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STONEHOUSE GOLD DEPOSIT

The Stonehouse gold deposit is hosted by Lower Jurassic volcanic, volcanoclastic and sedimentary rocks. The rocks occur within the Intermontane Tectonic Belt along the eastern flank of the Coast Plutonic Complex. These rocks are locally intruded by Jurassic porphyry and granitic stocks and Quaternary basalt dykes. A U-Pb zircon age of 190 Ma, obtained from a feldspar porphyry unit in the hanging wall of the Discovery Vein, is interpreted as an age of deposition for the volcanic sequence.

The mine series comprises a sequence of intercalated volcanoclastic and feldspar porphyry units striking between 065 and 110 and dipping at 55 degrees to the north. The volcanoclastic rocks occur as a series of unbedded heterolithic lapilli tuffs, crystal lithic tuffs, tuff-breccias and volcanic conglomerates of intermediate composition. Clast size varies from 0.5 cm to as much as 2 m, the latter observed in surface outcrops at the northeast end of the existing mine. The matrix consists of coarse to fine tuff and plagioclase crystal fragments. Elongated clasts and preferred orientation of micas commonly impart a weak to moderate foliation to the rock.

The feldspar porphyry units contain 20-25% euhedral to subhedral phenocrysts of feldspar, dominantly plagioclase, 1-4 mm in size, randomly oriented in an aphanitic groundmass of plagioclase and potassium feldspar. The groundmass not infrequently exhibits a trachytic alignment of feldspar crystals, when viewed in thin section. Anhedral biotite may form as much as 15% of the phenocrysts. Infrequent lapilli fragments, observed at the northeast end of the present workings, clearly indicate that some of the feldspar porphyries are crystal tuffs; elsewhere, sharp contacts suggest that some of the units are lava flows or, possibly, sills. Near the Discovery Vein, at the southeast end of the present workings, is an occurrence of feldspar biotite porphyry with a granular, interlocking texture.

Units of volcanoclastic and feldspar porphyry vary from 5 to 20 m in thickness. The total thickness of the sequence transected by the mine workings is unknown, because of the unknown displacements on the normal faults; the thickness probably approaches a total of 500 m. Epiclastic tuffs and sandstones occur higher in the mine series, to the north of the existing workings. Graded bedding present in several of these units clearly indicate that the top of the sequence is to the north. These bedding attitudes are very similar to those reported from the SNIP deposit, 5 km to the north, suggesting that both deposits are hosted by the same tectonostratigraphic package. The mine series lies in assumed fault contact with gently dipping to flat-lying sandstones, siltstones and shales to the east and are in assumed fault contact with moderately dipping pyroclastic, volcanoclastic and sedimentary rocks to the southeast.

Normal faults of 1-30 m displacement encountered to date in the mine strike 155 to 170 and dip moderately either to the east or to the west. Quartz filled "flat" faults of 0.5-10 m displacement form abruptly undulating surfaces with an average gentle dip to the east.

The ore bodies are composed of moderately to steeply dipping quartz sulphide veins ranging from 0.5-2.0 m thick. Dilations are common, usually formed by splits in the veins or by richly mineralized stringer stockworks in the wallrocks surrounding the veins. Ore shoots as much as 8 m thick have been encountered. Generally, higher grades are associated with the thicker ore shoots.

