

**PROPERTY FILE**

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**SKYLINE EXPLORATIONS LTD.**

**JOHNNY MOUNTAIN PROJECT  
STAGE I REPORT**

**Submitted by:**

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### 3.0 EXPLORATION ACTIVITIES

#### 3.1 REGIONAL GEOLOGY

Government mapping of the general geology of the Iskut River area appears in Kerr, 1948, GSC Memoir 246; "Operation Stikine", GSC Map 9-1957; and 1418-1979, "Iskut River". Subsequent mineral exploration studies have greatly enhanced the lithologic and stratigraphic knowledge of this lithologic package defined as the Stewart Complex (Grove, 1986).

Grove (1986) defines the Stewart Complex in the following manner:

"The Stewart Complex lies within the Intermontane tectonic belt along the contact between the Coast Plutonic Complex on the west, the Bowser Basin on the east, Alice Arm on the south and the Iskut River on the north."

Within the Stewart Complex, Paleozoic crinoidal limestone overlying metamorphosed sedimentary and volcanic members are the oldest rock group. Correlation has been made between this oceanic assemblage and the Cache Creek group.

Unconformably overlying the Paleozoic limestone unit are Upper Triassic Hazelton Group island arc volcanics and sediments. These rocks have informally been referred to as the "Snippaker Volcanics". Grove (1981) correlates this assemblage to the Unuk River Formation of the Stewart Complex whereas other writers match this group with the time equivalent Stuhini Volcanics. Monotis fossils have been recognized on the north slope of Snippaker Peak and west of Newmont Lake, 20 km to the north, given an age dating of Upper Triassic. It is within these rocks that Skyline's Johnny Mountain gold deposits occur.

Grove reports an unconformable contact between Carboniferous and Middle Jurassic strata on both sides of Snippaker Ridge, north of Snippaker Peak. The same unconformable relationship between these major rock units appears to extend to Forrest Kerr Creek west, along the Iskut River, to the Stikine River junction. Present interpretation suggests an east-west trending thrust along the axis of the Iskut River which pushed up and over to the south.

Following the Iskut River thrust faulting, the entire region was overlain by Middle Jurassic Hazelton Group volcanic-sedimentary rocks named the Betty Creek Formation by Grove (1973, 1982). It is believed that the Betty Creek rocks act as a mineralizing trap.

Intrusion of the batholithic Coast Plutonic complex in the Iskut region of Cretaceous and Tertiary age followed. Composition varies from quartz monzonite, granodiorite to granite. Important in many instances to the localization of mineralization are satellite facies of epizonal or subvolcanic acidic porphyries.

Quaternary and Tertiary volcanics occur at Hoodoo Mountain, along the Iskut River near Forrest Kerr Creek, and in several localities along Snippaker Creek.

### 3.2 PROPERTY GEOLOGY

Erosion has exposed a window of intercalated volcanoclastic, feldspar-porphyry and mixed sedimentary rocks on Johnny Mountain.

