prince Rupert and 800 km northwest of Vancouver, B.C. (Figure 1).

The initial discovery and development of the Surf Inlet property began as early as the turn of the century and production continued until 1926. The mine re-opened and produced gold between 1936 and 1942. In 1946 and 1947, the Pugsley Mine was dewatered and approximately 57,000 tons of gold ore was outlined. The mine has remained closed since 1947. Cominco Ltd. and Placer Development Ltd. optioned the property from Matachewan Consolidated Mines Ltd. in 1981 and carried out surface mapping, sampling and drilling, along with some underground mapping and sampling.

Surf Inlet Mines Ltd. has an option to re-develop the property, and the company has initiated a pre-feasibility study. Studies carried out to date indicate that known and potential ore reserves exist in both the Surf and Pugsley ore zones. Lower grade ore



SURF INLET MINES LTD.

SURF INLET PROPERTY, B. C.

LOCATION MAP

FIGURE 1

Scale 1 : 2,400,000

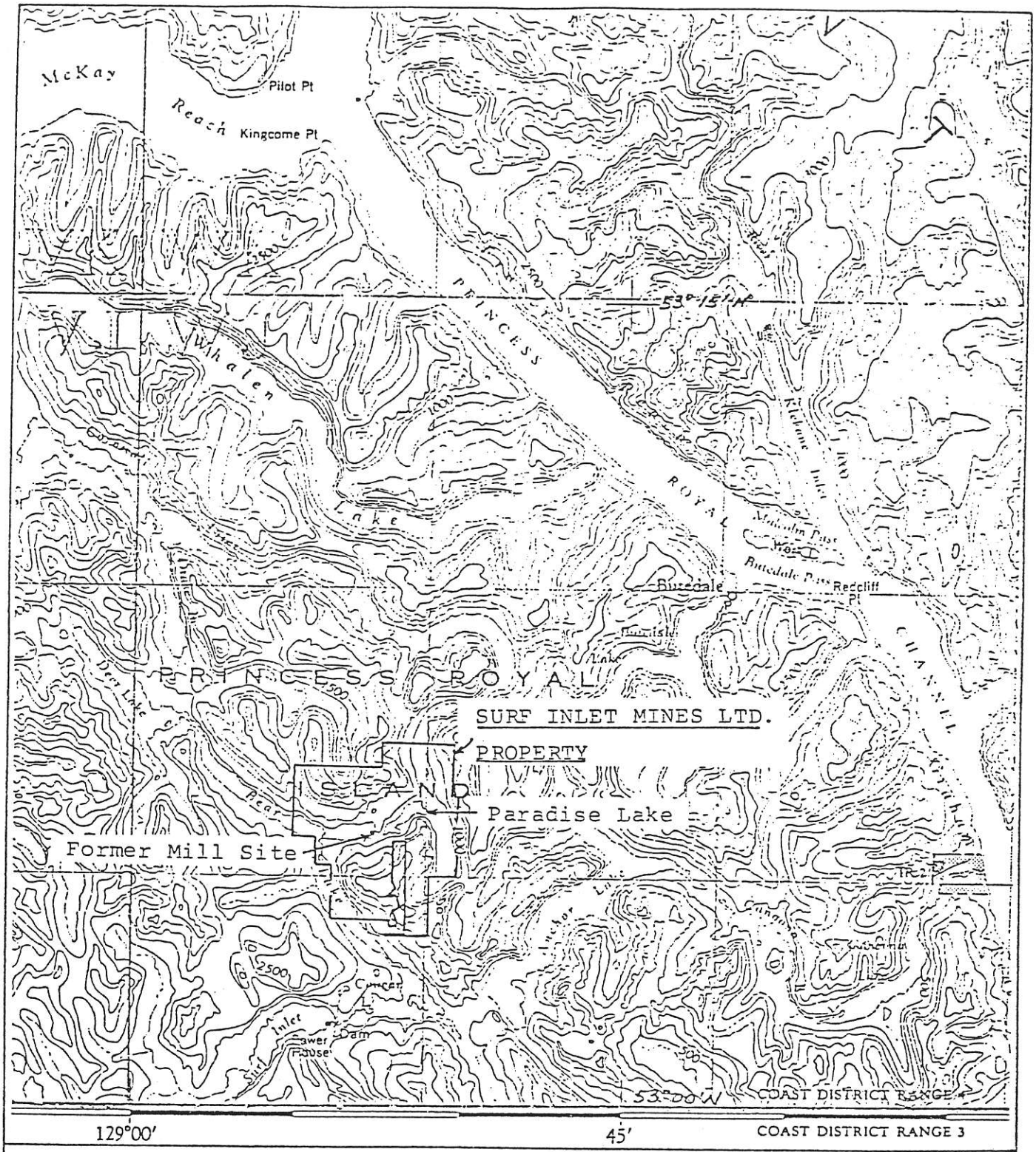
is also available within the stockpiles and waste dumps which are suitable for processing. In addition, the re-processing of low grade tailings material obtainable from the mouth of Paradise Creek at Bear Lake is a possible source of revenue.

A financial feasibility study of the potential to extract gold from mine dumps and mill tailings conducted by G. H. Hawthorn, P.Eng., and J. G. B. Michell, P.Eng. completed in March 1986 recommended that pre-production development should continue. It is currently believed that the property can quickly proceed from the pre-production phase to the commercial (operations) phase.

2.2 Location and Access

The Surf Inlet Gold project is located near the head of Surf Inlet on Princess Royal Island approximately 800 km northwest of Vancouver, B.C. (Figure 1 and 2). The property is located on NTS map sheet 103H/2W at latitude 53° 05' N and longitude 128° 53' W.