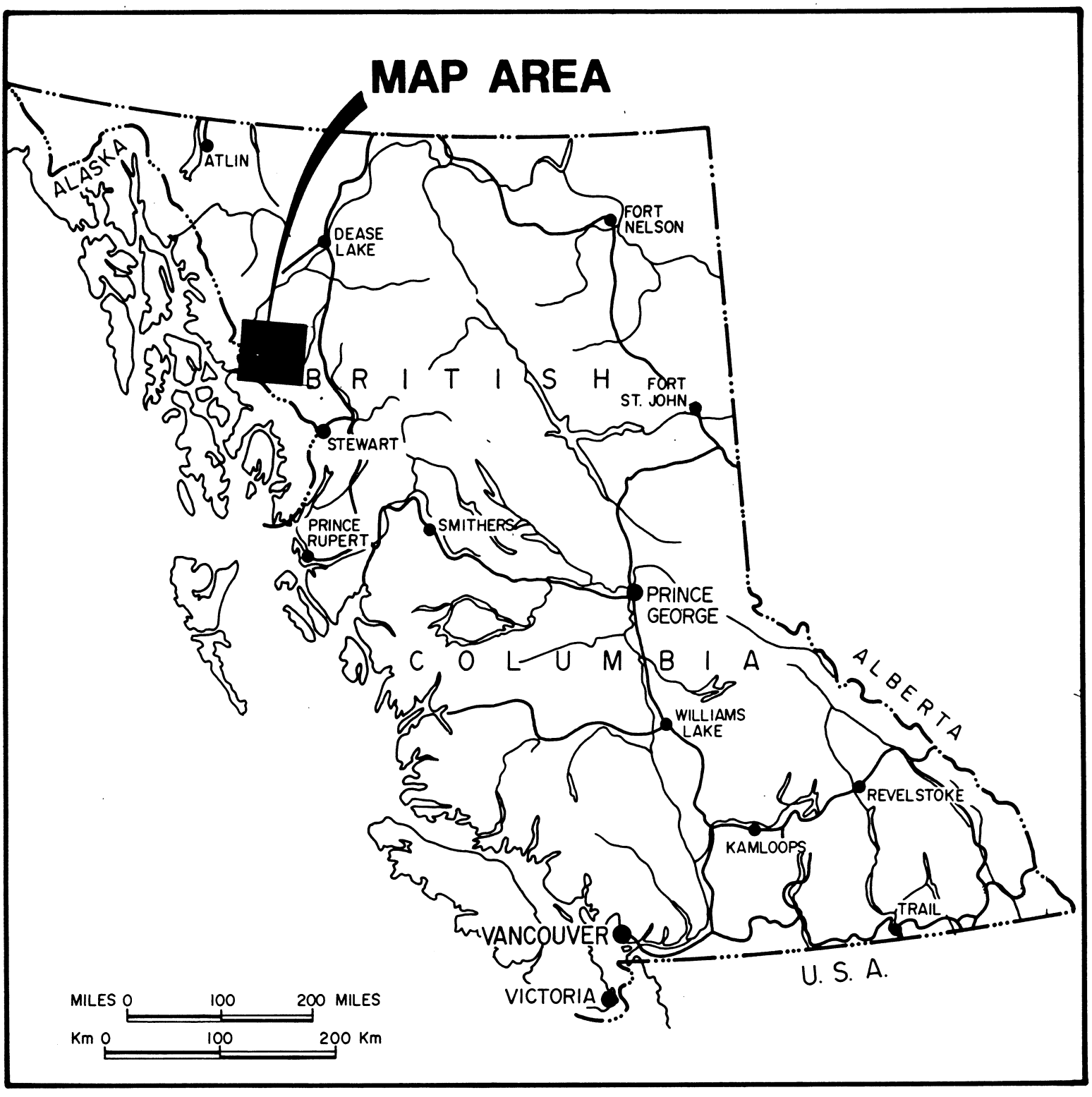
The Sixteen Vein, which has produced most of the ore to date, has an average strike of 065 and dips at 60-70 degrees to the north- west. Stoping on the Sixteen Vein is taking place along a strike length of 350 m and to a depth of 190 m below surface. The deepest drill-indicated ore intercept to date is 275 m below surface. The vein is open to the northeast and to depth. The Sixteen Vein typically comprises several phases of grey and white quartz forming rehealed quartz breccias in areas of better grade. The vein contains 20-25% pyrite, 2% late stage chalcopyrite and less than 1% sphalerite and galena in a semi-massive to massive sulphide lead within the quartz vein.

The Discovery Vein has an average strike of 045 and dips at 70 degrees to the northwest. Stoping has taken place on the vein along a strike length of 120 m and to a depth of 70 m below surface. This vein is open to the southwest and to depth. Ore occurs in stringer veinlet stockwork zones in the walls of a massive pyrite vein containing 6% late stage chalcopyrite and less than 1% sphalerite and galena.

The alteration envelopes around the veins comprise massive grey potassium-feldspar and light green sericite in the vein walls, grading outward to biotite and chlorite. The veins are also flanked by a distinctive zone of 1-2 cm thick quartz pyrite stringers lying parallel to the vein, which give way to disseminated pyrite in weakly altered host rocks. Epidote alteration is common in the vicinity of the deposit, is postdeformational and is transgressive across lithologic boundaries. It occurs where an abundance of calcite permits the formation of epidote, rarely even in feldspar porphyry units.

The ore minerals are electrum and gold, occurring in quartz and on sulphide grain boundaries. The Ag:Au ratio is 2:1. Trace amounts of argentite, pyrargyrite, stephanite and tetrahedrite have been observed in addition to the more common sulphide minerals noted above. Deformation-related fractures, which postdate both the major K-feldspar alteration and emplacement of the sulphide-quartz veins, host most of the higher-grade gold- quartz mineralization.