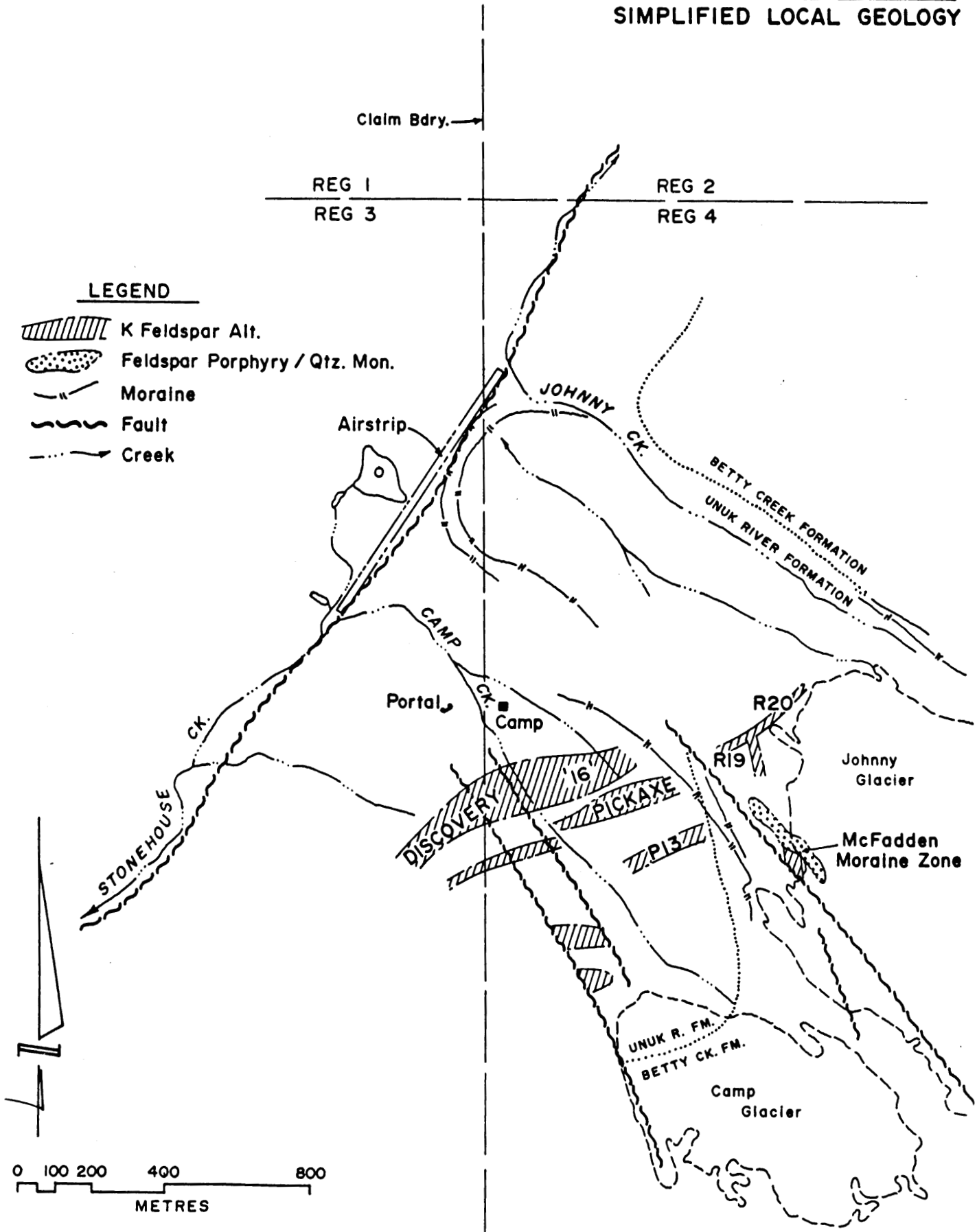
In the main gold zone sequence, feldspar-porphyry members are sandwiched with medium to dark green volcanoclastics of a primarily acidic volcanic sequence.

Deformation within these rocks has been variable with textures ranging from the schistose to coarse breccias. Sericitization, carbonatization and pyritization are seen as alteration products.

Structurally, rocks in the gold zone sequence have been cut by a number of discrete faults, as well as more complex shears. Of these, the north-trending faults appear to be the most important (Figure 3.1).

This extensive structural activity has resulted in the development of a system of mineralized shears and veins which possibly represent local remobilization in and around the major sulphide lenses of the volcanoclastic sequence. These now appear to be controlled by major fracture zones trending 050°-055°/60°-80°N.

**Figure 3.1**  
**SKYLINE EXPLORATIONS LTD.**  
**Johnny Mountain Project**  
**SIMPLIFIED LOCAL GEOLOGY**



### 3.3 ALTERATION

Macroscopic examination of the drill core revealed feldspar porphyry and volcanic conglomerate which are the major hosts to the local gold mineralization. The pyrite, chalcopyrite, and other sulfides are intimately associated with quartz veins, calcite, biotite, sericite, K-feldspar, epidote, and chlorite in late quartz veins. Staining of 160 rock slices from 28 holes, and examination of thin sections from each slice, show that K-feldspar alteration has effected replacement of from a few percent to almost 100 percent of both porphyry and volcanoclastic rocks hosting the sulfides. Very fine quartz veinlets and stockwork with sulfides have cut the early K-feldspar alteration and have in turn been cut by later sulfide and calcite veins and veinlets. Rock forming minerals have also been altered to calcite, sericite, epidote and biotite clusters and lenses. Fine-grained dark brown to black biotite is present throughout the mineral zone, but generally in only scant amounts except in the R-19/R-20 veins (Figure 3.1). These veins comprise banded quartz and dark massive pyrite with dark selvages against the country rock host. Very fine black biotite makes up a significant part of the pyrite banding and forms most of the selvages. Together with the greater amount of quartz, and lesser K-feldspar, this abundant dark biotite alteration marks an apparent change in the type and character of the Stonehouse Gold Zone mineralization to the east.

