



52F10SW0012 2.6679 VAN HORNE

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REPORT ON THE GEOLOGY

OF THE

GLATZ PROPERTY

DRYDEN AREA

ONTARIO

RECEIVED

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MINING LANDS SECTION

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T.S. JOLLIFFE

GEOLOGIST

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INTRODUCTION

DETAILED GEOLOGICAL MAPPING, PROSPECTING AND SAMPLING WERE CARRIED OUT FROM SEPTEMBER 21ST TO NOVEMBER 6TH, 1983, ON 22 MINING CLAIMS IN THE VICINITY OF THE SOUTHWEST CORNER OF VAN HORNE TOWNSHIP, KENORA MINING DISTRICT, NORTHWESTERN ONTARIO. THE RESULTS ARE DESCRIBED IN THIS REPORT AND RECOMMENDATIONS ARE MADE FOR ADDITIONAL EXPLORATION WORK ON THE PROPERTY.

PROPERTY

THE GLATZ PROPERTY COMPRISES 22 UNPATENTED MINING CLAIMS IN 3 NON-CONTIGUOUS GROUPS, TOTALLING APPROXIMATELY 860 ACRES. THE LARGEST GROUP (11 CLAIMS) AND THE SMALLEST (3 LAKE CLAIMS - PRITCHARD LAKE) ARE LOCATED IN LOTS 10, 11 AND 12, CONCESSIONS I AND II, VAN HORNE TOWNSHIP. THE REMAINING 8 CLAIMS ARE LOCATED IN THE UNSURVEYED AREA IMMEDIATELY TO THE SOUTH OF THE BOUNDARY BETWEEN VAN HORNE TOWNSHIP AND AUBREY TOWNSHIP.

<u>CLAIM NO.</u>	<u>RECORDING DATE</u>	<u>ASSESSMENT DUE DATE</u>
K-589451	Sept. 4, 1981	Extension to Aug. 31, 1984
K-589452	Sept. 4, 1981	September 4th, 1984
K-589453	Sept. 4, 1981	" " "
K-672025	Jan. 6, 1983	* January 6, 1984
K-672026	" " "	" " "
K-672027	" " "	" " "
K-672028	" " "	" " "
K-672029	" " "	" " "
K-672030	" " "	" " "
K-590558	Jan. 12, 1983	* January 12, 1984
K-590559	" " "	" " "
K-590560	" " "	" " "
K-590561	" " "	" " "
K-590562	" " "	" " "
K-590563	" " "	" " "

<u>CLAIM NO.</u>	<u>RECORDING DATE</u>	<u>ASSESSMENT DUE DATE</u>
K-754712	Nov. 22, 1983	November 22, 1984
K-590978	March 17, 1983	* March 17, 1984
K-590979	" " "	" " "
K-590980	" " "	" " "
K-672567	" " "	" " "
K-706027	" " "	" " "
K-706028	" " "	" " "

* 100 days work credits applied for; awaiting final approval from Ministry of Natural Resources.

LOCATION, ACCESS, TRANSPORTATION AND SERVICES

THE PROPERTY IS LOCATED ABOUT 6 MILES SOUTHWEST OF DRYDEN, WHICH LIES MIDWAY BETWEEN THUNDER BAY, ONTARIO, AND WINNIPEG, MANITOBA. BOTH THE MAIN TRANS-CONTINENTAL LINE OF THE CANADIAN PACIFIC RAILWAY AND THE TRANS-CANADA HIGHWAY (No. 17) PASS THROUGH THE TOWN. THE RECENTLY COMPLETED HIGHWAY 502 CONNECTS DRYDEN WITH FORT FRANCES, ONTARIO, AND INTERNATIONAL FALLS, MINNESOTA.

THE NORTHERN CLAIM GROUPS ARE ACCESSIBLE FROM DRYDEN BY FOLLOWING HIGHWAY 594 (3.9 MILES) AND HIGHWAY 502 (3.6 MILES) TO A BOAT LANDING ON THE WEST SIDE OF PRITCHARD LAKE. ALTERNATIVELY, AN OLD BUSH TRAIL LEADING FROM THE SOUTHWEST CORNER OF PRITCHARD LAKE TO GUY LAKE CAN BE FOLLOWED ON FOOT FOR ABOUT 1 MILE TO REACH THE PROPERTY. THE SOUTHERN CLAIM GROUP LIES TO THE EAST OF HIGHWAY 502, ABOUT 6 MILES SOUTH OF THE INTERSECTION WITH HIGHWAY 594.

DRYDEN IS SERVICED BY DAILY NORDAIR JET FLIGHTS FROM WINNIPEG, THUNDER BAY AND TORONTO. THERE ARE ALSO DAILY CPR PASSENGER AND FREIGHT TRAINS AND A GREYHOUND BUS SERVICE. LOCAL CHARTER SERVICES CAN PROVIDE FIXED-WING AIRCRAFT AND HELICOPTERS.

DRYDEN HAS A POPULATION OF 6,500 AND IS THE REGIONAL CENTRE FOR

THE AREA. THE MAIN INDUSTRY IS GREAT LAKES FOREST PRODUCTS LTD., WHICH HAS RECENTLY COMPLETED A MAJOR MODERNIZATION AND EXPANSION PROGRAMME. TOURISM IS A SECOND IMPORTANT INDUSTRY AND A WIDE RANGE OF RECREATIONAL FACILITIES IS AVAILABLE.

CLIMATE, TOPOGRAPHY, VEGETATION

AVERAGE MAXIMUM AND MINIMUM TEMPERATURES RANGE FROM 24.5°C AND 12.8°C IN JULY TO -13.6°C AND -24.4°C IN JANUARY. ANNUAL PRECIPITATION AVERAGES 27.4 IN., OF WHICH 20.7 IN. IS RAINFALL. AVERAGE ANNUAL SUNSHINE IS 2,050 HOURS.

LOCAL RELIEF, WHILE PROBABLY NOT IN EXCESS OF 100 FEET, IS QUITE VARIABLE. BEDROCK IS FAIRLY WELL-EXPOSED. THE DIRECTION OF ICE MOVEMENT INDICATED BY GLACIAL STRIAE IS ABOUT 225°.

THE AREA IS COVERED BY SPRUCE, JACKPINE, CEDAR AND POPLAR, WITH AN UNDERGROWTH OF TAG ALDERS. MOST OF THE OUTCROPS HAVE A VERY HEAVY LICHEN OR MOSS COVER WHICH MASKS TEXTURAL FEATURES AND OBSCURES GEOLOGICAL CONTACTS.

PREVIOUS WORK

PROSPECTING AND MINING ACTIVITY IN THE SOUTHERN PART OF VAN HORNE TOWNSHIP WAS FIRST REPORTED BY A.P. COLEMAN IN 1898. DURING THE NEXT 25 YEARS, EXTENSIVE PITTING AND TRENCHING WORK WAS CARRIED OUT ON SURFACE SHOWINGS AND SEVERAL SHAFTS WERE PUT DOWN, PARTICULARLY IN THE AREA TO THE EAST OF THE GLATZ PROPERTY . LIMITED PRODUCTION OF ABOUT 625¹ OUNCES OF GOLD AND 83² OUNCES OF SILVER WAS

¹ CALCULATED FROM DATA REPORTED BY SATTERLY (1941, P. 50)

² BONANZA MINE - MINERAL DEPOSIT FILES, ONT. GEOL. SURV., KENORA

OBTAINED FROM 3 MINES: THE BONANZA, THE REDEEMER AND THE ROGNON. THE OVERALL AVERAGE GRADE OF THE 3 MINES WAS ESTIMATED TO BE ABOUT 0.21 oz. Au/TON¹.

SEVERAL OLD PITS AND TRENCHES AND THREE MINE SHAFTS WERE FOUND ON THE GLATZ PROPERTY AND IN ADJACENT AREAS DURING THE 1983 MAPPING PROGRAMME (MAPS 1 AND 2). THIS INFORMATION HELPS TO CLARIFY SOME OF THE AMBIGUOUS REFERENCES IN OLD GOVERNMENT REPORTS CONCERNING THE LOCATION OF THE EARLY WORKINGS.

TWO OF THE SHAFTS ARE LOCATED IN THE NORTHEAST 1/4, NORTH 1/2, LOT 11, CONCESSION I OF VAN HORNE TOWNSHIP, WHICH IS THE PATENTED CLAIM OWNED BY THE TOWN OF DRYDEN AND SURROUNDED BY THE NORTHEAST CLAIM GROUP OF THE GLATZ PROPERTY. SATTERLY (1941) STATED THAT THIS WAS ORIGINALLY THE GORDEN CLAIM OF THE DRYDEN MINING COMPANY² WHICH LATER³ PASSED INTO THE HANDS OF THE CLEVELAND MINING COMPANY AND AT SOME POINT BEFORE 1938 WAS ACQUIRED BY VANLAS GOLD MINES, LIMITED. HOWEVER, THE PROPERTY MAY HAVE FIRST BEEN DEVELOPED BY THE GRIMSBY GOLD MINING CO. (COLEMAN, 1898⁴).

COLEMAN FOUND "...A SHAFT 36 FEET DEEP ON A VEIN OF QUARTZ AVERAGING 2 1/2 FEET IN WIDTH, SAID TO HAVE BEEN TRACED FOR HALF A MILE^[5]. THE VEIN RUNS 12° NORTH OF EAST AND DIPS SOMEWHAT TO THE NORTH... PORTIONS OF THE QUARTZ ARE HEAVILY CHARGED WITH PYRITE AND THE ROCK IS SAID TO ASSAY [0.375 oz. Au/TON] ON THE AVERAGE, THE GOLD CONTENTS

¹ SATTERLY (1941, P. 50)

² PARSONS (1912) GIVES A SLIGHTLY DIFFERENT VERSION: "...CLAIM DEVELOPED BY MR. GEO. GORDON, WHO...SOLD IT TO THE DRYDEN MINING COMPANY OF CLEVELAND, OHIO."

³ PRIOR TO 1917 (THOMSON, 1917)

⁴ COLEMAN'S DESCRIPTION IS AMBIGUOUS AND MAY REFER TO THE LONE JACK MINE ON BOB LAKE (OWNED BY THE GRIMSBY GOLD MINING CO.??)

⁵ THE PITS AND TRENCHES ON CLAIM K. 672567?

INCREASING AS THEY GO DOWN."

PARSONS (1912) STATED THAT THE SHAFT ON THE GORDON (IE. VANLAS) CLAIM HAD REACHED A DEPTH OF 70 FEET AND NOTED THE PRESENCE OF FREE GOLD WITH SOME "EXCEPTIONALLY ATTRACTIVE" SPECIMENTS. IN 1913, PARSONS REPORTED THAT TWO SHAFTS HAD BEEN SUNK¹, "...ONE 90 FEET DEEP AND THE OTHER 43 FEET DEEP. TWO CROSSCUTS [TOTTALLING 39 FEET] AND A DRIFT 50 FEET LONG HAVE BEEN OPENED UP IN THE FIRST OF THESE."

THOMSON (1917) PROVIDED MORE SPECIFIC INFORMATION ABOUT LOCATIONS, STATING THAT TWO SHAFTS HAD BEEN SUNK BY THE CLEVELAND MINING COMPANY (IE. VANLAS) IN "...THE NORTHEAST CORNER OF LOT 11, CONCESSION I... THE FIRST OF THESE, WHICH IS SITUATED ONLY A SHORT DISTANCE FROM THE CORNER POST BETWEEN LOTS 10 AND 11,^[2] IS ABOUT 20 FEET DEEP,^[3] AND HAS BEEN SUNK ON A SMALL VEIN THREE TO SIX INCHES WIDE, CONSISTING CHIEFLY OF QUARTZ, ANKERITE, TOURMALINE AND PYRITE. THE COUNTRY ROCK AT THIS SHAFT IS AN ALTERED DIABASE. ...THE OTHER SHAFT..., WHICH IS SITUATED ABOUT A QUARTER OF A MILE WEST OF THE FIRST ONE, IS 85 FEET DEEP,^[4] AND HAS BEEN SUNK ON THE SAME SORT OF MATERIAL AND IN THE SAME COUNTRY ROCK. SEVERAL OLD BUILDINGS, INCLUDING THE REMAINS OF AN OLD MILL, ARE STILL STANDING NEAR THIS SHAFT."

SATTERLY (1941) DID NOT VISIT THE VANLAS GOLD MINES, LIMITED PROPERTY BUT HE REPORTED⁵ SECONDHAND THAT TRENCHING AND PITTING WERE

¹ PRESUMABLY THIS INCLUDES THE SHAFT PREVIOUSLY SUNK

² FOUND DURING THE 1983 MAPPING PROGRAMME AND SHOWN ON MAP 1

³ THE DEPTH OF 43 FEET REPORTED BY PARSONS (1913) IS MORE PRECISE AND PROBABLY MORE RELIABLE; SATTERLY (1941) USED THOMSON'S FIGURE

⁴ COMPARE TO DEPTH OF 90 FEET REPORTED BY PARSONS (1913)

⁵ HE REFERS TO A GROUP OF 12 CLAIMS IN CONCESSIONS I AND II, NOT SPECIFICALLY THE CLAIM ON WHICH THE SHAFTS ARE LOCATED

CARRIED OUT IN 1938 AND SOME 500 FEET OF DIAMOND DRILLING WAS DONE IN 1940.

THE THIRD SHAFT FOUND DURING THE 1983 MAPPING PROGRAMME IS LOCATED ON THE GLATZ PROPERTY (CLAIM K. 672028: NORTHWEST 1/4, SOUTH 1/2, LOT 10, CONCESSION 1 OF VAN HORNE TOWNSHIP). THIS IS PROBABLY THE LITTLE JUMBO MINE.

THE FIRST REPORT ON THE LITTLE JUMBO WAS MADE BY COLEMAN (1898), WHO STATED THAT IT WAS LOCATED IN LOT 10, CONCESSION 1, AND GAVE THE FOLLOWING DESCRIPTION: "...THERE IS A DIKE OF DARK RED FELSITE, ... 18 FEET WIDE AND CONTAINING SOME STRINGERS OF QUARTZ, RUNNING THROUGH A GREENISH GRAY AGGLOMERATE. PART OF THE FELSITE HAS BEEN SHEARED INTO A DARK SPOTTED SCHIST, AND THE LATTER IS SAID TO ASSAY ON THE AVERAGE [0.70 oz. Au/TON]. A SPECIMEN TAKEN BY US ASSAYED, TO MY SURPRISE, 1 oz. PER TON, BUT MAY NOT REPRESENT THE AVERAGE ROCK. THE ORDINARY FELSITE SEEMS TO CARRY LITTLE OR NO GOLD, AND THE SMALL AMOUNT OF QUARTZ TO BE SEEN IS NOT RICH. A SHAFT HAS BEEN SUNK HERE TO THE DEPTH OF 55 FEET WITH 20 FEET OF A CROSS CUT. IT IS A VERY SINGULAR ORE DEPOSIT, NOTHING EXCEPT THE SMALL AMOUNT OF PYRITE IN THE DARK SCHIST SUGGESTING ITS AURIFEROUS CHARACTER."

THE ONLY OTHER REPORT WHICH PROBABLY REFERS TO THE THIRD SHAFT WAS MADE BY PARSONS¹ IN 1911: "NORTH OF GUY LAKE IN LOT 10, CONCESSION 1, VAN HORNE, MR. J.R. WALKER HAS SUNK A SHAFT ABOUT 50 FEET DEEP IN ALTERED FELSITE OR GRANITE. THE VEINS ARE SMALL, BEING NOT MORE THAN ABOUT A FOOT WIDE, BUT IT IS REPORTED THAT ASSAYS OF SAMPLES FROM THIS CLAIM HAVE GONE AS HIGH AS [0.97 oz. Au/TON]. ON THE SAME CLAIM ARE

¹ PARSONS DOES NOT SAY THAT THIS IS THE LITTLE JUMBO MINE

THREE LARGE QUARTZ VEINS^[1] RUNNING FROM TWO TO SIX FEET IN WIDTH UPON WHICH SHALLOW OPENINGS HAVE BEEN MADE BUT NO SHAFT SUNK."