The nearest major populated areas are Kitimat (105 km to the north), Bella Bella (115 km to the south), and Prince Rupert (160 km to the northwest). A few very small fishing outports or Native communities exist nearby. Hartley Bay, the closest settlement is 44 km to the northwest. The most significant outport relative to the mine site is Butedale, a docking facility and supply base on the east coast of Princess Royal Island, fronting on the "Inside Passage". Butedale is approximately 16 km northeast by air from



SURF INLET MINES LTD.

SURF INLET PROPERTY, B. C.

DETAIL LOCATION MAP

FIGURE 2

Scale 1 : 200,000

(Topography after Douglas Channel B. C. Sheet - 103 H, Ed.1)

the Surf Inlet property, and is not considered strategic to the mining operation.

In the past, small ocean vessels were able to land at the wharf located at the head of Surf Inlet. This facility will require extensive rehabilitation before being used again as a barge landing site.

The Surf Inlet project is at the site of two former producing mines, the Surf and Pugsley, which are located on the north and south sides (respectively) of Paradise Creek. Paradise Creek flows from Paradise Lake into Bear Lake (Figure 2). The old mines are located approximately 11 km from the old barge wharf at the head of Surf Inlet. During the earlier mine operation, electric locomotives and barges (on Bear and Cougar Lakes) formed the transportation link between tidewater and the mine site. Boat transportation from the mainland was the main means of access along with some limited aircraft service.

Access to the site today is by chartered aircraft and/or boat. Chartered aircraft (helicopter or float plane) from Prince Rupert is the quickest and most practical method of access. During stormy weather or when the visibility is poor (low VFR) access to the mine site will be difficult and a landing guidance system will be required.

2.3 Description of Mineral Reserve Area

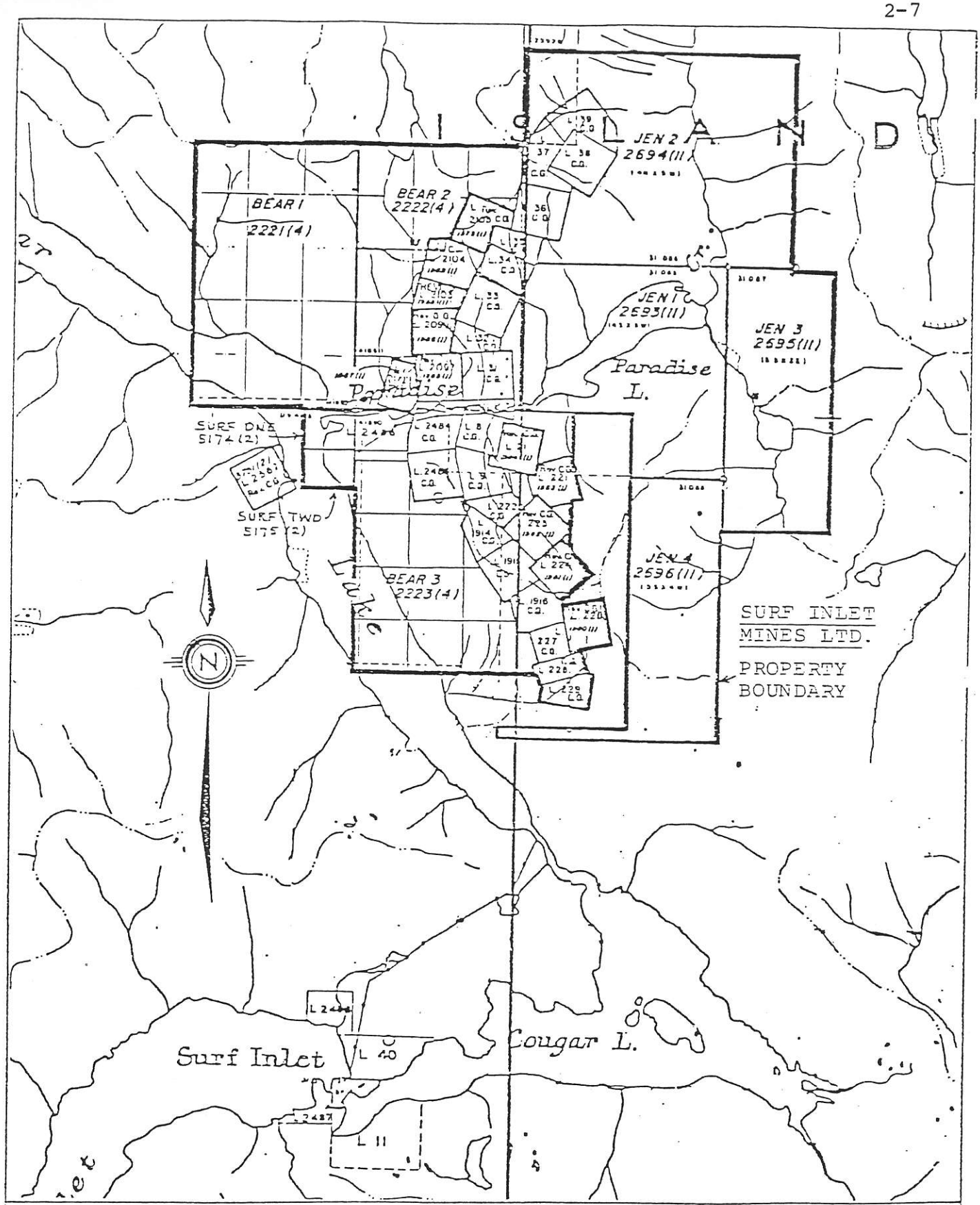
Surf Inlet Mines Ltd.'s total mineral property comprises 168 units and/or claims including 21 Crown

granted mineral claims and 11 reverted Crown granted mineral claims as well as four surface leases (Figure 3).