During 1989, the Johnny Mountain mill produced 46,400 ounces of gold, 74,100 ounces of silver and 1,300,000 pounds of copper from 100,300 short tons of ore. Thirty percent of the gold recovered was by gravity separation methods and sold as dore. The remaining seventy percent of the gold recovered was with a chalcopyrite froth flotation concentrate.


MAP AREA
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B R I T I S H
FORT ST. JOHN
STEWART
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PRINCE GEORGE
C O L U M B I A
ALBERTA
WILLIAMS LAKE
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VICTORIA
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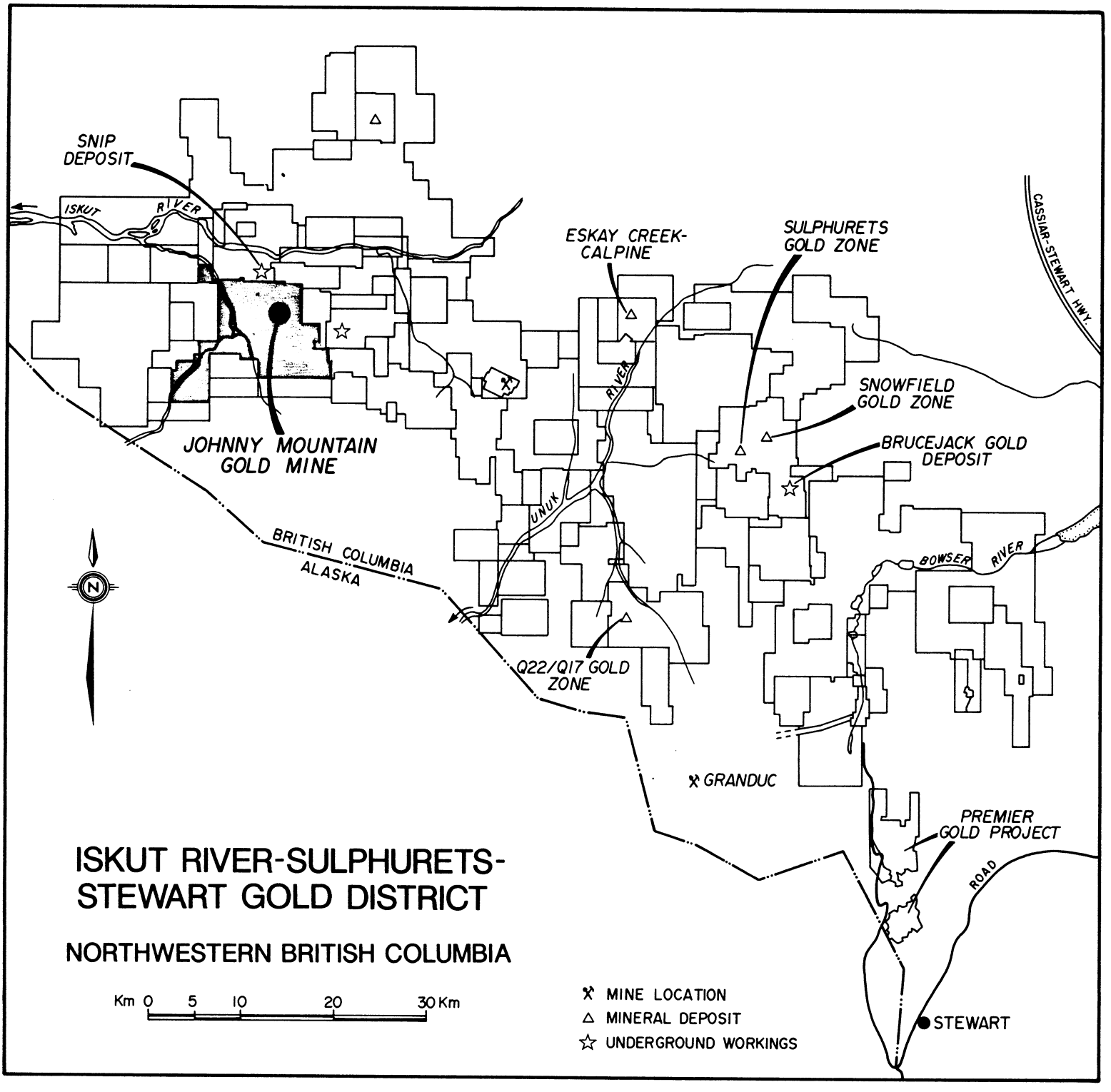
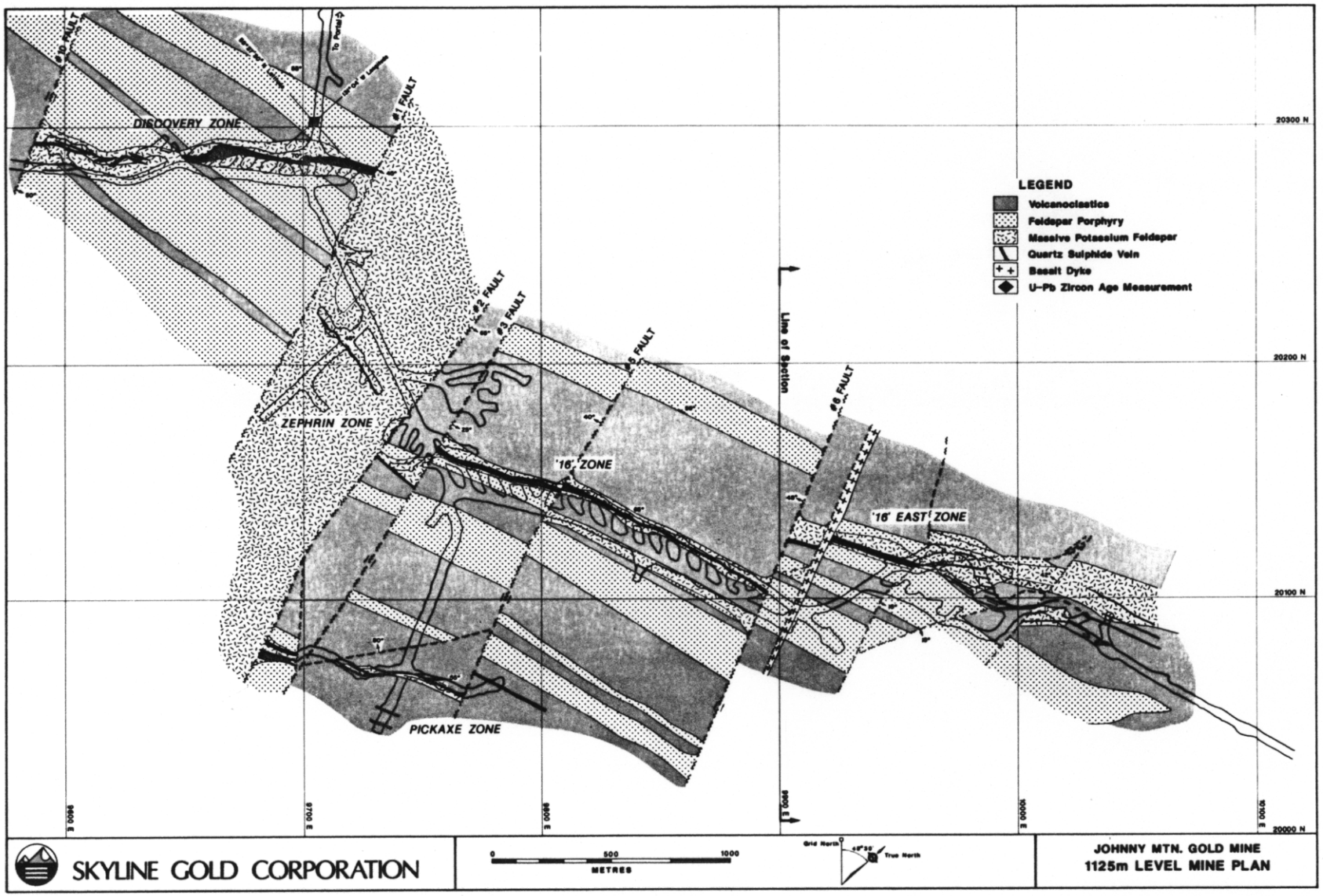