IN HIS 1911 REPORT, PARSONS ALSO DESCRIBED PITTING AND TRENCHING WORK OUTSIDE THE AREA OF THE VANLAS AND LITTLE JUMBO SHAFTS. HE MAY HAVE BEEN REFERRING TO THE TRENCHES AT ABOUT 700E/500N (NORTH GRID CO-ORDINATES) IN STATING: "ON THE NORTHWEST 40 ACRES OF LOT 11, CONCESSION 1, IS A VEIN WHICH HAS BEEN STRIPPED FOR ABOUT 100 FEET. THIS VEIN IS ABOUT 2 FEET WIDE, AND CONSISTS PRINCIPALLY OF QUARTZ WITH SOME PYRITE. THE COUNTRY ROCK IS FELSITE WITH WHICH IS ASSOCIATED SOME DIABASE. THE INDICATIONS HERE ARE PROMISING."

PARSONS (1911) ALSO MENTIONED DEVELOPMENT WORK IN CONCESSION 11, NEAR THE BOUNDARY BETWEEN THE SOUTHWEST CLAIM ON LOT 10 (K. 590979) AND THE SOUTHEAST CLAIM ON LOT 11 (K. 590980) - PROBABLY THE SERIES OF TRENCHES AND PITS LOCATED BETWEEN LINES 20E AND 24E AT ABOUT 2000N: "A QUARTZ VEIN ABOUT A FOOT WIDE SHOWS ON THE SURFACE, BUT DECREASES IN WIDTH AT A DEPTH OF ABOUT FOUR FEET."

FINALLY, PARSONS (1911) REPORTED ON WORK CARRIED OUT ON R. 545²- PROBABLY THE PIT LOCATED AT 325W/300N³ OR THE PIT AT 275W/495N³: "...A TEST PIT HAS BEEN SUNK IN ALTERED FELSITE WHICH IS CUT BY NUMEROUS QUARTZ VEINS. PRESUMABLY THIS ROCK IS THE SAME FORMATION AS THAT FOUND AT THE LEAGUE MINE, BUT THE ROCK HERE IS SOMEWHAT MIXED, AS IN ADDITION TO THE FELSITE THERE IS CONSIDERABLE TRAP, SO THAT IT IS APPARENTLY NEAR THE CONTACT OF THE TWO."

¹ THIS PROBABLY REFERS TO THE POORLY EXPOSED IRREGULAR-TRENDING QUARTZ VEINS (NORTH GRID CO-ORDINATES: 3915E/1675S) ON WHICH SOME TRENCHING MAY HAVE BEEN DONE AND/OR THE 6'x10'x4' DEEP PIT FARTHER TO THE EAST (NORTH GRID CO-ORDINATES: 4110E/1775S)

² THE AREA ON THE SOUTHEAST AND SOUTH SIDES OF PRITCHARD LAKE

³ NORTH GRID CO-ORDINATES

IN THE SAME AREA,¹ NEAR THE WEST BOUNDARY OF CLAIM K. 672567, ALEX GLATZ IN 1980 CARRIED OUT STRIPPING OPERATIONS TO EXPOSE SCATTERED AREAS OF BEDROCK. HODGE (1981) REPORTED THAT THE STRIPPING REVEALED "...NARROW QUARTZ VEINLETS, STRINGERS, AND STOCKWORKS IN HIGHLY CARBONATIZED AND FRACTURED VOLCANICS." WAHL (1981) REPORTED THAT GLATZ USED "...AN ATLAS COPCO PLUGGER TO DRILL 72 HOLES TO A DEPTH OF APPROXIMATELY THREE FEET. THE PRECUSSION DRILL CUTTINGS WERE COLLECTED ON A PLASTIC SHEET AND ASSAYED FOR GOLD, THE RESULTS OF WHICH EXHIBIT AN ANOMALOUS GOLD DISTRIBUTION OVER THE EXPOSED AREA FROM TRACE AMOUNTS UP TO A HIGH OF 0.97 OUNCES PER TON" (AVERAGE: 0.06 OZ. AU/TON²). WAHL (1981) ALSO NOTED THAT THE "...APPARENT RANDOM DISTRIBUTION OF THE SAMPLING DRILL HOLES...IS PARTIALLY A REFLECTION OF THE ACTUAL AREAL EXTENT OF THE OUTCROP EXPOSED IN THE STRIPPED AREA AND PARTIALLY DUE TO THE DISTRIBUTION OF THE QUARTZ-CARBONATES VEINS AND FRACTURE FILLINGS NOTED WITHIN THE EXPOSED CARBONATIZED MAFIC VOLCANIC UNIT. THE SAMPLE DRILL HOLES ALSO APPEAR TO HAVE BEEN ESTABLISHED IN AN ATTEMPT TO OBTAIN A RELATIVE ORDER OF MAGNITUDE OF THE GOLD CONTENT OF THE QUARTZ-CARBONATE VEINS RATHER THAN TO ESTABLISH THE SPECIFIC GOLD CONTENT OVER A DESIGNATED WIDTH..."

THERE ARE A FEW OLD PITS ON THE SOUTHERN GROUP OF CLAIMS, BUT THE ONLY REPORTED WORK WAS MINOR MANUAL STRIPPING AND SAMPLING CARRIED OUT BY B. PERRY IN 1981 AT ABOUT 200S ON LINE 18E (SOUTH GRID CO-ORDINATES) ON QUARTZ VEINS IN A QUARTZ-FELDSPAR PORPHYRY DYKE. PERRY STATED³ THAT HE OBTAINED ASSAYS RANGING FROM 0.01 TO 0.26 OZ. AU/TON.

¹ APPROXIMATE BOUNDARIES: 175N-325N/375W TO 225N-470N/050W

² HODGE (1981)

³ UNDATED LETTER TO H.J. HODGE

... ON 9 SAMPLES.

ON 9 SAMPLES.

THE EARLIEST GEOLOGICAL MAPS OF THE AREA WERE MADE BY MCINNES (1902), PARSONS (1911) AND THOMSON (1917). THE GLATZ PROPERTY IS ALSO COVERED BY THE MORE RECENT AND COMPREHENSIVE RECONNAISSANCE MAPS (SCALE: 1" = 1 MILE) AND REPORTS BY MOORHOUSE (1939) AND SATTERLY (1941) ON THE EAGLE LAKE AREA AND THE DRYDEN-WABIGOON AREA, RESPECTIVELY.

GENERAL GEOLOGY

THE GLATZ PROPERTY LIES WITHIN THE WESTERN PART OF THE WABIGOON SUB-PROVINCE OF THE SUPERIOR PROVINCE IN THE CANADIAN SHIELD (TROWELL ET AL., 1980). THE WABIGOON BELT IS COMPOSED MAINLY OF VOLCANIC ROCKS WITH SOME SEDIMENTARY ROCKS, INTRUDED BY LARGE GRANITOID BATHOLITHS, SUBVOLCANIC PLUTONS AND MAFIC INTRUSIONS.

THREE MILES TO THE NORTH OF THE PROPERTY IS THE EAST-WEST TRENDING WABIGOON FAULT, A MAJOR STRUCTURE CHARACTERIZED BY INTENSE SHEARING AND CARBONATIZATION OF THE ADJACENT VOLCANIC ROCKS (SATTERLY, 1941). THE FAULT IS INTERPRETED TO BE THE NORTH BOUNDARY OF THE WABIGOON SUB-PROVINCE (BLACKBURN, 1980). THE CLASTIC SEDIMENTARY AND GRANITOID ROCKS FURTHER TO THE NORTH BELONG TO THE ENGLISH RIVER SUB-PROVINCE.

LOCALLY, THE WABIGOON VOLCANIC ROCKS HAVE BEEN SUB-DIVIDED INTO THREE UNITS (TROWELL ET AL., 1980). THE BASAL EAGLE LAKE VOLCANICS TO THE SOUTH ARE COMPOSED OF MAFIC FLOWS. THE ROCKS ON THE GLATZ PROPERTY ARE PART OF THE LOWER WABIGOON VOLCANICS, A MIXED SEQUENCE OF FELSIC TO MAFIC PYROCLASTICS AND FLOWS. TO THE NORTH, THE UPPER WABIGOON VOLCANICS ARE COMPOSED OF MAFIC FLOWS.

RADIOMETRIC DATING STUDIES ON THE LOWER WABIGOON VOLCANICS (DAVIS ET AL., 1982) INDICATE THAT DEPOSITION OCCURRED OVER A PERIOD PROBABLY IN EXCESS OF 8 MA, WITH A MINIMUM AGE OF ABOUT 2,735 MA. A SIMILAR AGE WAS OBTAINED FOR THE ATIKWA BATHOLITH, A LARGE COMPLEX OF GRANITOID ROCKS ABOUT THREE MILES TO THE SOUTH OF THE PROPERTY. THE VOLCANISM WHICH PRODUCED THE LOWER WABIGOON VOLCANICS MAY THEREFORE BE RELATED TO THE PLUTONIC ACTIVITY ASSOCIATED WITH BATHOLITH EMPLACEMENT.

PROPERTY GEOLOGY

THE GLATZ PROPERTY IS UNDERLAIN BY A COMPLEX SEQUENCE OF SLIGHTLY METAMORPHOSED MAFIC TO FELSIC PYROCLASTICS AND FLOWS, CUT BY SEVERAL MAFIC TO INTERMEDIATE INTRUSIVE BODIES AND NUMEROUS DYKES (MAP 1). THE VOLCANICS FORM AN ARCUATE BELT, TRENDING EAST-WEST IN THE EASTERN PART OF THE PROPERTY AND NORTHEAST-SOUTHWEST TO THE WEST, WITH STEEP NORTHERLY DIPS. TOPS FACE TO THE NORTH.

ROCK TYPES:

MAFIC TO INTERMEDIATE FLOWS (UNIT 1) OCCUR OVER MUCH OF THE PROPERTY AND ARE PREDOMINANT TOWARD THE NORTH AND SOUTH BOUNDARIES. THEY ARE GENERALLY FINE-GRAINED AND MEDIUM- TO DARK-GREY OR GREENISH-GREY IN COLOUR. THE MAJORITY ARE MASSIVE, BUT AMYGDALOIDAL, PILLOWED AND BRECCIATED FLOWS ARE ALSO COMMON. AMYGDULES ARE GENERALLY ELONGATED WITH LONG AXES TYPICALLY LESS THAN 1/2 INCH. THE FILLINGS ARE USUALLY COMPOSED OF QUARTZ OR CALCITE. PILLOWS ARE COMMONLY 3 FEET OR LARGER IN LONG DIMENSION, WITH SELVAGES THAT ARE USUALLY LESS THAN 1 INCH WIDE. GOOD EXPOSURES OF PILLOWED FLOWS WITH NORTH-FACING TOPS WERE OBSERVED AT THE SOUTH END OF BOB LAKE BUT OVER MUCH OF THE MAPPING AREA THE VERY

HEAVY LICHEN COVER OBSCURES PILLOW TEXTURES. AUTOCLASTIC FLOW BRECCIAS OCCUR PRINCIPALLY IN THE NORTHERN PART OF THE AREA AND ARE OFTEN HARD TO DISTINGUISH FROM THE MORE MAFIC PYROCLASTICS. PYRITE IS A MINOR ACCESSORY MINERAL IN MANY OF THE MAFIC FLOWS AND PYRRHOTITE IS FAIRLY COMMON IN THE NORTHERN PART OF THE PROPERTY.

FELSIC TO INTERMEDIATE FLOWS (UNIT 2) OCCUR MAINLY AS MINOR DISCONTINUOUS, LENSOID BODIES THROUGH THE CENTRAL TO SOUTHWESTERN PART OF THE PROPERTY. THEY GENERALLY WEATHER WHITE TO CREAM AND HAVE A LIGHT GREY COLOUR ON FRESH SURFACES. SOME ARE PYRITIC AND WEATHER TO A RUSTY COLOUR. MOST ARE VERY FINE-GRAINED, ALTHOUGH MINOR MEDIUM-GRAINED PHENOCRYSTS OF FELDSPAR AND QUARTZ ARE SOMETIMES PRESENT. IN A FEW AREAS, THE FELSIC FLOWS ARE HARD TO DISTINGUISH FROM THE FINE-GRAINED FELSIC TUFFS WITH WHICH THEY ARE COMMONLY ASSOCIATED. IN THE REGION AROUND 1300N ON LINE 22E (SOUTH GRID) AND AROUND 900N ON LINE 46E (NORTH GRID) SOME OF THE ROCKS MAPPED AS FELSIC PYROCLASTICS COULD BE AUTOCLASTIC FLOW BRECCIAS.

PYROCLASTIC VOLCANICS (UNITS 3 AND 4) ARE THE MOST ABUNDANT ROCKS ON THE PROPERTY. THE MAJORITY ARE LAPILLI-TUFFS, WHICH GRADE TO GENERALLY MASSIVE, HOMOGENEOUS, FINE-GRAINED TUFFS. WELL-STRATIFIED, THINLY LAMINATED TUFFS ARE ALSO PRESENT IN A FEW AREAS, PARTICULARLY TO THE SOUTH. PYROCLASTIC BRECCIAS ARE LESS COMMON, ALTHOUGH MANY OF THE LAPILLI-TUFFS CONTAIN A FEW BRECCIA FRAGMENTS. BOTH THE LAPILLI- AND BRECCIA-SIZED FRAGMENTS ARE NORMALLY SUB-ROUNDED TO SUB-ANGULAR AND ELONGATED. MOST LAPILLI RANGE IN SIZE FROM 1/4 INCH TO 1 INCH, WHILE BRECCIA FRAGMENTS ARE GENERALLY LESS THAN 6 INCHES IN DIAMETER.

TYPICALLY, THE PYROCLASTIC FRAGMENTS ARE FELSIC TO INTERMEDIATE, IN A MORE MAFIC MATRIX. ALTHOUGH A COMPLETE RANGE IN OVERALL COMPOSITION

CAN BE OBSERVED, DEPENDING ON THE RELATIVE PROPORTION OF FRAGMENTS TO MATRIX, THERE APPEARS TO BE A ROUGH POLARIZATION INTO TWO 'END MEMBERS': MAFIC TO INTERMEDIATE PYROCLASTICS (UNIT 3) AND FELSIC TO INTERMEDIATE PYROCLASTICS (UNIT 4). THE PYROCLASTICS IN UNIT 3 TYPICALLY HAVE FRAGMENTS INTERMEDIATE IN COMPOSITION WITH AN AMYGDALOIDAL, VESICULAR OR PORPHYRITIC TEXTURE, SET IN A FINE-GRAINED, HOMOGENEOUS, CHLORITE-RICH MAFIC MATRIX. BRECCIA-SIZED FRAGMENTS ARE RELATIVELY ABUNDANT. ROCKS SIMILAR TO THESE ARE PROBABLY THE ONES DESCRIBED BY MOORHOUSE (1939) AS "AGGLOMERATIC FLOWS". THEY ARE INTERCALATED WITH MAFIC FLOWS IN THE NORTHERN PART OF THE PROPERTY AND IN MANY LOCALITIES IT IS HARD TO DETERMINE WHICH ROCK TYPE IS DOMINANT. THE PYROCLASTICS IN UNIT 4 ARE MORE COMMONLY FRAGMENT-SUPPORTED AND BOTH THE FRAGMENTS AND THE MATRIX ARE GENERALLY MORE FELSIC THAN IS THE CASE IN UNIT 3. HOWEVER THERE ARE A NUMBER OF ZONES WHICH ARE TRANSITIONAL BETWEEN THE TWO ROCK TYPES AND THE CONTACTS SHOWN ON MAP 1 SHOULD BE CONSIDERED ONLY AN APPROXIMATION.