Gold mineralization is localized along an extensive and complicated shear-fault system that has penetrated intrusive and gneissic volcanics and metasediments of the Coast Plutonic Complex. Ore zones occur in complex parts of the fault zone. Milky quartz is the main constituent, with pyrite forming up to 25% by volume. The veins are of various sizes and shapes, with lengths ranging from less than 30 m (100 feet) to as much as 305 m (1000 feet), and thicknesses from 0.5 m (2 feet) to 12 m (40 feet). The historic production grade is 0.385 ounces/ton gold, 0.18 ounces/ton silver and 0.29% copper recovered.

Between 1900 and 1942 the Surf and Pugsley mines produced a total of 1,091,131 tons from which were recovered 382,351 ounces of gold, 200,752 ounces of silver and 6,314,341 pounds of copper. The dumps at the Surf Mine 550 level have been estimated to contain 300,000 - 400,000 tons with an estimated average grade of 0.08 - 0.10 ounces per ton gold. An estimated 950,000 plus tons of tailings were discharged into Bear Lake via Paradise Creek. Grade of the tailings is estimated to vary between 0.025 to 0.05 ounces/ton gold.

Samples collected by TRM Engineering Ltd. in 1985 were subjected to metallurgical testing. Results suggest that weathering has not altered the metallurgical characteristics of the dump material and that



SURF INLET MINES LTD. FIGURE 3

PROPERTY MAP

SURF INLET PROPERTY, B.C. Scale 1 : 50,000

floatation concentration is technically viable on both dump and tailings material.

Known and projected underground reserves, plus the potential reserves contained in the mine dumps and tailings deposits make a 300 ton per day operation a distinct possibility.

2.4 Infrastructure

The infrastructure found on the Surf Inlet property consists of the long abandoned town and milling plant and buildings that supported the operation of the former Surf and Pugsley mines. The exploration program carried out in 1981 is the first physical work carried out on the property since mine closure in 1947. Some of that 1981 camp remains.

The present condition of the buildings at the townsite, millsite and minesite(s) is that of a state of deterioration and disrepair. Most of the wooden buildings have completely collapsed due to age and lack of maintenance. The machinery left in place when the mine closed is in inoperable condition. Most of the concrete foundations, however, are expected to be useable.

The powerhouse building and concrete dam are still in place. The dam was last inspected in late 1985 and considered by the Inspector to be in "reasonable condition" for its age and lack of regular maintenance. The powerhouse is in need of major structural repairs, and the installation of generating equipment.

The barge loading facilities (wharfs) and the electric train incline require extensive repair or replacement before these facilities can be used again.

A new mine operation and crew camp, located at the current mine site, will need to be constructed to accommodate a small workforce, which will be flown to the site. At present an eight man tent frame camp is in place.