ISKUT RIVER-SULPHURETS-STEWART GOLD DISTRICT

NORTHWESTERN BRITISH COLUMBIA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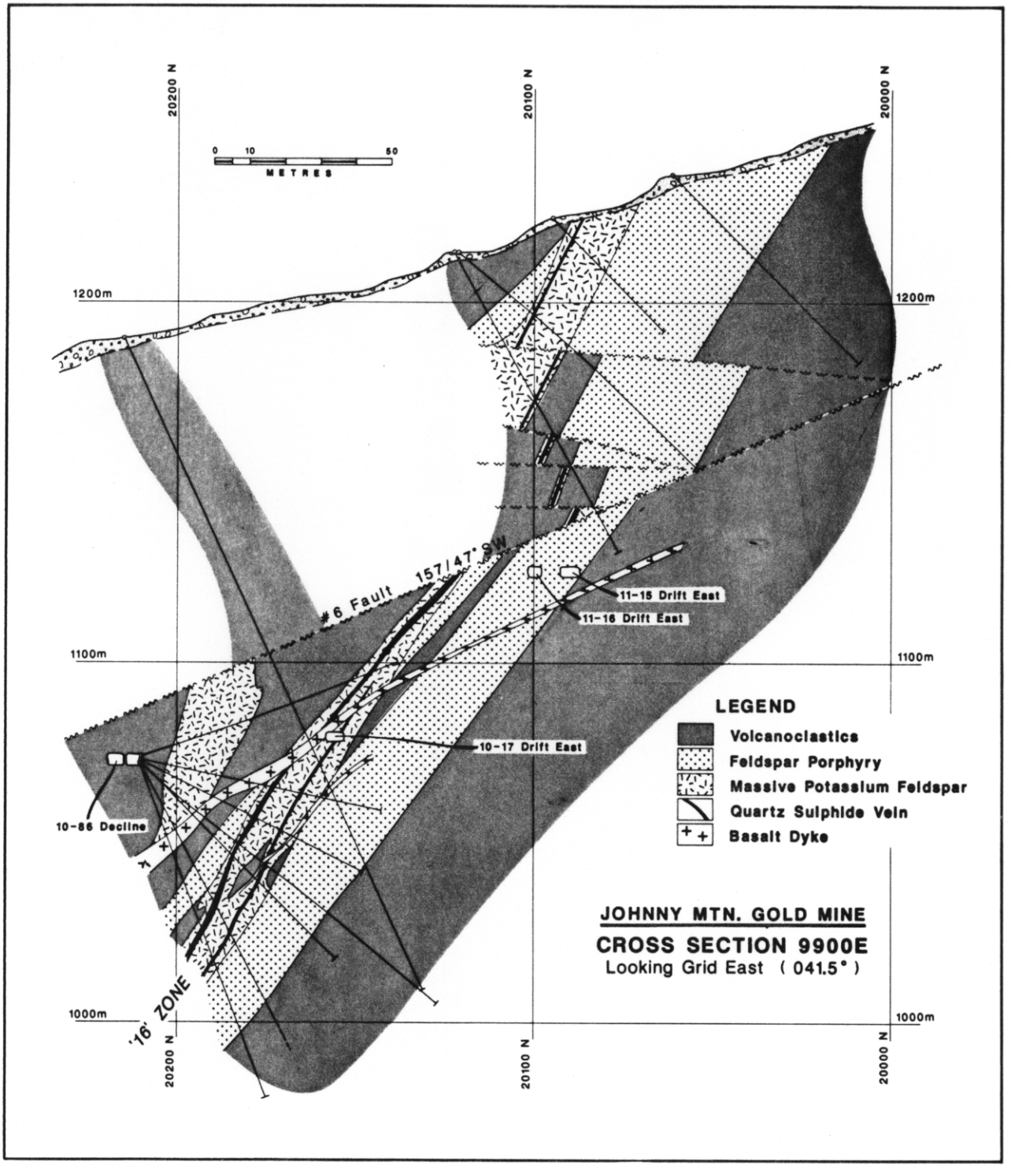
ZEPHRIN ZONE
'16' ZONE
'16' EAST' ZONE
PICKAXE ZONE
#10 FAULT
#1 FAULT
#2 FAULT
#3 FAULT
#5 FAULT
#8 FAULT
Line of Section
LEGEND
Volcanoclastics
Feldspar Porphyry
Massive Potassium Feldspar
Quartz Sulphide Vein
Basalt Dyke
U-Pb Zircon Age Measurement
20300 N
20200 N
20100 N
20000 N
SKYLINE GOLD CORPORATION
METRES
Grid North
True North
JOHNNY MTN. GOLD MINE
1125m LEVEL MINE PLAN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20100 N
20000 N
0 10 50
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1200m
1100m
1000m
#6 Fault 157/47° SW
11-15 Drift East
11-16 Drift East
10-17 Drift East
10-86 Decline
'16' ZONE
LEGEND
Volcanoclastics
Feldspar Porphyry
Massive Potassium Feldspar
Quartz Sulphide Vein
Basalt Dyke
JOHNNY MTN. GOLD MINE
CROSS SECTION 9900E
Looking Grid East (041.5°)