THE VOLCANIC ROCKS ARE CUT BY A NUMBER OF MAFIC INTRUSIVE BODIES. MOST OF THESE ARE INTERPRETED TO BE EARLY SILLS AND DYKES (UNIT 5) WHICH HAVE BEEN SOMEWHAT RECRYSTALLIZED, IN A FEW PLACES GRADING TO CHLORITE-CARBONATE SCHIST. THEY HAVE A DARKISH-GREY TO GREENISH-GREY COLOUR ON FRESH SURFACE AND A COMPOSITION BORDERLINE BETWEEN DIORITE AND GABBRO. THEY ARE MEDIUM-GRAINED, WITH AN EQUIGRANULAR, ALLOTROPIC MORPHIC TEXTURE AND A MASSIVE, HOMOGENEOUS APPEARANCE IN OUTCROP. IT IS PROBABLE THAT SOME ARE ACTUALLY RECRYSTALLIZED MAFIC FLOWS BUT CROSS-CUTTING RELATIONSHIPS WERE OBSERVED IN SEVERAL LOCALITIES.

IN THE SOUTHEAST CORNER OF THE PROPERTY, THE VOLCANICS ARE CUT BY A LATE GABBRO INTRUSIVE (UNIT 6). THE ROCK IS COARSE- TO

MEDIUM-GRAINED, HOMOGENEOUS AND RELATIVELY UNALTERED.

NUMEROUS FELSIC TO MAFIC DYKES AND SILLS (UNIT 7) INTRUDE THE ROCKS PREVIOUSLY DESCRIBED. THE MAJORITY ARE GREY TO DARK GREY AND FINE-GRAINED, WITH AN INTERMEDIATE TO MAFIC COMPOSITION. IN AREAS OF HEAVY LICHEN COVER, THEY ARE HARD TO DISTINGUISH FROM VOLCANIC FLOWS AND ARE PROBABLY MUCH MORE ABUNDANT THAN IS SHOWN ON MAP 1. THEY ARE THEMSELVES CUT BY YOUNGER QUARTZ-FELDSPAR PORPHYRY AND FELSITE DYKES, MOST OF WHICH TREND NORTHWEST-SOUTHEAST OR APPROXIMATELY EAST-WEST. ALTHOUGH THESE DYKES ARE GENERALLY LESS THAN 30 FEET WIDE, SEVERAL HAVE BEEN TRACED OVER CONSIDERABLE DISTANCES. QUARTZ-FELDSPAR PORPHYRY DYKES ARE MUCH MORE COMMON THAN THE FELSITE DYKES, WHICH APPEAR TO BE THEIR FINE-GRAINED EQUIVALENT. UNALTERED PORPHYRY DYKES ARE LIGHT PINK TO PINKISH-GREY ON BOTH FRESH AND WEATHERED SURFACES. THEY ARE GENERALLY ONLY SLIGHTLY PORPHYRITIC, WITH A FINE-GRAINED GRANITIC MATRIX AND LESS THAN 20% MEDIUM-GRAINED PHENOCRYSTS OF QUARTZ AND FELDSPAR IN VARIOUS PROPORTIONS. MOST PORPHYRY DYKES CONTAIN QUARTZ(-CARBONATE) VEINS AND SOME APPEAR TO BE SPACIALLY ASSOCIATED WITH CARBONATE ALTERATION AND GOLD MINERALIZATION.

THE YOUNGEST ROCK IN THE AREA IS A LATE DIABASE DYKE (UNIT 8), ABOUT 150 FEET WIDE, WHICH TRENDS EAST-SOUTHEAST THROUGH CLAIM K.672030. THE DIABASE IS DARK GREY, RUSTY-WEATHERING AND MEDIUM-GRAINED, WITH A MASSIVE, HOMOGENEOUS TEXTURE.

STRUCTURE:

BEDDING ORIENTATIONS AND FLOW CONTACTS IN THE VOLCANICS SHOW AN OVERALL ARCuate TREND, FROM APPROXIMATELY EAST-WEST IN THE EASTERN PART OF THE PROPERTY TO NORTHEAST-SOUTHWEST NEAR THE SOUTHWESTERN

BORDER. DIPS ARE GENERALLY STEEP TO THE NORTH OR NORTHWEST BUT IN A FEW LOCALITIES THE ROCKS ARE SLIGHTLY OVERTURNED. MINOR EVIDENCE OF TOPS DIRECTIONS (PILLOW SHAPES, GRADED BEDDING) SUPPORTS REGIONAL DETERMINATIONS (SATTERLY, 1941) THAT TOPS FACE TO THE NORTH.

SEVERAL SHEAR ZONES OCCUR ON THE PROPERTY, A NUMBER WITH ASSOCIATED QUARTZ VEINS AND CARBONATE ALTERATION, AND SOME WITH GOLD MINERALIZATION. MOST HAVE AN APPROXIMATE EAST-WEST TREND PARALLEL TO THE MAJOR WABIGOON FAULT ABOUT THREE MILES TO THE NORTH. THE DIRECTION OF MOVEMENT AND THE AMOUNT OF DISPLACEMENT ALONG THE SHEAR ZONES COULD NOT BE DETERMINED.

SOME OF THE SHEAR ZONES ARE OCCUPIED BY QUARTZ-FELDSPAR PORPHYRY DYKES AND QUARTZ VEINS BUT THE MAJORITY OF DYKES AND VEINS HAVE A NORTHWEST-SOUTHEAST TREND. THESE TEND TO HAVE SHARP WALLROCK CONTACTS AND HAVE PROBABLY BEEN INTRUDED ALONG TENSION FRACTURES. THE TENSION FRACTURES AND THE SHEAR FRACTURES MAY FORM A COMPLIMENTARY SET REGIONALLY RELATED TO THE WABIGOON FAULT.

THE VOLCANICS AND THE EARLY MAFIC INTRUSIVES HAVE UNDERGONE DEFORMATION CHARACTERIZED BY THE DEVELOPMENT OF A SLIGHT FOLIATION AND THE ELONGATION OF PYROCLASTIC FRAGMENTS. FOLIATION PLANES ARE PROBABLY SUB-PARALLEL TO BEDDING BUT THE MAJOR DIRECTION OF DEFORMATION, INDICATED BY THE LONG AXES OF FRAGMENTS, APPEARS TO HAVE BEEN SUB-VERTICAL (IE. DOWN DIP).

METAMORPHISM:

THE AREA HAS UNDERGONE REGIONAL LOW GRADE GREENSCHIST FACIES METAMORPHISM. THE MORE MAFIC ROCKS HAVE BEEN PARTLY RECRYSTALLIZED

TO A CHLORITE- AND CALCITE-RICH ASSEMBLAGE AND SOME SERICITE ALTERATION OF THE FELDSPARS HAS TAKEN PLACE IN THE FELSIC ROCKS.

ALTERATION:

A MODERATE DEGREE OF CARBONATE (ANKERITE) ALTERATION IS PRESENT IN MANY OF THE ROCKS ON THE PROPERTY, PARTICULARLY THE PYROCLASTIC VOLCANICS. TO SOME EXTENT, THE ALTERATION APPEARS TO BE ASSOCIATED WITH SHEARING AND WITH THE QUARTZ-FELDSPAR PORPHYRY AND FELSITE DYKES.

OF PARTICULAR INTEREST IS A ZONE OF MODERATE TO VERY STRONG CARBONATE ALTERATION IN THE NORTHERN PART OF THE PROPERTY, COVERING THE AREA IN WHICH MANY OF THE OLD WORKINGS HAVE BEEN FOUND. THE BOUNDARIES ARE HARD TO DELINEATE BECAUSE OF THE DISTRIBUTION OF OUTCROPS BUT TO THE WEST THE ZONE LIES MAINLY TO THE SOUTH OF 600N AND TRENDS EASTWARD FROM THE STRIPPED AREA NEAR PRITCHARD LAKE TO THE WESTERN VANLAS SHAFT. FROM THERE IT APPEARS TO RUN NORTHEASTWARD TO THE EASTERN VANLAS SHAFT. FARTHER TO THE EAST THERE ARE SEVERAL AREAS WITH STRONG CARBONATE ALTERATION BUT THE ZONE(S) MAY BE NARROWER AND LESS CONTINUOUS. IT IS POSSIBLE THAT A SECOND EAST-TRENDING ALTERATION ZONE UNDERLIES THE OVERBURDEN COVER TO THE NORTH (1000N - 1200N) OF THE MAIN ZONE AND JOINS UP WITH IT IN THE VICINITY OF THE EASTERN VANLAS SHAFT.

IN A NUMBER OF PLACES, THE FELSIC TUFFS AND FLOWS HAVE UNDERGONE STRONG SERICITE ALTERATION ASSOCIATED WITH SHEARING. THE ROCKS USUALLY SHOW HEAVY IRON OXIDE STAINING, IN SOME CASES CAUSED BY CARBONATE ALTERATION BUT MORE COMMONLY THE RESULT OF A HIGH PYRITE CONTENT.

GEOPHYSICAL INTERPRETATION

VLF-EM AND MAGNETOMETER SURVEYS WERE CARRIED OUT BY R. GILICK (1983A,B) DURING THE FALL.

A LARGE NUMBER OF CONDUCTORS WERE DELINEATED IN THE VLF-EM SURVEY. VIRTUALLY WITHOUT EXCEPTION, THESE WERE FOUND TO BE IN OVERBURDEN COVERED AREAS, GENERALLY OFF THE EDGE OF OUTCROP HILLS AND IN LOW VALLEYS. THEY CAN THEREFORE BE EXPLAINED IN TERMS OF TOPOGRAPHIC EFFECTS AND OVERBURDEN CONDUCTIVITY.

THIS RESULT IS NOT SURPRISING, SINCE LITTLE EVIDENCE OF POSSIBLE CONDUCTORS WAS OBSERVED IN THE FIELD. PYRITE IS A FAIRLY COMMON MINOR ACCESSORY MINERAL IN SEVERAL ROCK TYPES BUT IT IS NORMALLY DISSEMINATED IN CONCENTRATIONS BELOW 1%. SULPHIDES ARE PRESENT IN MANY OF THE GOLD-BEARING QUARTZ-CARBONATE VEINS BUT AGAIN USUALLY DISSEMINATED AND IN CONCENTRATIONS BELOW 5%. SHEAR ZONES APPEAR TO BE RELATIVELY TIGHT AND IMPERMEABLE.

THERE ARE SOME EXCEPTIONS TO THE ABOVE OBSERVATIONS. A FEW NARROW ZONES OF SHEARED, SERICITIZED FELSIC TUFFS AND FLOWS CONTAINING PYRITE IN CONCENTRATIONS WELL ABOVE 5% WERE FOUND IN SCATTERED LOCALITIES. ONE OF THESE COINCIDES WITH A WEAK, SINUOUS CONDUCTOR A 1200N/4600E (NORTH GRID CO-ORDINATES). ANOTHER EXCEPTION IS THE MINERALIZED FELSITE DYKE AT THE WESTERN VANLAS SHAFT. SPECIMENS FROM THE SHAFT DUMP INDICATE THAT IN PLACES THE DYKE CONTAINS ABUNDANT LARGE PYRITE CUBES. HOWEVER, THE DYKE WAS NOT PICKED UP AS A CONDUCTOR BY THE VLF-EM SURVEY.

IT REMAINS A POSSIBILITY THAT SOME OF THE CONDUCTORS IN THE OVERBURDEN COVERED AREAS COULD COINCIDE WITH SULPHIDE CONCENTRATIONS

OR SHEAR ZONES WITH ASSOCIATED GOLD MINERALIZATION. HOWEVER, GIVEN THE CHARACTERISTICS OF THE AREA, AN I.P. SURVEY WOULD PROBABLY BE MUCH MORE EFFECTIVE FOR DELINEATING TARGETS OF INTEREST.

THE MAGNETOMETER SURVEY RESULTS PROVED HELPFUL IN CONFIRMING OVERALL STRUCTURAL AND LITHOLOGICAL TRENDS, PARTICULARLY IN THE NORTHERN PART OF THE PROPERTY. HOWEVER MOST OF THE ROCK TYPES HAVE A VARIABLE MAGNETITE AND PYRRHOTITE CONTENT AND LACK A CONSISTENTLY DISTINCTIVE MAGNETIC SIGNATURE. THE PICTURE IS COMPLICATED BY THE PRESENCE OF MAGNETIC MAFIC TO INTERMEDIATE DYKES AND SILLS WITH TRENDS SIMILAR TO THE HOST ROCKS.

SAMPLING

178 SAMPLES WERE COLLECTED FOR GOLD ASSAY DURING THE MAPPING PROGRAMME. LARGE SAMPLES (>3LB.) WERE OBTAINED WHEREVER POSSIBLE. MOST WERE SELECTIVE GRAB SAMPLES, TAKEN WITH THE AIM OF ENSURING THAT NO GOLD-BEARING MATERIAL WOULD BE OVERLOOKED. SULPHIDES, CARBONATE ALTERATION AND IRON OXIDES WERE CONSIDERED FAVOURABLE INDICATORS FOR GOLD MINERALIZATION. REPRESENTATIVE GRAB SAMPLES OR PANEL SAMPLES WERE TAKEN IN AREAS OF KNOWN MINERALIZATION, SUCH AS THE MINE SHAFT DUMPS, OR WHERE THERE WAS NO INHOMOGENEITY IN THE SAMPLED MATERIAL.

THE SAMPLES WERE ASSAYED BY CUSTOM FIRE ASSAYING, COCHENOUR, ONTARIO.

SAMPLING RESULTS ARE SHOWN ON MAP 2 AND COMPLETE SAMPLE DESCRIPTIONS ARE GIVEN IN APPENDIX 1 AND APPENDIX 2 AT THE END OF THIS REPORT.

ECONOMIC GEOLOGY

GOLD OCCURRENCES ON THE GLATZ PROPERTY AND IN ADJACENT AREAS
APPEAR TO BE OF TWO CLOSELY RELATED TYPES:

1. GOLD IN NARROW SHEAR ZONES AND ASSOCIATED QUARTZ VEINS
WITH ANKERITE, MINOR TOURMALINE AND PYRITE, AND OCCASIONAL
MAGNETITE, CHALCOPYRITE AND SPHALERITE.
2. GOLD IN NARROW QUARTZ VEINLETS, STRINGERS AND STOCKWORKS
IN INTENSELY FRACTURED AND CARBONATIZED FELSIC AND MAFIC
VOLCANIC ROCKS, AND IN FELSIC DYKES. THE QUARTZ VEINLETS
AND THE FELSIC DYKES MAY OCCUPY TENSION FRACTURES GENERATED
AS A COMPLIMENTARY SET TO THE SHEAR ZONES.

WITH RESPECT TO THE SECOND CATEGORY, THERE IS MINOR EVIDENCE TO
SUPPORT THE POSSIBILITY THAT GOLD MAY ALSO BE DISSEMINATED IN LOW
CONCENTRATIONS IN THE HOST ROCKS, ESPECIALLY THE QUARTZ-FELDSPAR
PORPHYRY AND FELSITE DYKES.

APPROXIMATELY HALF THE GOLD-BEARING SAMPLES COLLECTED ON THE
GLATZ PROPERTY AND IN ADJACENT AREAS WERE TAKEN FROM WITHIN THE MAJOR
ZONE OF CARBONATE ALTERATION ON THE NORTH GRID. MOST ARE FROM SHEAR
ZONES AND ASSOCIATED QUARTZ VEINS AND FELSIC DYKES. NONE OF THE
MINERALIZED AREAS APPEARS TO BE EQUIVALENT TO THE INTENSELY CARBONATIZED,
FRACTURED AND VEINED MINERALIZED ZONE IN THE STRIPPED AREA AT THE WEST
BOUNDARY (WAHL, 1981) BUT SUCH A ZONE WOULD FIT THIS ENVIRONMENT
AND COULD EASILY BE OBSCURED BY THE LICHEN COVER OR HIDDEN BENEATH
THE OVERBURDEN. IT IS INTERESTING TO NOTE THAT MINOR GOLD VALUES WERE
OBTAINED FROM TWO RELATIVELY 'NONDESCRIPT' SAMPLES (7603, 7612) AT
THE NORTH EDGE OF THE ALTERATION ZONE. THEY APPEAR TO BE FAIRLY
TYPICAL OF THE SURROUNDING ROCKS, WITH THE EXCEPTION OF A HIGHER-THAN-

AVERAGE PYRITE CONTENT. ALTHOUGH A NUMBER OF REPRESENTATIVE SAMPLES FROM THE MAIN CARBONATE ALTERATION ZONE ASSAYED TRACE AU/TON, THERE IS CONSIDERABLE POTENTIAL FOR THE DISCOVERY OF NEW GOLD MINERALIZATION AND MORE THOROUGH PROSPECTING AND SAMPLING COVERAGE WITHIN THE ALTERATION ZONE IS WARRANTED.