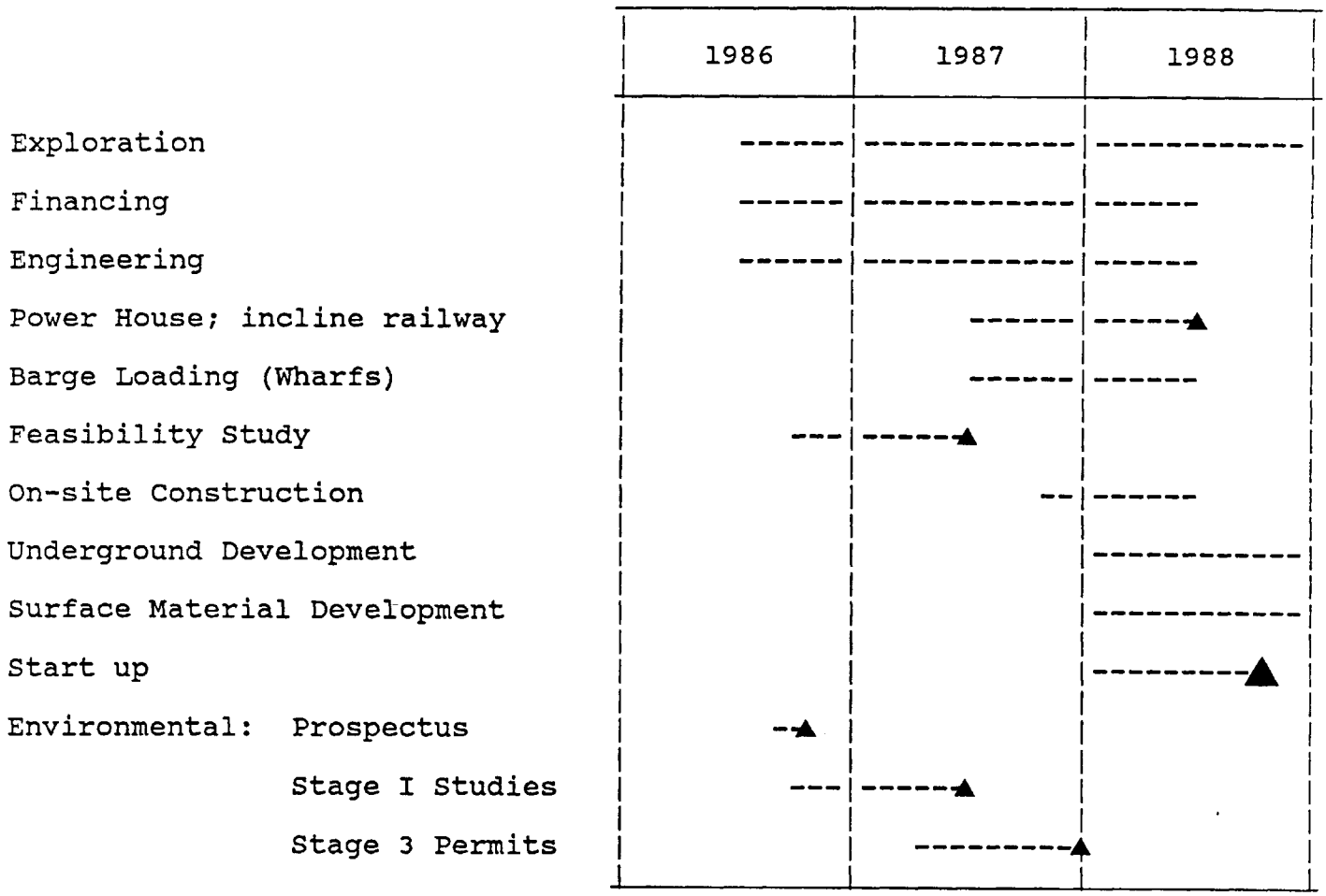
2.5 Project Schedule

A mine production decision has been planned for early 1987 with construction to start in September 1987. Figure 4 shows the project schedule with major activities, such as mine planning, environmental studies and permitting required to meet the Stage I and permitting requirements. Start-up date is proposed for 1988.

Of key importance to meeting this schedule and startup is the construction and rehabilitation of the mining/milling facilities, the base camp, power generator, wharfs and seaplane base.

FIGURE 4

SURF INLET MINES LTD.
PROJECT SCHEDULE



3.0 GEOLOGY AND EXPLORATION

3.1 Regional Geology

Princess Royal Island lies near the western boundary of the Coast Crystalline Intrusive Belt. The oldest rocks in the area are Permian or older metasediments comprising quartzite, gneiss, limestone, conglomerate, sandstone and argillite. These metasediments outcrop along the eastern shore of the Island, and at the head of Surf Inlet, and in the mine area.

Basic plutonic complexes encompass the sediments and on Princess Royal Island the principal intrusive is hornblende biotite quartz diorite.

3.2 Local Geology

The Surf and Pugsley production centers are located to the north and south of Paradise Creek respectively.

Gold was won from quartz-pyrite veins occuring along a complex fault zone with a general north-south strike and westerly dip varying between 45 and 60 degrees.

In the vicinity of the ore zones the shear fault system cuts predominantly diorite-granodiorite and lesser quartz biotite feldspar gneiss. Minor rock units include pegmatite and diabase.

Alteration in and around the gold quartz veins from proximal to distal includes; ankerite, calcite, sericite, chlorite, epidote and kaolinite.

Other recovered minerals include copper and silver.

Molybdenum, tungsten and tellurium are anomalous in the system but were not recovered.

3.3 Mineral Reserves

Mines:

At the time of final closure in 1947, ore reserves at the Pugsley Mine were 57,000 tons grading 0.44 oz/ton gold, above the 1300 level. In the Surf mine, shaft pillar and stope reserves total 4,000 tons grading 0.46 oz/ton gold.

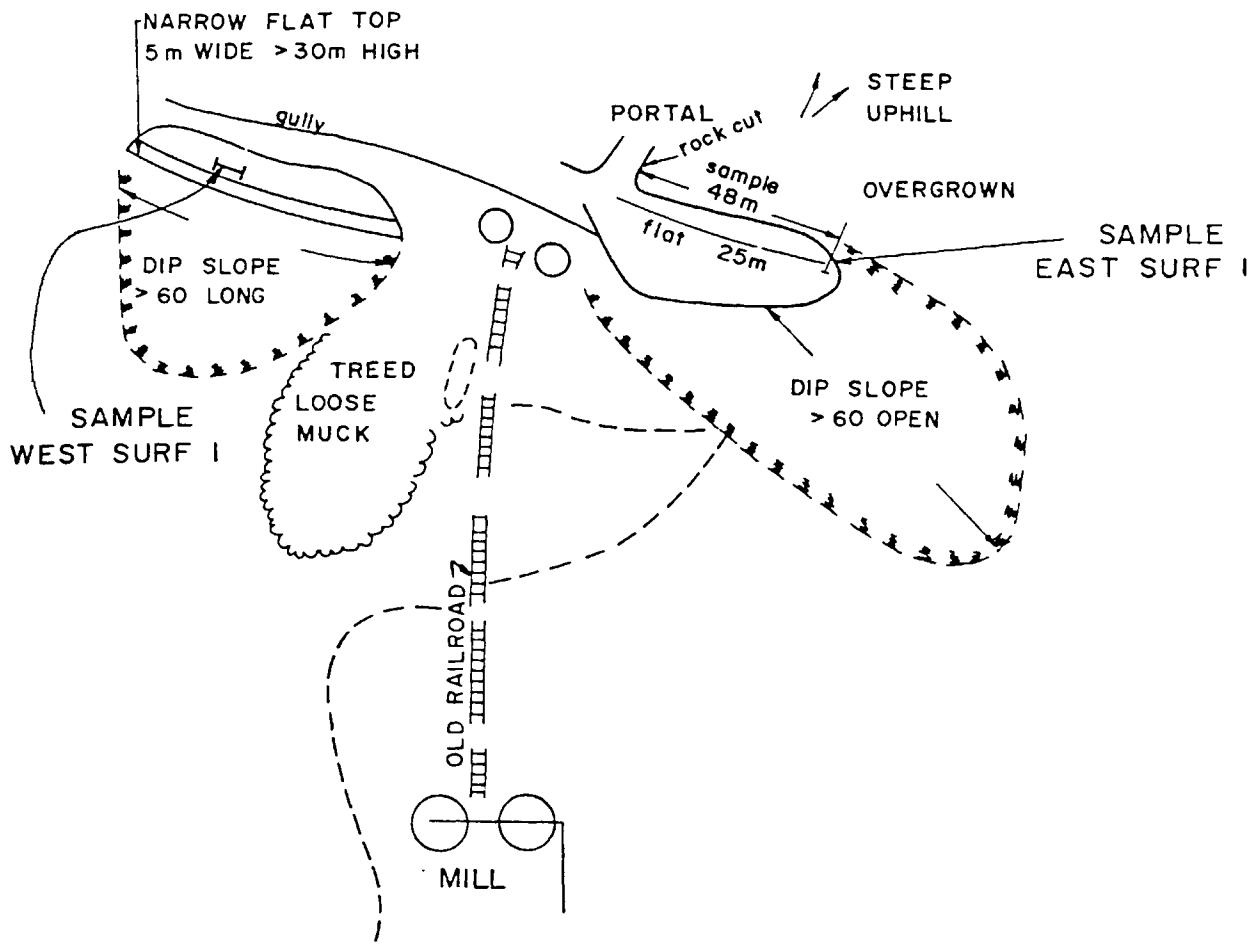
Waste Dumps:

A large volume of stockpiled mineralized broken rock containing important gold values is present downslope from the 550 portal Surf mine (Figure 5). Tonnage estimates vary between 300,000 and 400,000 tons of coarse rock with grades approaching 0.1 oz/ton gold.

Tailings:

Close to a million tons of tailings were discharged into Paradise Creek, ultimately forming a delta at the

STOCKPILE DUMPS



SURF INLET MINES LTD.	
SURF MINE STOCKPILE SAMPLES	
PROJECT: SURF INLET	
WORK BY: JS	JAN. 15/1986 FIG. 5

mouth of Paradise Creek on Bear Lake (Figures 6 and 7). These tailings are estimated to grade between 0.025 and 0.05 oz/ton gold, some of which may be recoverable at a profit.

3.4 Potential for Additional Reserves

The depth extensions of the Surf and Pugsley ore bodies, including the former Wells claims as well as the sub-economic zones along 935 south drift Pugsley, are the best opportunities for outlining new ore centers in the camp. There is every reason to believe that the structures and associated mineralization persist to considerably greater depths.

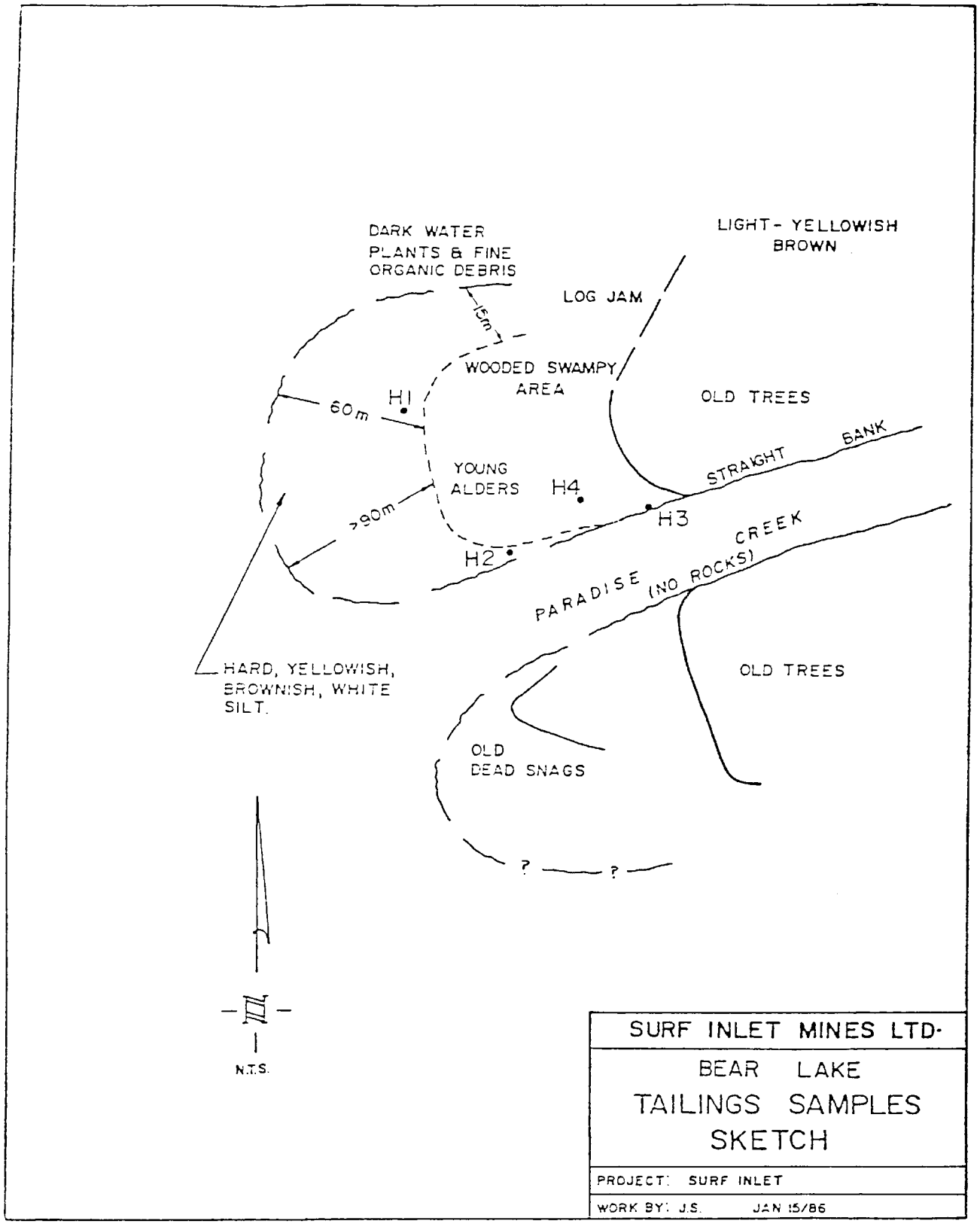


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FIGURE 6

(After Shearer (1986))

(To accompany a report by A.D. Drummond, P.Eng. and J.G.B. Michell, P.Eng.)