This study shows that the Stonehouse Gold Zone sulphide mineralization has an envelope of extensive K-feldspar alteration and a biotite tail involving both volcanoclastics and feldspar porphyry. Because this envelope is broader and more extensive than the mineralization, it provides a useful tool for local exploration.

Cataclastic deformation has imposed a platy or foliated fabric on these rocks which in part exhibit hartschiefer/recrystallization texture. Epidote is prominent in many of the volcanoclastic members ranging from small grains and pebbles to cobble sized clasts. These are mainly detrital, and secondary epidote is only minor and largely associated with carbonate.

### 3.4 MINERALIZATION

While a large number of potential zones have been identified on the property, three have been developed sufficiently to date for production to be anticipated. These are the Discovery Zone, 16 Zone and Zephrin Zone. The majority of ore for the proposed project is expected to be delivered from the Discovery and 16 Zones with some minor production from the Zephrin Zone.

The Discovery and 16 Zones are major shears striking 050° to 060° and dipping steeply to the north. Both are characterized by extensive silicification and a high sulphide component, notably pyrite. Economic values in a decreasing order of importance are expected to be in gold, silver and copper.

The suite of metallic minerals identified in these zones is listed below:

arsenopyrite (rare)	galena	molybdenite
bornite	native gold	pyrargyrite
chalcopyrite	hematite	pyrite
covellite	ilmenite	sphalerite
electrum	magnetite	stephanite
enargite	marcasite	tetrahedrite

The Zephrin Zone has a different character than the other zones. It consists of a broader highly feldspathized zone healed by a smokey grey quartz giving it a brecciated appearance in some areas. Attitude appears to be more north trending with dip nearly vertical.

The zone has a much lower sulphide content with only patches and some stringers of pyrite. Copper values appear to be uneconomic. Main values are in gold with some minor attendant silver.

### 3.5 ORE RESERVES

Reserves for the Johnny Mountain Property are presented in Table 3.1 based on information available January 12, 1987.

Additional underground development and drilling to be completed by June 30, 1987 is anticipated to upgrade drill indicated and inferred reserves. A minimum tonnage of 275,000 tonnes of measured reserves is required to warrant a positive production decision. As shown in Table 3.1, in excess of 90% of the ore is anticipated to be recovered from the Discovery and 16 Zones with some minor production from the Zephrin Zone.

**Table 3.1: Mineral Potential - Stonehouse Gold Deposit**  
**Skyline Explorations Ltd. - Johnny Mountain Property,**  
**Iskut River Area, B.C.**

<u>SUMMARY MINERAL RESERVES - STONEHOUSE GOLD DEPOSIT - 1986</u>					
STATUS	Oz/Ton (Gram/Tonne)		% Cu	Tons	(Tonnes)
	Au	Ag			
<u>DRILL INDICATED</u>					
Discovery Zone	.502	.64	1.00	69,773	
Zephrin	.641	.28	.01	2,825	
"16"	.961	1.34	.60	75,900	
Pick Axe	<u>.168</u>	<u>.33</u>	<u>1.02</u>	<u>5,100</u>	
<b>Total Drill Indicated</b>	<b>.671</b>	<b>.97</b>	<b>.78</b>	<b>153,598</b>	<b>(139,635)</b>
<u>INFERRED</u>					
Discovery	.50	.60	1.00	275,000	
Zephrin	1.00	.80	.01	100,000	
"16"	.63	1.00	.60	215,000	
Pick Axe	.15	.20	1.00	15,000	
Gold Rush	<u>1.00</u>	<u>.30</u>	<u>.50</u>	<u>100,000</u>	
<b>Total Inferred</b>	<b>.67</b>	<b>.70</b>	<b>.67</b>	<b>705,000</b>	<b>(640,850)</b>
<u>MEASURED</u>					
Trenches				28,926	
Drifts				27,685	
Cross-Cut				<u>23,237</u>	
<b>Total Measured</b>	<b>1.328</b> <b>(45.5)</b>	<b>1.91</b> <b>(65.4)</b>	<b>1.50</b>	<b>79,848</b>	<b>(72,580)</b>
<u>TOTAL INDICATED</u>					
+ Inferred					
+ Measured	<b>0.730</b> <b>(25.0)</b>	<b>0.85</b> <b>(29.1)</b>	<b>0.76</b>	<b>938,446</b>	<b>(853,065)</b>