GOLD MINERALIZATION WAS FOUND IN SEVERAL AREAS OUTSIDE THE MAIN ALTERATION ZONE. THE MOST IMPORTANT OF THESE MAY BE THE SHAFT ON CLAIM K. 672028. THERE IS LITTLE BEDROCK EXPOSURE AT THE SHAFT BUT IT APPEARS TO BE SUNK ON A QUARTZ-FELDSPAR PORPHYRY DYKE (GRADING TO FELSITE TO THE SOUTHEAST?) WITH ASSOCIATED QUARTZ VEINING. REPRESENTATIVE SAMPLES OF THE DYKE AND THE VEIN, TAKEN FROM THE SHAFT DUMP, BOTH ASSAYED TRACE AU/TON BUT A SAMPLE OF THE CARBONATE-ALTERED PYROCLASTIC WALLROCK IMMEDIATELY TO THE NORTH OF THE SHAFT CONTAINED MINOR GOLD. BETTER RESULTS WERE OBTAINED FROM SAMPLING IN A PIT ON TREND WITH THE DYKE, ABOUT 500 FEET TO THE SOUTHEAST. AT THE TIME THE AREA WAS EXAMINED, IT WAS NOT REALIZED THAT THE SHAFT IS PROBABLY THE OLD LITTLE JUMBO MINE. IN VIEW OF THE DESCRIPTION GIVEN BY COLEMAN (1898)¹, IT IS NOT SURPRISING THAT THE REPRESENTATIVE DYKE AND VEIN SAMPLES GAVE POOR ASSAY RESULTS. ADDITIONAL DETAILED PROSPECTING IS WARRANTED FOR THE AREA AND THE DUMP MATERIAL SHOULD BE CAREFULLY EXAMINED TO FIND COLEMAN'S "SPOTTED SCHIST".

TO THE SOUTH OF THE BEAVER POND ON THE NORTH GRID, SEVERAL SAMPLES WERE TAKEN FROM THE QUARTZ-FELDSPAR PORPHYRY DYKES AND ASSOCIATED QUARTZ VEINS WHICH TREND NORTHWEST-SOUTHEAST THROUGH THE AREA. A NUMBER OF THE VEINS AND DYKES CONTAIN GOLD AND A FEW HIGH

¹ SEE PAGE 6 OF THIS REPORT

ASSAYS WERE OBTAINED, ALTHOUGH THERE IS LITTLE EVIDENCE OF CONSISTENT GOLD VALUES OR TONNAGE POTENTIAL. IF ADDITIONAL DETAILED PROSPECTING IS CARRIED OUT IN THE AREA, IT WOULD BE WORTHWHILE TO TRACE OUT THE PORPHYRY DYKES AND CHECK FOR THE PRESENCE OF MINERALIZED QUARTZ VEIN STOCKWORKS.

CONCLUSIONS

REPORTS OF PREVIOUS EXPLORATION, DURING THE PERIOD FROM 1898 TO 1940, HAVE DOCUMENTED THE OCCURRENCE OF WIDESPREAD GOLD MINERALIZATION ON THE GLATZ PROPERTY AND IN ADJACENT AREAS. THIS HAS BEEN VERIFIED BY THE 1983 MAPPING AND SAMPLING PROGRAMME.

GOLD OCCURS IN QUARTZ-FILLED SHEAR ZONES AND ASSOCIATED FELSIC DYKES OR IN NARROW QUARTZ VEINLETS, STRINGERS AND STOCKWORKS IN HEAVILY FRACTURED AND CARBONATE-ALTERED VOLCANICS AND FELSIC DYKES.

THE LATTER TYPE OF OCCURRENCE OFFERS THE POTENTIAL FOR A LARGE TONNAGE, LOW GRADE OPEN PIT MINING OPERATION. THIS HAS ONLY BECOME FEASIBLE AS A RESULT OF ECONOMIC CHANGES AND TECHNOLOGICAL IMPROVEMENTS WHICH HAVE TAKEN PLACE SINCE THE AREA WAS LAST SERIOUSLY EXPLORED.

OF PARTICULAR INTEREST IS A LARGE ZONE OF STRONGLY CARBONATE-ALTERED VOLCANICS WITHIN WHICH A KNOWN MINERALIZED QUARTZ VEIN STOCKWORK AND TWO OLD MINE SHAFTS OCCUR.

THE ECONOMIC POTENTIAL INDICATED BY OLD REPORTS ABOUT THE LITTLE JUMBO MINE HAS NOT YET BEEN FULLY TESTED.

THE DISTRIBUTION OF SULPHIDES IN THE AREA SUGGESTS THAT AN I.P. SURVEY COULD BE EFFECTIVE FOR DELINEATING CONDUCTORS WITH WHICH GOLD MINERALIZATION MAY BE ASSOCIATED.

IT IS CONCLUDED THAT SUFFICIENT ECONOMIC POTENTIAL EXISTS TO WARRANT ADDITIONAL DETAILED EXPLORATION ON THE GLATZ PROPERTY.

RECOMMENDATIONS

1. DETAILED PROSPECTING AND SAMPLING SHOULD BE CARRIED OUT IN ZONES OF STRONG CARBONATE ALTERATION AND IN THE AREA AROUND THE OLD LITTLE JUMBO MINE. IF TIME PERMITS, ALL QUARTZ-FELDSPAR PORPHYRY AND FELSITE DYKES SHOULD BE TRACED OUT.

2. AN I.P. SURVEY SHOULD BE CARRIED OUT OVER THE WHOLE PROPERTY TO DELINEATE DISSEMINATED SULPHIDE ZONES WHICH MAY BE ASSOCIATED WITH GOLD MINERALIZATION.

3. A GEOCHEMICAL ORIENTATION SURVEY SHOULD BE CARRIED OUT IN UNCONTAMINATED AREAS AS CLOSE AS POSSIBLE TO KNOWN MINERALIZED ZONES. VARIOUS SAMPLING MEDIA, INCLUDING ROCKS, SOILS, HUMUS AND BASAL TILLS, SHOULD BE TESTED. CONTINGENT ON FAVOURABLE RESULTS, A SYSTEMATIC GEOCHEMICAL SAMPLING PROGRAMME SHOULD BE CARRIED OUT OVER THE WHOLE PROPERTY.

4. ALL SIGNIFICANT I.P. AND GEOCHEMICAL ANOMALIES AND ALL ZONES DETERMINED FROM SAMPLING TO CARRY ECONOMIC GRADES IN GOLD SHOULD BE INVESTIGATED BY DIAMOND DRILLING. STRIPPING, TRENCHING AND BULK SAMPLING SHOULD BE CONSIDERED BEFORE MOVING TO THE DRILLING STAGE BUT DRILLING IS LIKELY TO BE THE ONLY EFFECTIVE METHOD FOR OBTAINING A COMPLETE CROSS-SECTION THROUGH SOME OF THE WIDER ZONES.

February 29th, 1984



H.J. Hodge P.Eng.

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APPENDIX 1

SURFACE SAMPLING RESULTS¹, GLATZ PROPERTY

NORTH GRID

SAMPLE NUMBER	GRID Co-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION ²
7601	220E/2160N	Tr	MAFIC FLOW -COMMON DISSEMINATED PYRITE AND PYRRHOTITE
7602	380E/310N	Tr	FELSIC FLOW -STRONG CARBONATE ALTERATION -MINOR QTZ VEINLETS -COMMON DISSEMINATED PYRITE
7603	367E/660N	0.02	INTERMEDIATE TO MAFIC TUFF -CARBONATE ALTERATION -COMMON PYRITE, DISSEMINATED AND IN STRINGERS
7604	275W/495N	Tr	SHEAR ZONE (14" WIDE)(099°/V) -QTZ-FELDSPAR PORPHYRY DYKE ON CONTACT WITH INTERMEDIATE TUFF -MINOR QTZ STRINGERS -CARBONATE ALTERATION -DISSEMINATED PYRITE (+ CPY)
7605	300W/400N	0.11	QTZ VEINS (<2" WIDE)(119° TO 139°/ 80°N) -PROBABLY ASSOCIATED WITH QTZ- FELDSPAR PORPHYRY -FE OXIDES (AFTER CARBONATE ?) -DISSEMINATED PYRITE
7606	065W/465N	0.34	QTZ VEIN (4" WIDE)(107°/70°N) -PREVIOUSLY SAMPLED (1) GLATZ PLUGGER HOLE: #2 0.08 oz/TON #3 0.09 oz/TON #4 0.97 oz/TON (2) SELCO (UNCERTAIN) CHIP SAMPLE: #1 1.11 oz/TON -CARBONATE, MINOR TOURMALINE (?) -FE OXIDES -COMMON PYRITE -IN SHEAR ZONE 2' WIDE (SEE #7607)

¹ GRAB SAMPLES UNLESS OTHERWISE STATED.

² ABBREVIATIONS: Tr. = TRACE
(070°/30°S) = STRIKE & DIP
V = VERTICAL
QTZ = QUARTZ
DISSEM. = DISSEMINATED
FE OXIDE = IRON OXIDE

CPY = CHALCOPYRITE

PO = PYRRHOTITE

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7607	065W/465N	0.10	SHEAR ZONE (2' WIDE) -WITH QTZ VEIN (SEE #7606) -STRONGLY CARBONATE-ALTERED QTZ-FELDSPAR PORPHYRY -FE OXIDES; DISSEMINATED PYRITE
7608	600E/500N	0.10	QTZ VEIN (>8" WIDE) (100°/?) -POOR EXPOSURE IN TRENCHES AND PITS -SAMPLE FROM PIT DUMP -CARBONATE, TOURMALINE; FE OXIDES -PYRITE DISSEMINATED AND IN CLUSTERS
7609	585E/1035N	0.08	QTZ VEINS (<16" WIDE) (104°/V) -IN SHEARED (7' WIDE) QTZ-FELDSPAR PORPHYRY -LIMONITIC (AFTER CARBONATE?); MINOR TOURMALINE -MINOR DISSEMINATED PYRITE
7610	865E/465N	0.09	QTZ VEIN (6" WIDE) (102°/73°N) -MINOR CARBONATE; LIMONITE -MINOR PYRITE
7611	865E/465N	0.02	QTZ-FELDSPAR PORPHYRY (15' WIDE) -WITH QTZ VEIN (SEE #7610) -STRONG CARBONATE ALTERATION; FE OXIDES -DISSEMINATED PYRITE
7612	1000E/660N	0.01	PYROCLASTIC INTERMEDIATE BRECCIA -COMMON FINE-GRAINED PYRITE (?) AGGREGATES
7613	1400E/850N	Tr.	PYROCLASTIC INTERMEDIATE BRECCIA -SLIGHT CARBONATE ALTERATION -MINOR BLEB OF CHALCOPYRITE
7614	1500E/545N	0.06	QTZ VEINS -POORLY EXPOSED (TREND E-W/N DIP) -30% OF SHEAR ZONE (SEE #7615) -MINOR TOURMALINE; FE OXIDES (AFTER CARBONATE?) -VERY MINOR PYRITE
7615	1500E/545N	0.04	SHEAR ZONE (2' WIDE) -SEE #7614 -SERICITE-TALC SCHIST (FELDSPAR PORPHYRY?) AT CONTACT WITH INTERMEDIATE FLOW (?) -STRONG CARBONATE ALTERATION, FE OXIDES

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7616	1610E/550N	Tr.	QTZ VEIN -REPRESENTATIVE SAMPLE FROM SHAFT DUMP (VANLAS MINE) -SOME CARBONATE; MINOR TOURMALINE -MINOR PYRITE
7617	1610E/550N	0.80	QTZ VEIN -'HIGH GRADE' SAMPLE FROM VANLAS SHAFT DUMP -COMMON PYRITE AGGREGATES AND STRINGERS; ARSENOPYRITE (?)
7618	1610E/550N	0.08	FELSIC DYKE -SAMPLE FROM VANLAS SHAFT DUMP -FINE-GRAINED DISSEMINATED MAGNETITE -DISSEMINATED PYRITE CUBES
7619	1750E/520N	0.04	QTZ VEINS (<6") (145°/65°NE) -TRENDS VARIABLE (115° TO 170°) -MAY BE ASSOCIATED WITH FELSIC DYKES -FE OXIDES (AFTER CARBONATE) -MINOR PYRITE
7620	2385E/645N	Tr.	QTZ VEIN -POORLY EXPOSED IN TRENCH; TREND AND WIDTH (>6") UNCERTAIN -SAMPLE TAKEN FROM TRENCH DUMP -CHLORITE, TOURMALINE, CARBONATE; FE OXIDES
7621	2430E/885N	0.94	QTZ VEIN -POORLY EXPOSED IN PIT; TREND (FLAT-DIP?) AND WIDTH (>1'?) UNCERTAIN -SAMPLE TAKEN FROM PIT DUMP -'HIGH GRADE' SAMPLE -TOURMALINE; SOME CARBONATE, FE OXIDES -LARGE CLUSTERS OF PYRITE CUBES; SPHALERITE (?)
7622	2430E/885N	0.04	-IN INTERMEDIATE DYKE (SEE BELOW) DIORITE/GRANODIORITE DYKE -CONTAINS QTZ VEIN (SEE #7621) -POORLY EXPOSED - POSSIBLE TREND 100°/80°N -MINOR CARBONATE ALTERATION; LIMONITIC -COMMON DISSEMINATED PYRITE

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7623	2215E/1980N	0.04	QTZ VEIN (3' WIDE) (105°/80°N) -WIDTH VARIABLE -CHLORITE, CARBONATE, MUSCOVITE, TOURMALINE; LIMONITIC -MINOR DISSEMINATED PYRITE
7624	2115E/2000N	0.01	SHEAR ZONE (9' (?) WIDE) (091°/84°N) -SHEARED MAFIC FLOW -WITH 5% TO 10% QTZ CARBONATE STRINGERS AND VEINLETS -LIMONITIC -MINOR DISSEMINATED PYRITE
7625	2040E/2010N	0.01	QTZ VEIN (>1') -POORLY EXPOSED WITH PART OF SHEAR ZONE (#7626) (MAY NOT BE QUITE IN PLACE) -PART OF VEIN/SHEAR ZONE SAMPLED TO THE EAST (#7624, 7623) -TOURMALINE, CARBONATE; LIMONITIC -MINOR DISSEMINATED PYRITE
7626	2040E/2010N	0.03	SHEAR ZONE (>1') -SEE #7625 ABOVE -SHEARED INTERMEDIATE TO MAFIC FLOW -STRONG CARBONATE ALTERATION; LIMONITIC -WITH QTZ-CARBONATE STRINGERS AND VEINLETS -MINOR DISSEMINATED PYRITE
7627	2465E/1075N	0.01	QTZ VEIN -REPRESENTATIVE SAMPLE FROM SHAFT DUMP, VANLAS MINE -CARBONATE, TOURMALINE, FE OXIDES -MINOR DISSEMINATED PYRITE
7628	2465E/1075N	0.16	QTZ VEIN - 'HIGH GRADE' SAMPLE FROM SHAFT DUMP -AS ABOVE, WITH >2% PYRITE IN CLUSTERS, STRINGERS AND DISSEMINATED