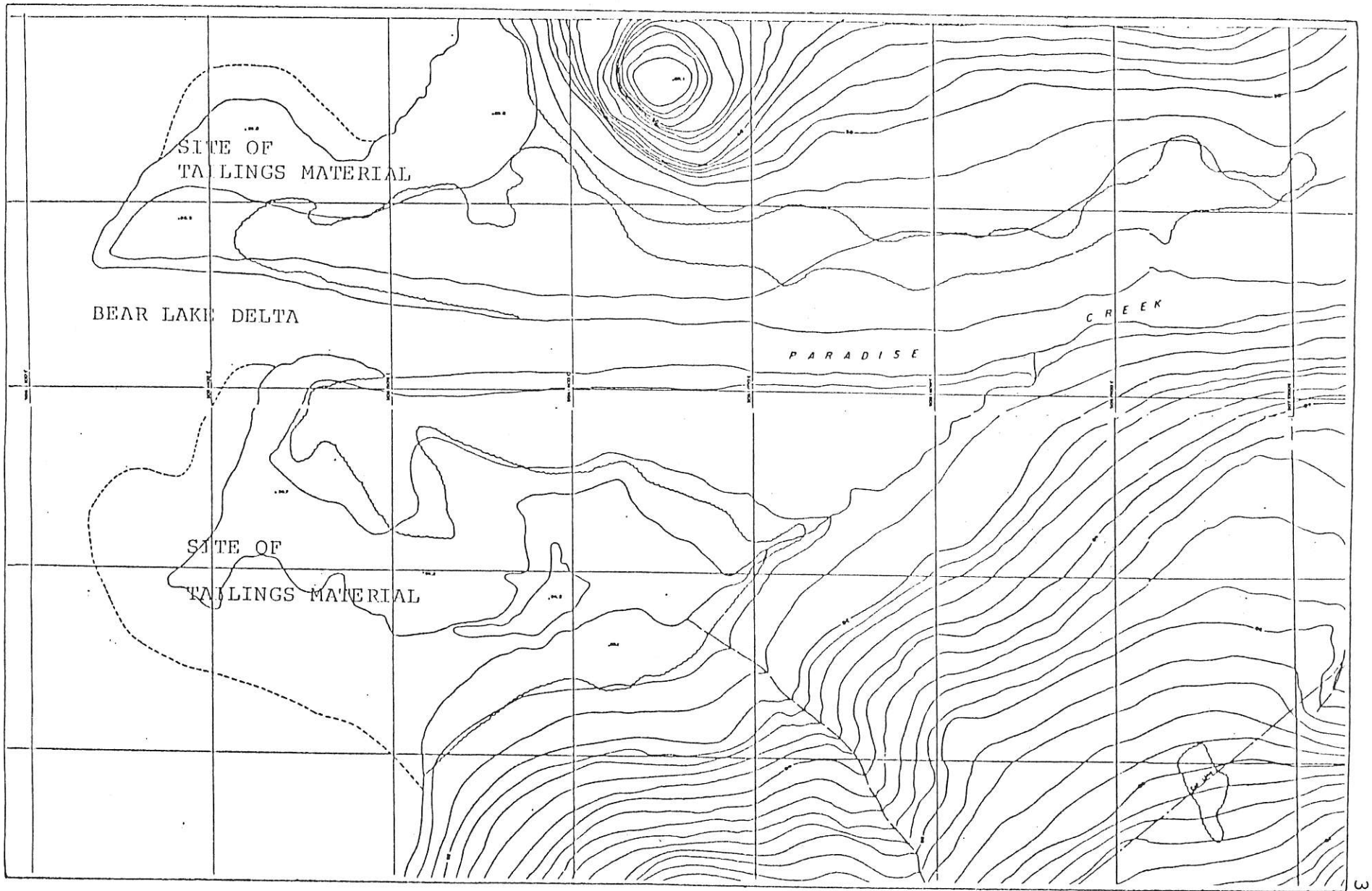

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FIGURE 7

TOPOGRAPHY OF SITE OF BEAR LAKE DELTA TAILING MATERIAL

Scale 1 : 3,000

Contour Interval 2 metres

4.0 MINE PLANNING AND OPERATION

4.1 Conceptual Mining Plan

Mine mill production is planned at approximately 300 tons per day. Mining will be carried out 3 shifts a day, 7 days a week and 52 weeks a year. Based on ore reserves from the waste rock dumps, mill life will be a minimum of 3 years with potential for up to 10 years operation. The additional mill feed will be supplied by underground mining.

Initially it is proposed to rework the waste rock dumps. Material will move by gravity feed to the mill. Underground development will start in the Pugsley mine and this feed will be phased in to the mill circuit. Development is also planned at the old Surf Mine.

There is a possibility of re-working the old tailings that were deposited along Paradise Creek and into Bear Lake. Stage I work will investigate the feasibility and environmental acceptability of reworking this material.

4.2 Processing of Ore

Metallurgical studies have been undertaken for TRM Engineering and these studies show that the mill circuit will use a flotation process. Cyanide will not be used in the milling process because metallurgical

tests show only 20 percent gold recovery using cyanide. The ore is relatively clean with no known contaminants such as arsenic or mercury. The ore is in quartz host rock, and the sulfides will be floated forming a gold, silver, copper concentrate and sold to a smelter. No acid generation potential is expected in the remaining quartz waste rock.

4.3 Surface Facilities

Surface facilities will include; a process plant, camp, offices, shops, warehouse and dry, explosives magazine, storage for bulk supplies including fuel, the hydroelectric generating plant and powerline to the mill, barge facilities and access roads. The location of the mill facilities, roads and transmission line will maximize the use of former facilities such as the old mill foundation. Actual siting of the facilities will be determined during the Stage I studies.

4.4 Tailings and Water Supply

Historically it appears that tailings were deposited into Paradise Creek and were then washed down to Bear Lake. Investigations on the feasibility and potential environmental effects of reworking these tailings will be undertaken in the Stage I studies.

Deposition of tailings is proposed for the valley sides between Paradise Lake and Bear Lake. There appears to be adequate relatively flat areas for land disposal of

tailings but this will be investigated during the Stage I studies. Some tailings could also be returned to the old underground workings. The design of the tailings management system will be undertaken as part of the Stage I studies.

Water will be required for domestic supply, fire protection, underground mining and the process plant. The water supply will likely come from Paradise Lake, and the distribution system will include a water storage tank, pump and pipe line. Further investigations of the water supply system will be undertaken during the Stage I studies.

4.5 Power Supply

Inspections have been undertaken of the old dam and power building. It is believed that the dam facilities are sound and turbines can be installed in a renovated power house. Power requirements are estimated to be 1,000 kW. A powerline will be constructed from the powerhouse to the mine site, a distance of approximately 11 km.

4.6 Transportation

The Surf Inlet Project is in a remote location on Princess Royal Island. Present access is by float plane or helicopter from Prince Rupert.

Transportation of the work force is proposed as a fly-in fly-out operation from Prince Rupert. Planes can land on Paradise Lake or Bear Lake. Stage I

studies will consider the reliability of flying due to local weather conditions, and assess the need for any required guidance systems to improve reliability of air service.

Heavy and bulk supplies such as fuel and equipment will be transported by barge from Vancouver or Prince Rupert to the head of Surf Inlet. From the head of Surf Inlet, a road will be constructed to Cougar Lake. A log raft constructed near the dam site on Cougar Lake will transport materials along Cougar and Bear Lakes to Paradise Creek. A second road will link the raft off loading point at or near the mouth of Paradise Creek with the mine site and camp site.

Alternatively, and contingent upon Whonnock Industries constructing a road to Paradise Lake in the near future, supplies could be trucked along Cougar and Bear lakes on the proposed forest access road.

5.0 POTENTIAL ENVIRONMENTAL IMPACTS

5.1 Environmental Issues

The potentially significant environmental issues associated with the re-development of the Surf Inlet property will involve; (1) tailings disposal, (2) water quality and water management, (3) the potential for acid generation from tailings and waste rock, (4) hydro power generation; and, (5) transportation and accommodation of the work force.

Mine Site

Approximately 300,000 - 400,000 tons of waste rock are located in dumps near the 550 level of the Surf Mine (Figure 5). The new milling facilities downslope from these dumps are to be reestablished on the old concrete mill foundation which at present is being cleared of debris. Tailings are located at the mouth of Paradise Creek, in and adjacent to Bear Lake (Figures 6 and 7). Underground mining is proposed for both the Surf and Pugsley mines. Access initially will be via the respective 900 level portals near Paradise Creek.

Water discharge from surface recovery and underground mining operations is a potential concern due to the proximity of these facilities to Paradise Creek and Bear Lake. The potential disturbance of the tailings in the Paradise Creek delta formed in Bear Lake (Figures 6 and 7) will pose separate concerns that will require special attention.

The selection of a suitable tailings location will be undertaken in the Stage I studies.

Mine waste rock and waste water will contain elevated metal levels, and will need to be managed carefully. The high rainfall of the north coast, especially on Princess Royal Island, will necessitate careful design and management of mine water drainage. Settling ponds, perimeter ditches and culverts will be required. Pollutants such as arsenic, antimony, lead and mercury are not perceived to be a problem as they do not occur in any significant quantity in the ore zones.

Bear Lake has cutthroat trout but no anadromous fish because of the natural barriers including the dam constructed on Surf Inlet. Very little is known about the fishery in the Surf Inlet and it is doubtful if Surf Inlet has a salmon run.

The potential for acid mine drainage is considered to be low but it will be investigated during Stage I studies and included in the waste management plan. Other operational wastes and surplus by-products, such as garbage and sewage, will also need to be controlled.

The potential impacts on terrestrial resources will not be significant because the utilization of the terrestrial resources, other than forestry, is not considered to be particularly high. Whonnock Industriee own the timber rights in the area and plan to remove the commercial trees. The need for

additional but limited surface disturbance will result in no significant impacts on wildlife or encroachment on the forest resources. The area has been determined to be suitable for site reclamation to productive end uses upon abandonment.

Other potential aquatic concerns include the quality and quantity of water removed during the de-watering of the submerged mine workings and tailings materials. Stage I studies will address the effect the discharge of this mine water on the environment of Bear Lake and Surf Inlet.

Milling Operation

The milling operation is expected to be re-established on the former mill foundation. Tailings from the mill are to be discharged on a suitable land location. The primary environmental concern associated with the tailings will be the potential impacts on water quality and on the fisheries resource.

An on-land tailings disposal pond(s) appears to be the preferred environmental option but this option requires the availability of suitable land and construction materials. The tailings pond will need to have a minimum capacity for the three to ten year life expectancy of the mine. Water management considerations associated with on-land tailings disposal should reflect the high rainfall of the area and the expected need to discharge effluent from the tailings pond.