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7629	2465E/1075N	0.02	FELSITE DYKE -REPRESENTATIVE SAMPLE FROM SHAFT DUMP -WITH QTZ-CARBONATE (TOURMALINE) STRINGERS AND VEINLETS -MAGNETITE, MINOR FUCHITE; PYRITE DISSEMINATED AND IN STRINGERS
7630	2490E/1075N	Tr.	QTZ VEINS (090°/070°N) -3½' TO 4' WIDE ZONE (SEE #7631) WITH 25% QTZ VEINS -ON TREND TO VANLAS SHAFT -MINOR CARBONATE, FE OXIDES -MAGNETITE
7631	2490E/1075N	Tr.	FELSITE DYKE (3½' TO 4' WIDE) -LIMONITIC (AFTER CARBONATE?) -MAGNETITE -MINOR QTZ-CARBONATE STRINGERS -VERY MINOR DISSEMINATED PYRITE
7632	3160E/2415N	0.04	QTZ VEIN (1" TO 6" WIDE) (109°/ 79°N) -CARBONATE; SOME CHLORITE; FE OXIDE STAINING -VUGGY -VERY MINOR DISSEMINATED PYRITE
7633	415E/1000N	Tr.	CHLORITE - SERICITE - QTZ SCHIST -SHEARED INTERMEDIATE TO FELSIC FLOW? -FE OXIDE STAINING; STRONG CARBONATE ALTERATION -MINOR DISSEMINATED PYRITE
7634	400E/0425N	Tr.	PYROCLASTIC BRECCIA -FELSIC TO INTERMEDIATE BLOCKS AND LAPILLI IN INTER- MEDIATE MATRIX -SHEARED, FOLIATED -FE OXIDE STAINING; STRONG CARBONATE ALTERATION -MINOR DISSEMINATED PYRITE
7635	770E/0370N	Tr.	AS ABOVE

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7636	815E/0630N	Tr.	INTERMEDIATE TUFF -COULD BE FLOW -SHEARED, FOLIATED -FE OXIDE STAINING; STRONG CARBONATE ALTERATION
7637	1200E/0475N	Tr.	PYROCLASTIC BRECCIA (AS WITH #7634)
7638	2215E/0845N	Tr.	AS ABOVE
7639	2595E/1055N	Tr.	INTERMEDIATE DYKE (15' WIDE) -5' CHIP SAMPLES S->N (SOUTH SAMPLE) -MINOR CARBONATE ALTERATION MAGNETITE -MINOR DISSEMINATED PYRITE
7640	2595E/1055N	Tr.	INTERMEDIATE DYKE (SEE #7639) -INCLUDES (8" WIDE) QTZ VEIN (ON STRIKE WITH VANLAS) - 5' CHIP; MIDDLE SAMPLE -TOURMALINE, MINOR PYRITE IN QTZ VEIN -STRONG CARBONATE ALTERATION SILICIFICATION, SERICITE ALTERATION ASSOCIATED WITH QTZ VEIN -MINOR DISSEMINATED PYRITE
7641	2595E/1055N	Tr.	INTERMEDIATE DYKE (SEE #7639) -COULD BE FLOW -5' CHIP; NORTH SAMPLE -CARBONATE ALTERATION -MINOR DISSEMINATED PYRITE
7642	2505E/1080N	Tr.	CHLORITE - SERICITE SCHIST (1' WIDE) -ADJACENT TO VANLAS VEIN -STRONG CARBONATE ALTERATION FE OXIDE STAINING
7643	3840E/2300N	0.01	INTERMEDIATE (FELSIC?) DYKE -STRONG CARBONATE ALTERATION SILICIFICATION ASSOCIATED WITH QTZ VEINLETS
7644	3800E/2060N	Tr.	PYROCLASTIC BRECCIA -STRONG FE OXIDE STAINING; CARBONATE ALTERATION

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7645	3610E/1690N	Tr.	INTERMEDIATE FLOW -SHEARED -MODERATELY STRONG CARBONATE ALTERATION -FE OXIDE STAINING
7646	3580E/1600N	Tr.	INTERMEDIATE FLOW -MINOR DISSEMINATED PYRITE -SHEARED (ZONE 5' TO 10' WIDE) (087°/86°N) -STRONG CARBONATE ALTERATION; FE OXIDE STAINING
7647	3700E/1435N	Tr.	QTZ VEIN (<1' WIDE) -VARIABLE TREND, WIDTH; POORLY EXPOSED IN PIT -IN INTERMEDIATE DYKE TRENDING 087°/V -VUGGY -MINOR CARBONATE, TOURMALINE CHLORITE; FE OXIDE STAINING -MINOR DISSEMINATED PYRITE
7648	3615E/1395N	0.01	QTZ VEIN (<2' WIDE) -VARIABLE WIDTH, TREND (FLAT DIPPING IN PART) -IN QTZ-FELDSPAR PORPHYRY (SEE #7649) -TOURMALINE; FE OXIDE STAINING
7649	3615E/1395N	0.02	QTZ-FELDSPAR PORPHYRY (10' TO 15' WIDE) (120°) -STRONG CARBONATE ALTERATION FE OXIDES -MINOR DISSEMINATED PYRITE
7650	3600E/0325N	Tr.	FELSIC TO INTERMEDIATE FLOW -NUMEROUS QTZ (CHLORITE) STRINGERS AND VEINLETS WITH ASSOCIATED MINOR PYRITE
7651	3180E/0550N	Tr.	FELSIC FLOW (<8' WIDE) -VERY STRONG FE OXIDE STAINING (GOSSAN ZONE IN PART) -MINOR QTZ VEINLETS -COMMON FINE-GRAINED PYRITE AGGREGATES

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7652	2490E/0845N	0.08	SHEAR ZONE (082°/80°N) -LAPILLI TUFF AND INTERMEDIATE DYKE WITH MINOR QTZ VEINS(138°- 145°/75°N) -STRONG CARBONATE ALTERATION, FE OXIDE STAINING
7653	3825E/0420N	0.28	-DISSEMINATED PYRITE QTZ VEIN (<1'WIDE)(135°/84°N) -IN PIT AT CONTACT INTERMEDIATE TO FELSIC FLOW (SEE#7654) AND PYROCLASTIC BRUCCIA -MINOR CHLORITE
7654	3825E/0420N	Tr.	-DISSEMINATED PYRITE INTERMEDIATE TO FELSIC FLOW(4½'WIDE) -COULD BE DYKE -SOME CARBONATE -WITH MINOR QTZ VEINLETS
7655	4025E/1200N	Tr.	-DISSEMINATED PYRITE SHEAR ZONE (3'WIDE)(064°/78°N) -AT CONTACT INTERMEDIATE TO FELSIC LAPILLI TUFF AND QTZ-FELDSPAR PORPHYRY(SEE#7656) IN PIT -STRONG CARBONATE ALTERATION; SERICITE
7656	4025E/1200N	Tr.	-DISSEMINATED MAGNETITE QTZ-FELDSPAR PORPHYRY (5'WIDE) -STRONG CARBONATE ALTERATION, FE OXIDES
7657	4400E/1270N	Tr.	-MINOR DISSEMINATED PYRITE FELSIC TUFF (095°/V) -STRONG CARBONATE ALTERATION, FE OXIDES -FINE-GRAINED PYRITE CLUSTERS AND STRINGERS
7658	4400E/1285N	Tr.	FELSIC TUFF (095°/85°N) -GOSSAN ZONE 5'WIDE -VERY STRONG FE OXIDE STAINING, PATCHES -PYRITE IN FINE-GRAINED CLUSTERS (+ FINE-GRAINED GREY METALLIC MINERAL ?)

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7659	4400E/1265N	Tr.	QTZ VEINS (2" WIDE) (122°/36° NE) -MINOR FE OXIDE STAINING, TOURMALINE
7660	4400E/1225N	Tr.	INTERMEDIATE FLOW -COULD BE DYKE -STRONG CARBONATE ALTERATION
7661	4850E/1105N	Tr.	INTERMEDIATE TO MAFIC FLOW -MAGNETITE -MINOR DISSEMINATED PYRITE, CHALCOPYRITE; SOME MALACHITE COATINGS
7662	5200E/0265N	Tr.	FELSIC TUFF -MINOR QTZ VEINLETS -FINE-GRAINED PYRITE DISSEMINATED AND IN STRINGERS
7663	0E/2000S	Tr.	DIABASE DYKE (100' WIDE) -FE OXIDE STAINING
7664	0E/2085S	Tr.	DIABASE DYKE -FINER-GRAINED CONTACT ZONE -DISSEMINATED PYRITE
7665	025E/2105S	Tr.	FELSIC LAPILLI TUFF -CARBONATE ALTERATION; FE OXIDE STAINING -MINOR PYRITE AGGREGATES
7666	360E/2100S	0.58	QTZ VEINS -SAMPLE FROM PIT DUMP -IN QTZ-FELDSPAR PORPHYRY (SEE #7667) -VARIABLE WIDTHS AND TRENDS (IN PART ALONG CONTACT 127° ?). WITHIN PORPHYRY -SOME CARBONATE, FE OXIDE STAINING -LARGE PYRITE CUBES AND AGGREGATES -MINOR SPHALERITE (?), CHALCOPYRITE; MINOR MALACHITE COATINGS
7667	360E/2100S	0.01	QTZ-FELDSPAR PORPHYRY (15 WIDE) (127°/?) -MINOR CARBONATE ALTERATION -COMMON DISSEMINATED PYRITE -SAMPLE FROM PIT DUMP

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7668	410E/1680S	Tr.	QTZ-FELDSPAR PORPHYRY (<20' WIDE) (010°) -STRONG CARBONATE ALTERATION; FE OXIDE SPOTTING
7669	800E/1485S	Tr.	-MINOR DISSEMINATED PYRITE INTERMEDIATE FLOW -SHEARED (089°/83°S) -MODERATELY STRONG CARBONATE ALTERATION, FE OXIDE STAINING
7670	815E/2185S	0.02	-DISSEMINATED PYRITE SHEAR ZONE (<6' WIDE) (E-W) -CHLORITE-SERICITE SCHIST (INTERMEDIATE TO FELSIC TUFF - AND QTZ-FELDSPAR PORPHYRY ?) -WITH QTZ (CARBONATE) VEIN (<3" WIDE) -STRONG CARBONATE ALTERATION, FE OXIDE STAINING
7671	800E/2550S	0.28	-MINOR DISSEMINATED PYRITE QTZ-FELDSPAR PORPHYRY -SOME CARBONATE ALTERATION -MINOR QTZ VEINS -MINOR DISSEMINATED PYRITE
7672	1230E/0325S	Tr.	QTZ-FELDSPAR PORPHYRY (7' WIDE) (120°/77°S) -MINOR CARBONATE; WITH QTZ VEINS (#7673) -IN PIT
7673	1230E/0325S	Tr.	QTZ VEINS -IRREGULAR (<4" WIDE), FLAT- DIPPING IN PART; WITHIN QTZ- FELDSPAR PORPHYRY (#7672) -CHLORITE, TORMALINE
7674	1200E/655S	Tr.	FELSIC (LAPILLI) TUFF (076°/V) (3' TO 7' WIDE) -SHEARED, SERICITIC; STRONG FE OXIDE STAINING (AFTER PYRITE

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7675	1225E/0670S	Tr.	FELSIC (LAPILLI) TUFF (15' WIDE) -DISCONTINUOUS ZONE OF STRONG FE OXIDE STAINING (WITH INTER- LAYERED RELATIVELY UNALTERED INTERMEDIATE FLOW) -SHEARED, SERICITIC -SOME DISSEMINATED PYRITE (BUT MOST HAS BEEN WEATHERED TO FE OXIDE)
7676	1375E/0605S	Tr.	SHEAR ZONE (22" WIDE) (093°/V) -SERICITE SCHIST IN PIT -STRONG FE OXIDE STAINING AFTER PYRITE (GENERALLY WEATHERED OUT)
7677	1375E/0605S	Tr.	FELSIC (LAPILLI) TUFF AND INTERMEDIATE FLOW -ZONE (25' WIDE) SURROUNDING SHEAR ZONE (#7676), WITH STRONG FE OXIDE STAINING, DISSEMINATED PYRITE -SHEARED, SERICITIC QTZ-FELDSPAR PORPHYRY
7678	1680E/0415S	Tr.	-TREND AND WIDTH (2'?) UNCERTAIN -AT NORTH EDGE OF FE OXIDE/ PYRITE-RICH ZONE (#7679-82) -CARBONATE ALTERATION -INCLUDES IRREGULAR QTZ VEIN -VERY MINOR PYRITE
7679	1680E/0415S TO 0425S	Tr.	INTERMEDIATE FLOW -STRONG FE OXIDE STAINING; DISSEMINATED PYRITE; SOME CARBONATE ALTERATION
7680	1680E/0425S TO 0435S	Tr.	AS ABOVE
7681	1680E/0435S TO 0445S	Tr.	AS ABOVE
7682	1680E/0445S TO 0455S	Tr.	AS ABOVE
7683	1880E/0455S	0.01	-WITH FELSIC TUFF INTERMEDIATE TO FELSIC FLOW -SILICIFICATION -STRONG FE OXIDE STAINING; DISSEMINATED PYRITE; ASSOCIATED WITH 1" WIDE SHEAR (084°/V)

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7684	1790E/0450S	Tr.	INTERMEDIATE TO FELSIC FLOW -(+ FELSIC TUFF?) -STRONG Fe OXIDE STAINING (ZONE 20' WIDE), DISSEM. PYRITE
7685	1800E/0595S	Tr.	FELSIC TUFF -SHEARED, SERICITIC -DISCONTINUOUS 5' TO 20' WIDE ZONE -STRONG Fe OXIDE STAINING AFTER PYRITE
7686	0950E/1280S	0.36	QTZ VEINS (<3" WIDE) -IN PIT -TRENDS 115°/80°N, 115°/35°N, 090°/55°N -IN QTZ FELDSPAR PORPHYRY (SEE #7687) -MINOR TOURMALINE, CARBONATE -LARGE CLUSTERS OF PYRITE CUBES
7687	0950E/1280S	0.01	QTZ-FELDSPAR PORPHYRY (9' WIDE) (115°/80°N) -WITH QTZ VEINS (#7686) -CARBONATE ALTERATION -MINOR DISSEMINATED PYRITE
7688	1550E/2615S	0.02	FELSIC FLOW -CHERTY -CLOSE TO CONTACT WITH MAJOR DIABASE DYKE -MINOR DISSEMINATED PYRITE
7689	2020E/1825S	Tr.	QTZ VEIN (<1' WIDE) (125°/?) -IN QTZ-FELDSPAR PORPHYRY -MINOR CARBONATE
7690	2370E/0835S	Tr.	QTZ-FELDSPAR PORPHYRY (4' WIDE) -IN PIT -WITH MINOR QTZ VEINS (<2") (120°/69°N) -STRONG CARBONATE ALTERATION -MINOR DISSEMINATED PYRITE
7691	4110E/1775S	Tr.	CHLORITE CARBONATE SCHIST -MAFIC DYKE? -IN PIT, ADJACENT TO FELSITE DYKE (#7693) -WITH MINOR QTZ VEINLETS -LIMONITIC

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7692	4110E/1775S	0.56	QTZ VEINS -FROM PIT DUMP -CARBONATE, MINOR TOURMALINE -COMMON PYRITE; DISSEMINATED IN AGGREGATES AND A FEW STRINGERS
7693	4110E/1775S	0.08	FELSITE DYKE (130°/85°N) -SAMPLE FROM PIT DUMP -COMMON DISSEMINATED PYRITE
7694	3915E/1675S	Tr.	QTZ VEINS (>2' WIDE) -LENSOID, IRREGULAR TREND -NO VISIBLE MINERALIZATION
7695	3730E/1457S	Tr.	QTZ VEINS -REPRESENTATIVE SAMPLE FROM SHAFT DUMP (LITTLE Jumbo Mine?) -SOME CARBONATE -VERY MINOR PYRITE
7696	3730E/1457S	Tr.	QTZFELDSPAR PORPHYRY -REPRESENTATIVE SAMPLE FROM SHAFT DUMP (LITTLE Jumbo?) -SOME LIMONITE SPOTTING (AFTER CARBONATE?) -DISSEMINATED PYRITE
7697	3720E/1440S	0.04	LAPILLI TUFF -WALLROCK IN VICINITY OF SHAFT (LITTLE Jumbo?) -STRONG CARBONATE ALTERATION AND FE OXIDE STAINING -DISSEMINATED PYRITE
7698	800E/2550S	Tr.	QTZFELDSPAR PORPHYRY (<30' WIDE) (135°) -RESAMPLE OF #7671 WITHOUT QTZ VEINS (SEE #7699) -SOME CARBONATE ALTERATION, FE OXIDE SPOTTING -DISSEMINATED PYRITE
7699	800E/2550S	Tr.	QTZ VEINS -MINOR IRREGULAR VEINS AND VEINLETS IN QTZFELDSPAR PORPHYRY. (SEE #7671, 7698) -MINOR CARBONATE -VERY MINOR PYRITE