Lake tailings disposal is a second option, but will require consideration of the effects upon the freshwater aquatic resources, particularly of fish rearing and spawning areas along the foreshore. It is not anticipated that cyanide will have to be used in the mill process.

Power Plant and Wharf Reconstruction

The rehabilitation of the wharf, electric train incline and power generation facilities will need to accommodate the fish and wildlife values in the area. The impact to wildlife and fisheries is expected to be low due to minimal additional disturbance.

Human Disturbance

Access by the public to the mine site is not considered to be a potential problem, now or in the foreseeable future, because the area is very isolated and has no particular attraction to a tourist, fisherman or hunter.

5.2 Proposed Studies

Very little environmental information exists for the study area. A detailed program of environmental studies is proposed to address potential government concerns, and to collect relevant environmental information for use in engineering design. Studies will be undertaken in the fall of 1986 and into 1987 leading to the preparation of a Stage I environmental report.

General areas requiring further assessment and data collection are:

Hydrology

Hydrology data is a key component for environmental control and a requirement for engineering design. Some streamflow and climate records have been collected in the past for Paradise Creek and Surf River. A regional hydrological analysis for the area will have to be undertaken. Streamflow measurements will be taken in 1986 and 1987 to confirm estimates gathered by the previous mining operation. Key measurement periods are during fall high flows, winter low flows, spring freshet, and summer low flows.

Groundwater

Several samples of groundwater will be collected and analyzed, particularly from the mine portals. Groundwater sampling will provide an indication of the quality and quantity of groundwater that can be expected during mining. Water discharged from the mine workings will be monitored, and provisions made for collection and treatment if necessary.

Surface Water Quality

A series of surface water quality samples will be taken and a seasonal water quality program undertaken to establish the background water quality for surface waters that will be influenced by renewed mining activity. Samples should be taken during the fall high

flows, winter low/high flows, and spring freshet. Water quality analysis should include an assessment of the effects of nutrient additions from blasting, the effects of additions from groundwater sources, and effects on water quality with changes or reductions in water flows.

Fisheries

Limited data exists on the fisheries values in Surf Inlet, Bear Lake, Paradise Creek and Paradise Lake. It is known that cutthroat trout occur in Paradise Lake, Paradise Creek and Bear Lake. Some in-stream sampling and habitat assessment should be undertaken on the streams potentially affected as well as the fisheries resources potentially affected by the reconstruction of the wharf facilities.

Soils and Terrain

A reconnaissance level terrain and soils investigation will be undertaken. The soils survey will provide a map of landform features, identify sources of aggregate; identify terrain hazards; and identify soil characteristics. A soils interpretive suitability/ limitations map will be used for reclamation planning.

Wildlife

Wildlife values at the mine site are considered to be low. However, wildlife habitat, distribution and movement studies are proposed to be undertaken in the fall of 1986. Wildlife observations will also be made

along the incline and at the dam and power generation site.

Waste Management

Waste management includes environmental assessment and mitigation plans for: (1) the tailings pond design and control, (2) the waste dumps, (3) garbage and sewage disposal, (4) tailings pond, (5) acid generation potential and (6) handling of chemicals. A number of samples of the waste rock, overburden and ore will be taken for acid generation potential tests. Toxicity of the tailings effluent to fish will be assessed.

Water Management

Water management will include a detailed plan (1:10,000 scale) of the water management structures. The hydrologic analysis will be required as input. Any potentially significant environmental impacts will be outlined in the Stage I report and measures for managing or mitigating the impacts will be detailed. Impact management and reclamation will be key aspects of the Stage I report in order to provide the basis for government Approval in Principle of the project at Stage I.

Heritage Resources

An overview of the potential for heritage resources should be undertaken for the Stage I report. This will be a preliminary study to assess potential for significant heritage values.

Any potentially significant environmental impacts will be outlined in the Stage I report, and measures for managing or mitigating the impacts will be detailed. Impact management plans including detailed waste and reclamation plans will be key aspects of the Stage I report and will form the basis of draft permit applications to be submitted with the Stage I report.

6.0 SOCIO-ECONOMIC ASPECTS

6.1 Setting

The closest year around settlements to the project area are Hartley Bay and Klemtu, both of which are small (less than 300 population) outport settlements. Major urban centres, with air services available, are Prince Rupert (Pop. 14,000) and Terrace/Kitimat (Pop. 16,000). The Prince Rupert and Terrace/Kitimat areas provide a wide range of services to the fishing, mining and forest industries; and, as such they have a varied work force with many skilled workers.

It is anticipated that the majority of the work force will reside in Prince Rupert or Terrace/Kitimat and commute to the property. Mining has been active in the coastal areas for many years and both Prince Rupert and Terrace/Kitimat are capable of providing many of the services and skills needed for this development. Due to the depressed mining, forest and fishing industries in British Columbia, there are many currently unemployed but skilled construction, equipment and mine workers available.

6.2 Employment

The work force is expected to include approximately 80 employees. Approximately 60 employees will be on-site at any time. The employees will be rotated to the mine camp on a fly-in/fly-out basis. A new townsite will

not be needed; however, a work camp providing workers with room and board during their rotation will be established at or near the old townsite.

An assessment of the occurrence of reliable flying conditions in this coastal area should be undertaken during the Stage I studies to determine the feasibility and practicality of a fly-in/fly-out system. A water taxi system will also be considered for use during those periods when flying is irregular or below VFR standards. Cost of construction of an all weather airstrip would be prohibitive.

6.3 Potential Issues

It is expected that the work force will be permanently accommodated in Prince Rupert or Terrace/Kitimat thus lessening demands on the local infrastructure. This aspect will be investigated during the Stage I studies.