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
7700	2800E/0950S	0.02	QTZ FELDSPAR PORPHYRY (10' TO 20' WIDE) (130°) -WITH NARROW, IRREGULAR QTZ VEINLETS -MINOR CARBONATE ALTERATION -MINOR DISSEMINATED PYRITE
9201	2800E/0420S	Tr.	INTERMEDIATE FLOW (4' WIDE)) (080°/?) -SHEARED -MODERATELY STRONG CARBONATE ALTERATION, FE OXIDES -DISSEMINATED PYRITE
9202	3200E/0855S	Tr.	QTZ FELDSPAR PORPHYRY (10' TO 15' WIDE) (118° - 134°) -WITH ASSOCIATED QTZ VEIN (<3") ALONG NORTH CONTACT -STRONG CARBONATE ALTERATION FE OXIDE SPOTTING -VERY MINOR DISSEMINATED PYRITE
9203	PRITCHARD LAKE SOUTH PENINSULA	Tr.	LAPILLI TUFF -MODERATELY STRONG CARBONATE ALTERATION, FE OXIDE STAINING -DISSEMINATED PYRITE
9204	PRITCHARD LAKE SOUTH PENINSULA	Tr.	AS ABOVE

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
9285	3785E/240N	Tr.	QTZ VEIN (<18" WIDE) POOR EXPOSURE, CAN'T BE SURE OF TREND (EW?); DIP 80°N CARBONATE, ABUNDANT TOURMALINE MINOR PYRITE
9286	2600E/835S	Tr.	QTZ-FELDSPAR PORPHYRY (10' WIDE) (103°) WITH QTZ VEINLETS SOME FE OXIDE STAINING, PATCHES, SPOTS VERY MINOR PYRITE
9287	2180E/1500S	Tr.	QTZ-FELDSPAR PORPHYRY (20' WIDE) WITH MINOR QTZ VEINLETS MINOR FE OXIDE SPOTTING
9288	2200E/1450S	Tr.	FELSIC LAPILLI TUFF MODERATELY STRONG FE OXIDE STAINING, CARBONATE ALTERATION -MINOR DISSEMINATED PYRITE
9289	1800E/940S	Tr.	QTZ-FELDSPAR PORPHYRY (6' WIDE) -WITH MINOR QTZ VEINLETS -SLIGHTLY SERICITIC -SOME FE OXIDE STAINING, SPOTTING -VERY MINOR DISSEMINATED PYRITE
9290	1800E/1250S	Tr.	QTZ-FELDSPAR PORPHYRY -WITH MINOR QTZ VEINLETS -MODERATELY STRONG FE OXIDE STAINING, SPOTTING -VERY MINOR DISSEMINATED PYRITE
9291	600E/2200S	0.05	QTZ-FELDSPAR PORPHYRY -WITH MINOR QTZ VEINLETS -FE OXIDE SPOTTING, STAINING -MINOR DISSEMINATED PYRITE
9292	1000E/1700S	Tr.	QTZ-FELDSPAR PORPHYRY -VERY MINOR DISSEMINATED PYRITE

APPENDIX 1

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
9293	215E/1925S	Tr.	QTZ-FELDSPAR PORPHYRY -SOME FE OXIDE SPOTTING
9294	200E/2050S	Tr.	QTZ-FELDSPAR PORPHYRY -MINOR FE OXIDE SPOTTING -VERY MINOR DISSEMINATED PYRITE
9295	1800E/1685S	Tr.	QTZ-FELDSPAR PORPHYRY -WITH MINOR QTZ VEINLETS

APPENDIX 2

SURFACE SAMPLING RESULTS, GLATZ PROPERTYSOUTH GRID

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
9205	035E/0255S	Tr.	INTERMEDIATE TUFF -MODERATELY STRONG CARBONATE ALTERATION, FE OXIDE STAINING
9206	210W/635S- 665S	Tr.	INTERMEDIATE (LAPILLI) TUFF -PYRITE (+PYRRHOTITE?) DISSEMINATED AND IN BANDS
9207	220W/690S- 710S	Tr.	INTERMEDIATE LAPILLI TUFF -WITH QTZ-CARBONATE STRINGERS AND VEINLETS -PO(CPY?) DISSEMINATED AND IN STRINGERS
9208	225W/720S	Tr.	FELDSPAR PORPHYRY (053°?) -DISSEMINATED PO
9209	250W/725S -890S	Tr.	INTERMEDIATE TO FELSIC LAPILLI TUFF -SOME BOMB-SIZED FRAGMENTS -CARBONATE ALTERATION -MINOR PY (+PO?)
9210	245W/780S	Tr.	QTZ VEIN (2" - 6" WIDE) (115°/30°N) -CARBONATE; MINOR TOURMALINE, CHLORITE, FE OXIDES
9211	250W/740S	Tr.	QTZ VEINS (<3") -IRREGULAR, SHALLOW- DIPPING -CARBONATE, CHLORITE, MINOR FE OXIDES -VERY MINOR PYRITE
9212	260W/820S	Tr.	QTZ VEIN (<3" WIDE) (117°/30°N) -MINOR CARBONATE, FE OXIDE STAINING
9213	400E/235S	Tr.	FELSIC TO INTERMEDIATE TUFF -INCLUDES QTZ VEINLETS (<1") (127°/47°NE) -SLIGHTLY SERICITIC -STRONG FE OXIDE (CARBONATE) ALTERATION
9214	415E/042N	Tr.	INTERMEDIATE TO FELSIC TUFF -MINOR CARBONATE ALTERATION -FE OXIDE STAINING; MINOR DISSEMINATED PYRITE

APPENDIX 2

SOUTH GRID

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
9215	1140E/220S	Tr.	QTZ POD/LENS (>1' WIDE) -IN QTZ-FELDSPAR PORPHYRY -MINOR TOURMALINE
9216	1600E/250S	Tr.	FELSIC FLOW (TUFF?) -FE OXIDE STAINING -COMMON DISSEMINATED PYRITE
9217	1580E/600S	Tr.	SHEAR ZONE (<18" WIDE) (045°/82°N) -QTZ-SERICITE SCHIST -WITH MINOR QTZ LENSES -FE OXIDE STAINING -VERY MINOR SULPHIDE (PYRRHOTITE?)
9218	5600E/300S	Tr.	QTZ-FELDSPAR PORPHYRY -PORPHYRITIC FELSIC FLOW? -WITH COMMON THIN (<3") QTZ VEINLETS -DISSEMINATED PYRITE
9219	3500E/BL0.	Tr.	FELSIC TUFF & LAPILLI TUFF -SERICITIC -CARBONATE ALTERATION, FE OXIDE STAINING -MINOR DISSEMINATED PYRITE
9220	3675E/035N	Tr.	QTZ VEINS (<3" WIDE) (125°/75°NE) -STRONG FE OXIDE STAINING
9221	4550E/425N	Tr.	QTZ VEINS (GENERALLY <3") -10% OF QTZ-FELDSPAR PORPHYRY DYKE (SEE #9222) -FE OXIDE STAINING -VERY MINOR DISSEMINATED PYRITE
9222	4550E/425N	Tr.	QTZ-FELDSPAR PORPHYRY (15' WIDE) (103°/V?) -WITH COMMON IRREGULAR QTZ VEINS AND VEINLETS (SEE #9221) -FE OXIDE STAINING, SPOTTING -MINOR DISSEMINATED PYRITE
9223	2650E/BL0	Tr.	QTZ-FELDSPAR PORPHYRY -WITH IRREGULAR QTZ VEINLETS -FE OXIDE SPOTTING (AFTER CARBONATE?) AND STAINING -COMMON DISSEMINATED PYRITE

APPENDIX 2

SOUTH GRID

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
9224	2600E/260S TO 350S	Tr.	FELSIC (LAPILLI) TUFF -CARBONATE ALTERATION, MODERATE TO STRONG FE OXIDE STAINING
9225	2600E/360S TO 382S	Tr.	-DISSEMINATED PYRITE FELSIC TO INTERMEDIATE (LAPILLI) TUFF -INCLUDES MINOR CHERT BANDS (091°/V) (382S) -SHEARED, SERICITIC (115°/82°S) -STRONG FE OXIDE STAINING; MINOR CARBONATE -COMMON PYRITE - CLUSTERS, STRINGERS AND DISSEM.
9226	2585E/650N	Tr.	FELSIC (LAPILLI) TUFF -COULD BE BRECCIATED FLOW -STRONG FE OXIDE STAINING, CARBONATE ALTERATION -VERY MINOR DISSEM. PYRITE
9227	2600E/855N	Tr.	INTERMEDIATE TO FELSIC (LAPILLI) TUFF -STRONG CARBONATE ALTERATION
9228	2570E/970N	Tr.	FELSIC TUFF -COULD BE BRECCIATED FLOW -MINOR QTZ VEINLETS -STRONG FE OXIDE STAINING; SOME CARBONATE ALTERATION -COMMON DISSEMINATED PYRITE
9229	2200E/800S	Tr.	QTZ-FELDSPAR PORPHYRY (25' WIDE) (155°) -CONTINUATION OF DYKE SAMPLED ON LINES 14E TO 20E (#9230-35, 9237, 9262-63, 9268, 9269) -WITH MINOR QTZ VEINS -MINOR FE OXIDE SPOTS -MINOR DISSEMINATED PYRITE
9230	1800E/200S	Tr.	QTZ-FELDSPAR PORPHYRY (15' WIDE) (145°/V?) -SAMPLE FROM SEVERAL AREAS CLOSE TO QTZ VEINS -SERICITIC; MINOR FE OXIDE SPOTTING -MINOR DISSEMINATED PYRITE

APPENDIX 2

SOUTH GRID

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
9231	1800E/200S	Tr.	QTZ-FELDSPAR PORPHYRY -SAMPLE FROM AREAS AWAY FROM VEINS -AS ABOVE (#9230) EXCEPT VERY MINOR PYRITE
9232	1800E/200S	Tr.	QTZ VEINS -SOUTH OF 190S (<30% OF MATERIAL IN QTZ-FELDSPAR PORPHYRY DYKE) -DOMINANT TREND 108°-118°/ 60°-75°N, WITH NUMEROUS IRREGULAR PODS AND LENSES -WITHOUT FE OXIDE STAINING (80% OF TOTAL QTZ VEIN MATERIAL)
9233	1800E/200S	Tr.	QTZ VEINS (AS ABOVE) -WITH FE OXIDE STAINING (20% OF TOTAL) -VERY MINOR PYRITE
9234	1800E/200S	Tr.	QTZ VEINS -NORTH OF 190S (<10% OF MATERIAL IN DYKE) -TRENDS LIKE #9232 -WITHOUT FE OXIDE STAINING (80% OF TOTAL VEINS)
9235	1800E/200S	0.02	QTZ VEINS (LIKE #9234) -WITH FE OXIDE STAINING (20% OF TOTAL QTZ VEINS MATERIAL)
9236	1800E/200S	Tr.	FELSIC FLOW (TUFF?) -SAMPLE TAKEN CLOSE TO CONTACTS WITH QTZ-FELDSPAR PORPHYRY DYKE -SOME CARBONATE ALTERATION -VERY MINOR PYRITE
9237	1840E/240S	Tr.	SHEAR ZONE (<2' WIDE) (055°?) -CUTS QTZ-FELDSPAR PORPHYRY (SLIGHT LEFT-HAND OFFSET) -SERICITE QTZ SCHIST -STRONG FE OXIDE STAINING -VERY MINOR PYRITE
9238	1840E/250S	Tr.	FELSIC FLOW -NEAR QTZ-FELDSPAR PORPHYRY -CARBONATE ALTERATION -DISSEMINATED PYRITE

SOUTH GRID

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
9239	1810E/450S	Tr.	FELSIC FLOW -WITH QTZ VEINLETS -CARBONATE ALTERATION, IRON OXIDE STAINING -DISSEMINATED PYRITE
9257	1800E/850S	Tr.	FELSIC FLOW -CARBONATE ALTERATION -FE OXIDE STAINING
9258	1800E/1055S	Tr.	QTZ-FELDSPAR PORPHYRY (15' WIDE) (100°) -WITH MINOR QTZ VEINLETS
9259	2000E/1070S	Tr.	QTZ-FELDSPAR PORPHYRY (20' WIDE) (100°) -WITH MINOR QTZ VEINLETS -VERY MINOR PYRITE
9260	1925E/1065S	Tr.	FELSIC FLOW -NEAR QTZ-FELDSPAR PORPHYRY DYKES -CARBONATE ALTERATION, FE OXIDE STAINING -MINOR DISSEMINATED PYRITE
9261	2030E/725S to 750S	Tr.	INTERMEDIATE TO FELSIC (LAPILLI) TUFF AND FELSIC FLOW -CARBONATE ALTERATION, FE OXIDE STAINING -MINOR DISSEMINATED PYRITE
9262	1975E/375S	Tr.	QTZ VEINS -IRREGULAR, SHALLOW- DIPPING; IN QTZ-FELDSPAR PORPHYRY DYKE (#9263) -FE OXIDE STAINING, MINOR PYRITE CUBES
9263	1975E/375S	Tr.	QTZ-FELDSPAR PORPHYRY (30' WIDE) -WITH QTZ VEINS (#9262) -MINOR FE OXIDE SPOTTING -FINE GRAINED, DISSEMINATED PYRITE
9264	2135E/170N	Tr.	QTZ VEIN (<1') (130°/80°N) -SOME FE OXIDE STAINING -VERY MINOR PYRITE
9265	2135E/180N	Tr.	QTZ VEIN (<1') (130°/80°N) -FE OXIDE STAINING -VERY MINOR PYRITE

APPENDIX 2

SOUTH GRID

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (Oz. AU/TON)	DESCRIPTION
9266	2245E/1120N	Tr.	QTZ VEIN (<3' WIDE) -IN PIT -IRREGULAR, SUB -HORIZONTAL -TOURMALINE, MINOR CHLORITE -FE OXIDE STAINING
9267	1780E/830N	Tr.	QTZ LENS /POD(>2' WIDE) -FLAT-DIPPING? -MINOR CHLORITE, FE OXIDE STAINING
9268	1600E/090N	Tr.	QTZ-FELDSPAR PORPHYRY (20' WIDE) -FE OXIDE SPOTTING
9269	1400E/245N	Tr.	QTZ-FELDSPAR PORPHYRY (25' WIDE) -WITH QTZ VEINLETS -COMMON FE OXIDE SPOTTING -VERY MINOR PYRITE IN VEINLETS
9270	1440E/265N	Tr.	QTZ VEINLETS (<2" WIDE) (124°/75°N) -FE OXIDE STAINING -VERY MINOR PYRITE
9271	2400E/350S TO 475S	Tr.	QTZ VEINLETS (<2" WIDE) (125°/75°N) -SOME FE OXIDE STAINING
9272	2400E/350S TO 475S	Tr.	FELSIC TO INTERMEDIATE LAPILLI TUFF AND BRECCIA -WITH QTZ VEINLETS (#9271) -CARBONATE ALTERATION, STRONG FE OXIDE STAINING -PYRITE DISSEMINATED AND IN LENSES
9273	2340E/490S	Tr.	BANDED CHERT -FE OXIDE STAINING -FINE GRAINED MAGNETITE PYRITE(?)
9274	2400E/110N	Tr.	QTZ VEIN (8") (104°/V?) -FE OXIDE STAINING; MINOR TOURMALINE -VERY MINOR PYRITE
9275	2400E/110N	Tr.	FELSIC FLOW-(TUFF?) -CARBONATE ALTERATION; FE OXIDE STAINING -MINOR DISSEMINATED PYRITE

APPENDIX 2

SOUTH GRID

SAMPLE NUMBER	GRID CO-ORDINATES	ASSAY (OZ. AU/TON)	DESCRIPTION
9276	1640E/415N	Tr.	QTZ VEIN (1'WIDE)(132°/82°N) -IN PIT -MINOR CARBONATE, TOURMALINE -FE OXIDE PATCHES -DISSEMINATED PYRITE
9277	1640E/415N	Tr.	FELSIC LAPILLI TUFF -SOUTH OF VEIN (#9276) -STRONG CARBONATE ALTERATION, FE OXIDE PATCHES
9278	1640E/415N	Tr.	LAMPROPHYRE DYKE(?) -CARBONATE ALTERATION; FE OXIDES -MINOR DISSEMINATED PYRITE -NORTH OF VEIN (#9276)
9279	075W/850N	Tr.	GABBRO -REPRESENTATIVE SAMPLE
9280	200E/185N	Tr.	QTZ VEINS -IRREGULAR, PODS IN PART -IN QTZ-FELDSPAR PORPHYRY (#9281) -MINOR FE OXIDE STAINING
9281	200E/185N	Tr.	QTZ-FELDSPAR PORPHYRY (13'WIDE) (075°) -MINOR FE OXIDE SPOTTING -SHEARED, SLIGHTLY SERICITIC
9282	1210E/575N	Tr.	QTZ-FELDSPAR PORPHYRY (15'WIDE) -WITH QTZ VEINLETS -SOME FE OXIDE SPOTTING
9283	1340E/1205N	Tr.	QTZ-FELDSPAR PORPHYRY (15'WIDE) -FE OXIDE SPOTTING
9284	1420E/300S	Tr.	QTZ FELDSPAR PORPHYRY (6'WIDE) -WITH QTZ VEINLETS -VERY MINOR PYRITE



Ministry of
Natural
Resources

Ontario

Report of Work

(Geophysical, Geological,
Geochemical and Expenditures)

Instructions: - Please type or print.

#104-84

2.61
The Mini



52F10SW0012 2.6679 VAN HORNE

900

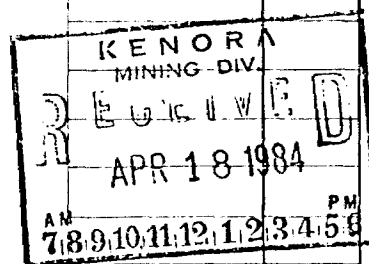
Type of Survey(s) Geological	
Claim Holder(s) Van Horne Gold Exploration Inc.	Prospector's Licence No. T-1054
Address 700-11 Adelaide St. W., Toronto, Ontario M5H 1L9	
Survey Company Geocanex Ltd.	Date of Survey (from & to) 21 09 83 06 11 83 Day Mo. Yr. Day Mo. Yr.
Total Miles of line Cut 900	
Name and Address of Author (of Geo-Technical report) T.S. Jolliffe, 68 Collingwood St., Kingston, Ontario K7L 3X4	

Credits Requested per Each Claim in Columns at right

Mining Claims Traversed (List in numerical sequence)

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
For each additional survey: using the same grid: Enter 20 days (for each)	Geological	40
	Geochemical	
Man Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Geochemical	
Airborne Credits	Electromagnetic	Days per Claim
	Magnetometer	
	Radiometric	

Mining Claim			Mining Claim		
Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
K	589451				
	589452				
	589453				
	672025				
	672026				
	672027				
	672028				
	672029				
	672030				
	590558				
	590559				
	590560				
	590561				
	590562				
	590563				
	754712				
	590978				
	590979				
	590980				
	672567				
	706027				
	706028				



Expenditures (excludes power stripping)	
Type of Work Performed	
Performed on Claim(s)	
Calculation of Expenditure Days Credits	
Total Expenditures \$	Total Days Credits ÷ 15 =
Instructions Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.	

Date April 9, 1984	Recorded Holder or Agent (Signature) <i>[Signature]</i>
------------------------------	--

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.	
Name and Postal Address of Person Certifying H.J. Hodge, P. Eng. 700-11 Adelaide St. W., Toronto, Ontario M5H 1L9	
Date Certified 04-09-84	Certified by (Signature) <i>[Signature]</i>

For Office Use Only	
Total Days Cr. Recorded 840	Date Recorded Apr. 18/84
Date Approved as Recorded	Mining Director <i>[Signature]</i>
Branch Director	

Total number of mining claims covered by this report of work.	22
---	-----------

Control Sheet

File No 2.6679

GEOPHYSICAL

GEOLOGICAL

GEOCHEMICAL

EXPENDITURE

Ida. L.D.

J. Hurst

Signature of Assessor

July 4/84

Date

1984 08 16

Your File: 104-84
Our File: 2.6679

Mrs. Mary Ellen Lemay
Mining Recorder (Acting)
Ministry of Natural Resources
808 Robertson Street
Box 5080
Kenora, Ontario
P9N 3X9

Dear Madam:

RE: Notice of Intent dated July 24, 1984
Geological Survey on Mining Claims
K 589451 et al in the Township of
Van Horne

The assessment work credits, as listed with the above-mentioned Notice of Intent, have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your records.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416) 965-4888

S. Hurst:mc

cc: Van Horne Gold Exploration Inc
Suite 700
11 Adelaide Street West
Toronto, Ontario M5H 1L9

cc: Resident Geologist
Kenora, Ontario

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario

Encl.



Work Credits

File 2.6679

Date 1984 07 24

Mining Recorder's Report of
Work No. 104-84

Recorded Holder

VAN HORNE GOLD EXPLORATION INC

Township or Area

VAN HORNE TOWNSHIP

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical	
Electromagnetic _____ days	K 589451
Magnetometer _____ days	672025 to 030 inclusive
Radiometric _____ days	590558 to 563 inclusive
Induced polarization _____ days	590978 to 980 inclusive
Other _____ days	672567
	706027-28
Section 77 (19) See "Mining Claims Assessed" column	
Geological _____ 35 _____ days	
Geochemical _____ days	
Man days <input type="checkbox"/> Airborne <input type="checkbox"/>	
Special provision <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/> Credits have been reduced because of partial coverage of claims.	
<input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	

Special credits under section 77 (16) for the following mining claims

--

No credits have been allowed for the following mining claims

<input checked="checked" type="checkbox"/> not sufficiently covered by the survey	<input type="checkbox"/> Insufficient technical data filed
K 589452-53	

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40; Section 77(19)—60;



Aug 8/84

1984 07 24

Your File: 104-84
Our File: 2.6679

Mrs. Mary Ellen Lemay
Mining Recorder (Acting)
Ministry of Natural Resources
808 Robertson Street
Box 5080
Kenora, Ontario
P9N 3X9

Dear Madam:

Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

For further information, if required, please contact
Mr. R.J. Pichette at 416/965-4888.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3

h S. Hurst:mc
Encls.

cc: Van Horne Gold Exploration Inc
Suite 700
11 Adelaide Street West
Toronto, Ontario
M5H 1L9

cc: Mr. G.H. Ferguson
Mining & Lands Commissioner
Toronto, Ontario



Ministry of
Natural
Resources

Notice of Intent for Technical Reports

1984 07 24

2.6679/104-84

An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on his record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status of the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the "Special Provision-Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted direct to the Land Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.

1984 05 09

Your File: 104-84
Our File: 2.6679

Mr. Wade Mathew
Mining Recorder
Ministry of Natural Resources
808 Robertson Street
Box 5160
Kenora, Ontario
P9N 3X9

Dear Sir:

We have received reports and maps for a Geological Survey submitted under Special Provisions (credit for Performance and Coverage) on Mining Claims K 589451 et al in the Township of Van Horne.

This material will be examined and assessed and a statement of assessment work credits will be issued.

Yours sincerely,

S.E. Yundt
Director
Land Management Branch

Whitney Block, Room 6643
Queen's Park
Toronto, Ontario
M7A 1W3
Phone: (416) 965-6918

R. Pichette:sc

cc: Van Horne Gold Exploration Inc
700 - 11 Adelaide Street West
Toronto, Ontario
M5H 1L9

cc: Geocanex Limited
11 Adelaide Street West
Suite 700
Toronto, Ontario
M5H 1L9
Attn: R. Gillick
H. Hodge.

2.6679

589451 $\frac{3}{4}$ 52 \emptyset

JNC

53 \emptyset 672025 $\frac{1}{4}$

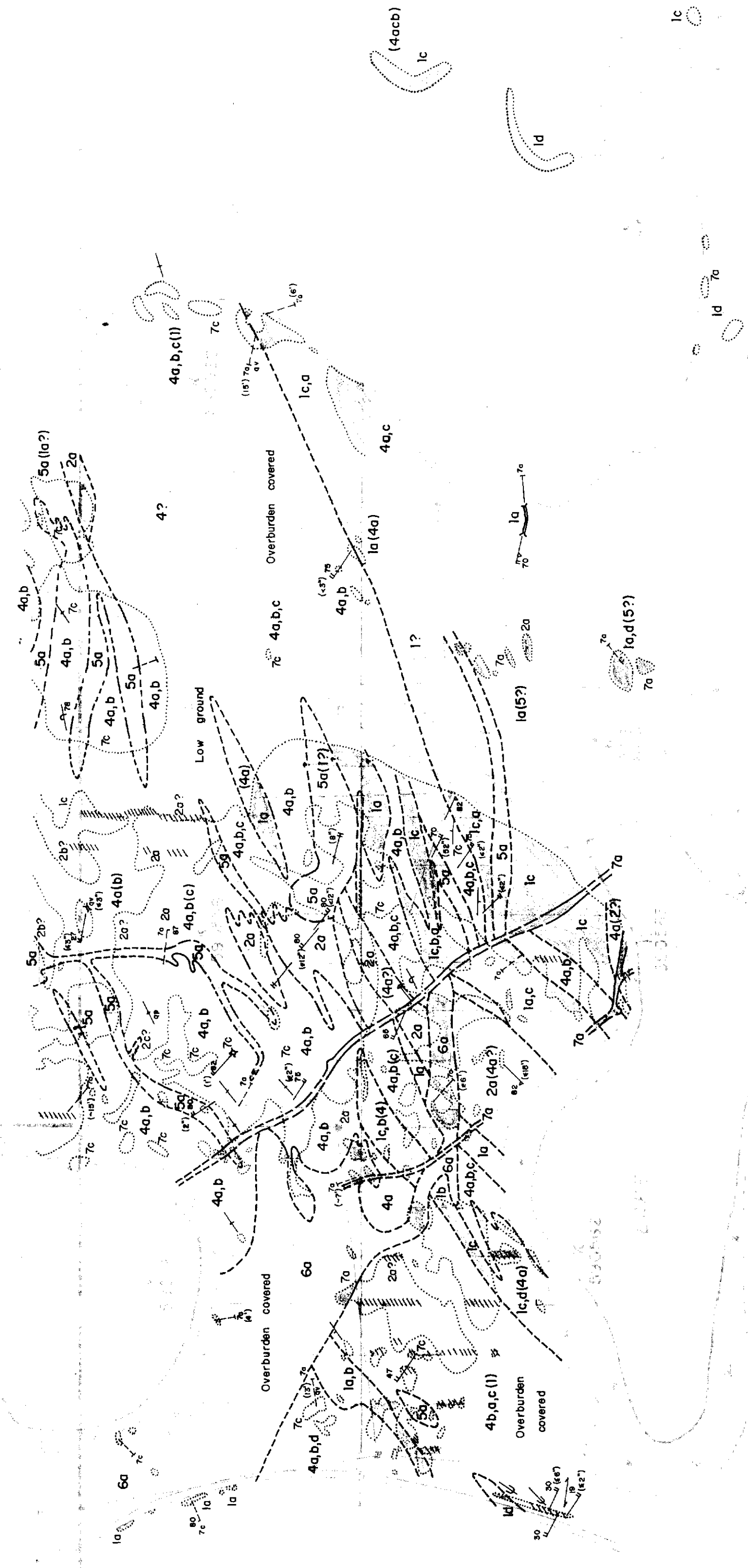
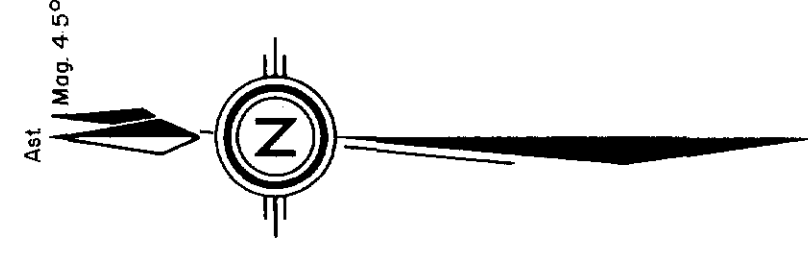
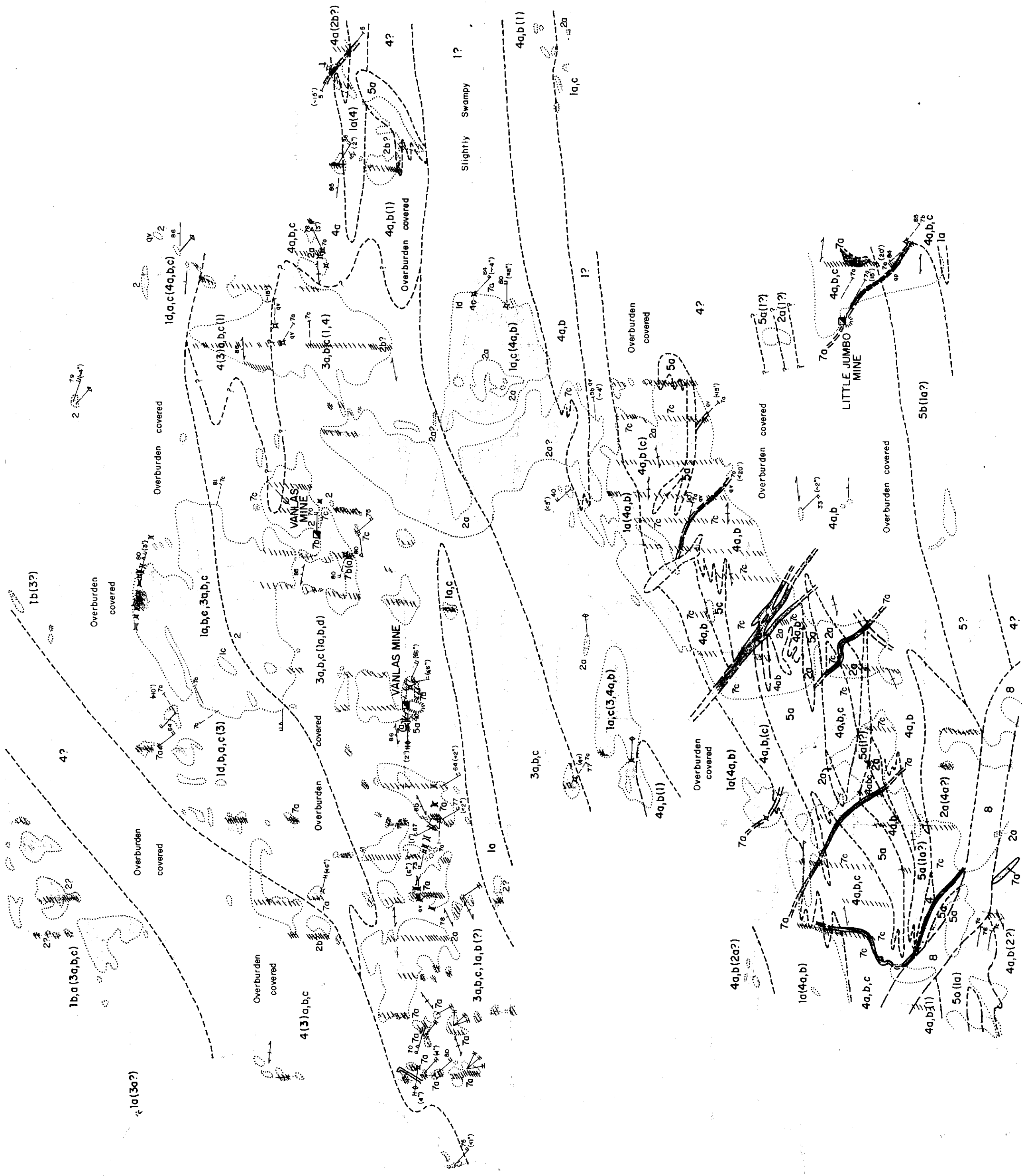
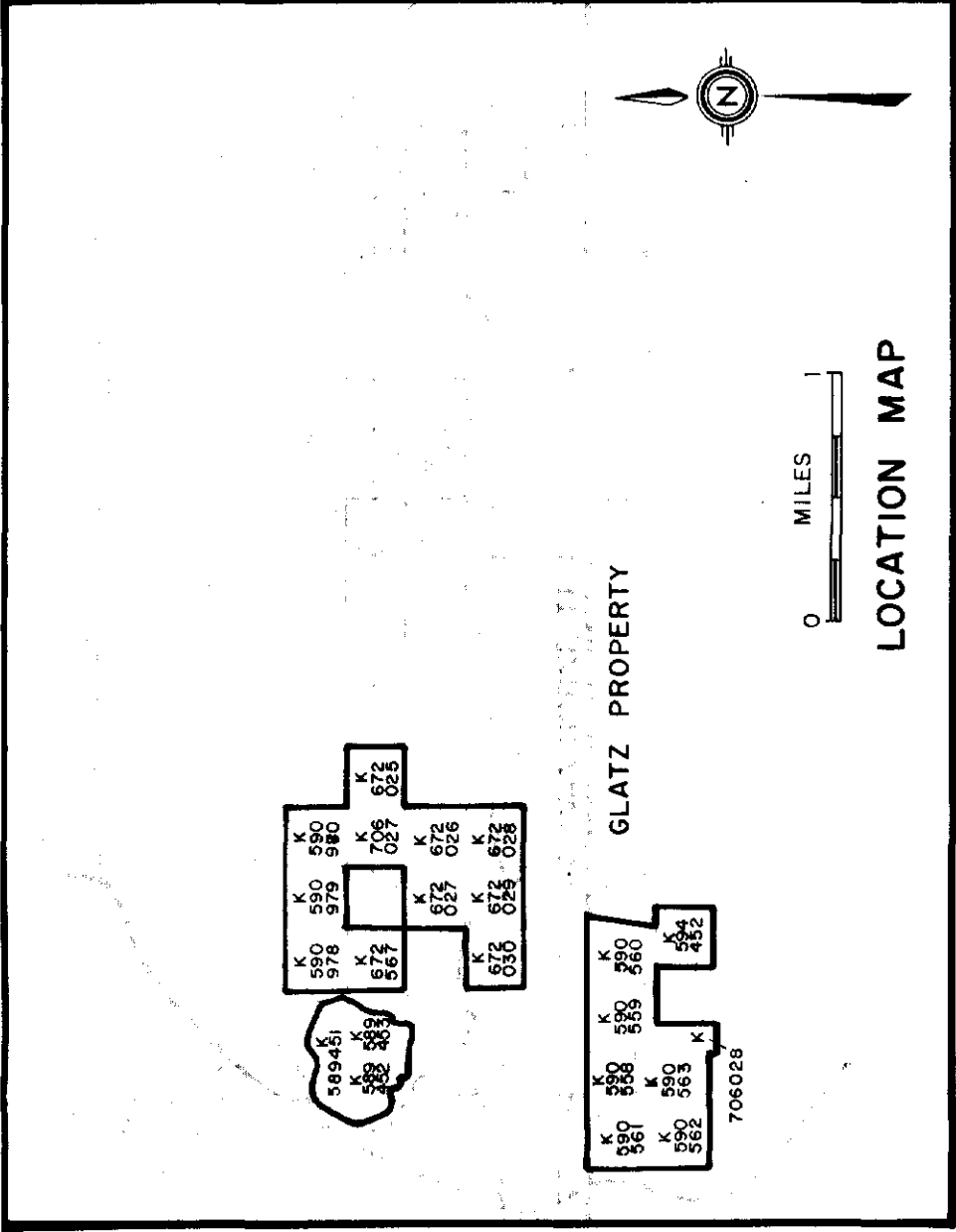
$$19 \times 40 = 760$$

26 \checkmark

$$760 \div 22 = 34.5$$

27 \checkmark $\textcircled{= 35}$ 28 \checkmark 29 \checkmark 30 $\frac{1}{4}$ 590558 \checkmark 59 \checkmark 60 $\frac{1}{2}$ 61 $\frac{1}{4}$ 62 $\frac{1}{4}$ 63 $\frac{1}{4}$ 690978 \checkmark 79 \checkmark 80 \checkmark 672467 \checkmark 706027 \checkmark 28 $\frac{1}{2}$

3.0



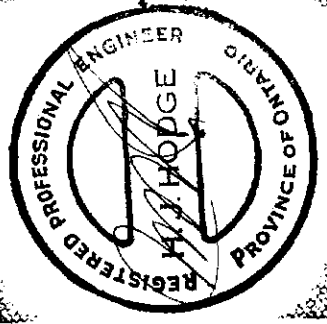
ROCK TYPES

- 8 Late Diabase Dyke
- 7 Minor Intrusive Rocks
 - 7a Quartz-feldspar porphyry dikes
 - 7b Felsite dikes
 - 7c Diorite / basalt dikes
- 6 Late Intrusive Rocks
 - 6a Gabbro
- 5 Early Intrusive Rocks
 - 5a Diorite / gabbro
 - 5b Chlorite-carbonate schist
- 4 Felsic to intermediate Pyroclastic Volcanic Rocks
 - 4a Tuff
 - 4b Lapilli tuff
 - 4c Breccia
 - 4d Agglomerate breccia
- 3 Mafic to intermediate Pyroclastic Volcanic Rocks
 - 3a Tuff
 - 3b Lapilli tuff
 - 3c Breccia
- 2 Felsic to intermediate Volcanic Rocks
 - 2a Massive flows
 - 2b Brecciated flows
- 1 Mafic to intermediate Volcanic Rocks
 - 1a Massive flows
 - 1b Brecciated flows
 - 1c Amygdaloidal flows

* May be massive volcanic flows in part

SYMBOLS

- Cut and chained grid lines
- Claim line and post
- Survey post
- Township Line
- Lot / Concession Line
- Powered Hwy, secondary road, grown-over bush road
- Swamp
- Stream
- Sewer dam
- Shoreline
- Bedding: inclined, angle uncertain; vertical, overthrust
- Foliation: inclined, angle uncertain; unknown, vertical
- Quartz-carbonate veins: inclined, vertical, width in brackets
- Shear zone: inclined, vertical, width in brackets
- Dikes: inclined, vertical, showing rock types and width
- Glacial striae
- Geological contacts: wavy, irregular, interpreted, gradational / transitional
- Rock types: predominant, secondary / intercalated, local
- Areas of bedrock outcrop
- Mine shaft with rock dump, Trench, Pit
- Zone of Carbonate Alteration; weak, strong
- Quartz vein, Quartz Pod / Lens: trend uncertain



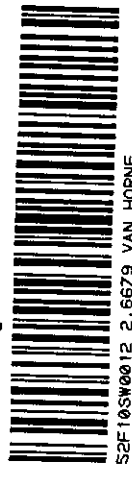
Van Home Gold Exploration Inc.

GLATZ PROPERTY

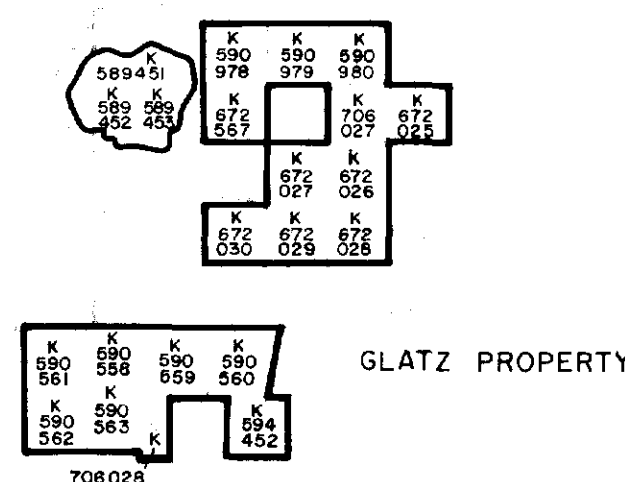
Van Home Township, Ontario

GEOLOGICAL MAP

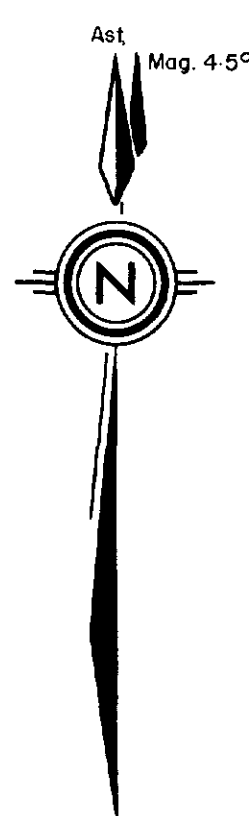
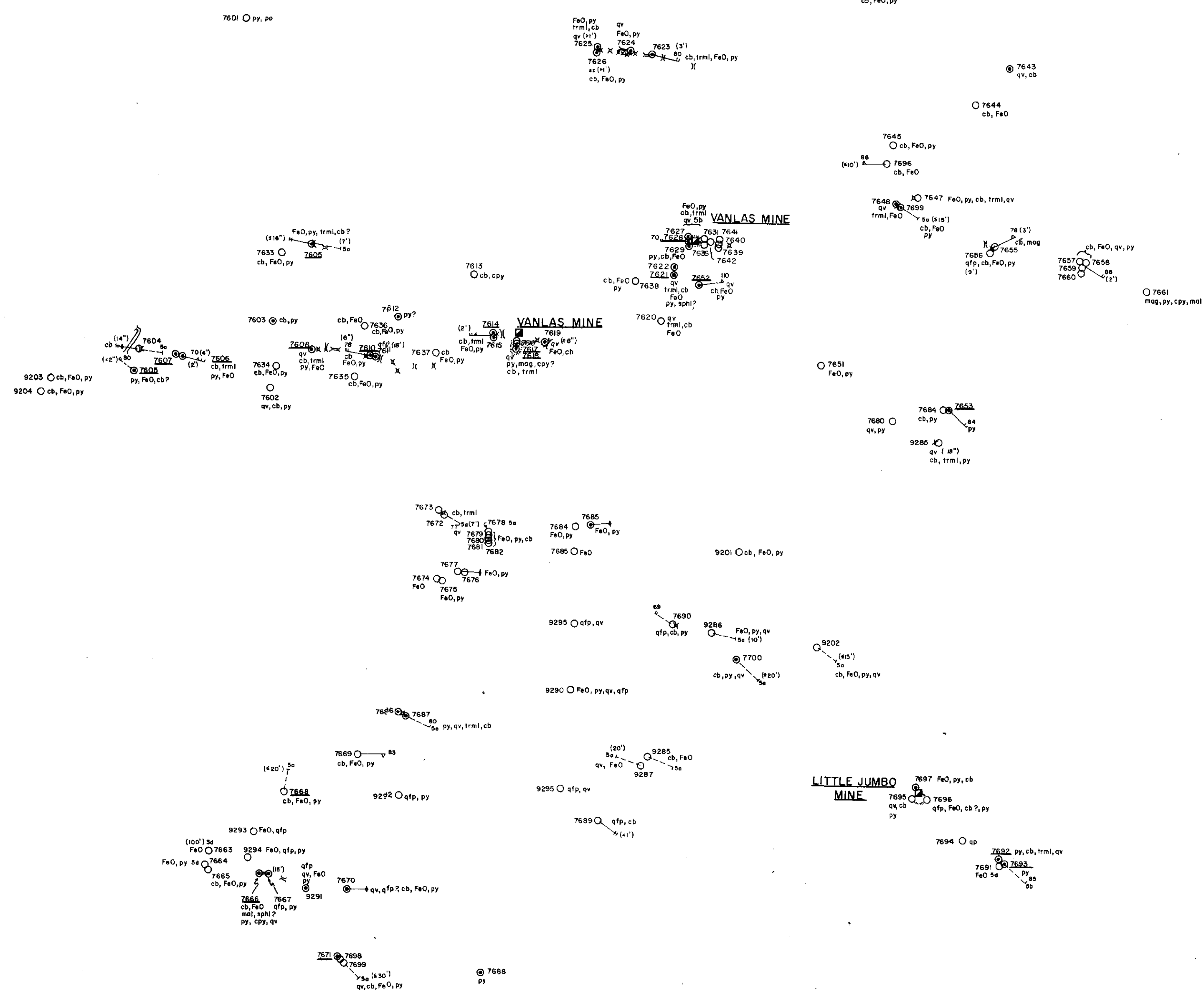
BY: T.S. Jullie
DATE: Dec 1983
SCALE: 1" = 400'
GEOCANEX LTD
TORONTO, CANADA
DWG. NO. 1



ALBERTA TOWNSHIP



0 1 2 MILES
LOCATION MAP



SAMPLING RESULTS*

Sample Number	Assay (oz Au / ton)	Grid Co-ordinates
7603	0.02	367E 660N
7605	0.11	300W 400N
7606	0.34	65W 465N
7607	0.10	65W 465N
7608	0.10	600E 500N
7609	0.08	585E 1035N
7610	0.09	865E 465N
7611	0.02	865E 465N
7612	0.01	1000E 860N
7614	0.06	1500E 545N
7615	0.04	1500E 545N
7617	0.80	1610E 550N
7618	0.08	1610E 550N
7619	0.04	1750E 520N
7621	0.94	2430E 885N
7622	0.04	2430E 885N
7623	0.04	2215E 1980N
7624	0.01	2115E 2000N
7625	0.01	2040E 2010N
7626	0.03	2040E 2010N
7627	0.01	2465E 1075N
7628	0.16	2465E 1075N
7629	0.02	2465E 1075N
7632	0.04	3160E 2415N
7643	0.01	3840E 2300N
7648	0.01	3615E 1395N
7649	0.02	3615E 1395N
7652	0.08	2490E 845N
7653	0.28	3825E 420N
7656	0.58	360E 2100S
7657	0.01	360E 2100S
7670	0.02	815E 2185S
7671	0.28	800E 2550S
7683	0.01	880E 455S
7686	0.36	950E 1280S
7687	0.01	950E 1280S
7688	0.02	1550E 2615S
7692	0.56	4110E 1775S
7693	0.02	4110E 1775S
7697	0.04	3720E 1440S
7700	0.02	2800E 950S
9235**	0.02	1800E 200S
9291	0.05	600E 2200S

* Includes only samples assaying greater than trace Au/ton, see report appendix for complete description of all (178) samples.

** From the south grid.

SYMBOLS

	Cut and chained grid lines		Sampling location, assay greater than trace Au/ton
	Claim line and post		Quartz (-carbonate) veins; inclined, vertical, width in brackets
	Survey post		Shear zone; inclined, vertical, width in brackets
	Township Line Lot / Concession Line		Dykes; inclined, vertical showing rock types and width
	Paved Hwy, secondary road, grown-over bush road		Rock types; quartz-feldspar-porphyry, felsite, diabase
	Swamp		Mine shaft, Rock dump
	Stream		Trench, pit
	Beaver dam		
	Shoreline		
		qfp	quartz feldspar porphyry
		qv	quartz veins / veinlets
		qp	quartz pod / lens
		cpy	chalcopyrite
		mal	malachite
		sphl	sphalerite
		aspy	arsenopyrite
		py	pyrite
		po	pyrrhotite
		mag	magnetite
		FeO	Iron oxides
		cb	carbonate
		trml	tourmaline



Van Horne Gold Exploration Inc.

GLATZ PROPERTY

Van Horne Township, Ontario

SAMPLING RESULTS

0 400 800 1200
SCALE IN FEET



GEOCANEX LTD
TORONTO, CANADA

BY: T. S. Jelliffe
DATE: Dec 1983
SCALE: 1" = 400'
DWG. No: 2

