### ARIS SUMMARY SHEET

District Geologist, Smithers Off Confidential: 90.02.23 ASSESSMENT REPORT 18450 MINING DIVISION: Liard PROPERTY: LOCATION: Tic 56 53 00 LAT LONG 130 47 00 UTM 09 6305603 391330 CLAIM(S): NTS 104B15W Tic 2-5OPERATOR(S): Kestrel Res. AUTHOR(S): REPORT YEAR: COMMODITIES Cournoyer, R.D. 1989, 38 Pages SEARCHED FOR: Gold, Silver KEYWORDS: Argillite, Limestone, Shearing, Pyrite, Chalcopyrite, Magnetite Auriferous, Monzonite, Syenite WORK DONE: Prospecting, Geochemical PROS 1775.0 ha Map(s) - 2; Scale(s) - 1:10 000119 sample(s);ME SILT 22 sample(s);ME NINFILE:

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	TIC 2, 3, 4, 5 MINERAL (	CLAIMS	SUB-REC RECEI FEB 23	VED
	1988 PROSPECTING PRO	OGRAM	M.R. #VANCOUVE	<b></b> \$
	ISKUT RIVER ARE	A L	771100042	-N, D.O.
	56° 53' North Latitu 130° 47' West Longit in the		Green state and a	FILMED
Maria (1995) And Maria (19	in the			
	Liard Mining Division British Columbia	on		
	For			
	KESTREL RESOURCES	LTD.		

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RAYMOND D. COURNOYER, PROSPECTOR

February 16, 1989

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## SUMMARY

A program of prospecting and sampling was conducted on the Tic 2-5 mineral claims during the summer of 1988 for Kestrel Resources Ltd.

A base camp was established at the headwaters of Forrest Kerr Creek and a helicopter was utilized to access the property. A total of 119 rock chip samples and 22 silt samples were collected.

The Tic 2-5 mineral claims are underlain by argillites and monzonite and syenite intrusives. A quartz stockwork system in the center of the claim block returned numerous values up to .411 opt gold and 7.74 opt silver.

#### INTRODUCTION

The Tic 2-5 mineral claims, a total of 71 units, were staked in February of 1988. The claims are situated 8 kilometres northeast of Newmont Lake in the Iskut River area of British Columbia (N.T.S. 104 B/15).

The claims cover favourable geology east of Gulf International Minerals' McLymont Claims, where high grade veins of quartz-pyrite-chalcopyrite are presently being explored.

A program of preliminary prospecting and sampling was conducted by Rangex Services during the summer of 1988 to evaluate the potential of the property.

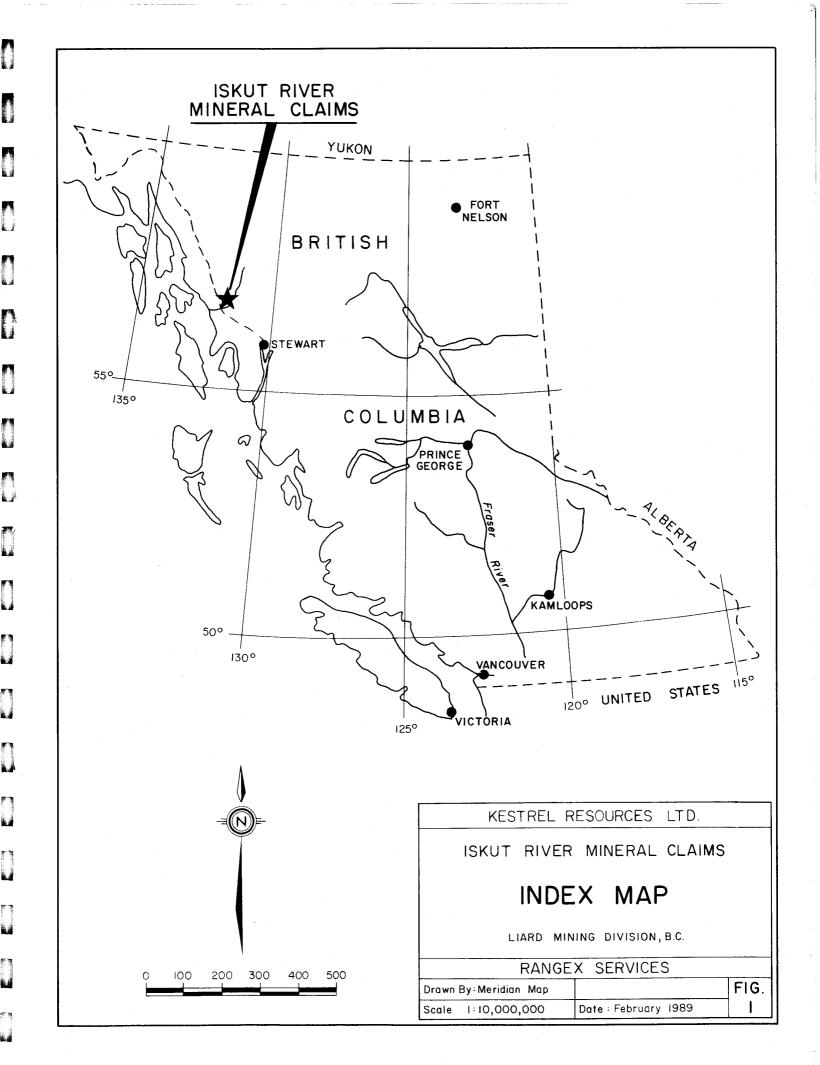
## LOCATION, ACCESS AND GEOGRAPHY

The claim group is situated approximately 130 km north of Stewart, B.C. centered at 56° 53' north latitude and 130° 47' west longitude in the Liard Mining Division of British Columbia.

Access to the claims is via helicopter from a base camp at the headwaters of Forrest Kerr Creek, 56° 56' north longitude, 130° 48' west longitude. Regular fixed wing flights from Smithers, B.C. service the Forrest Kerr camp.

Topographically, the Iskut area is extremely rugged, ranging in elevations from 100 metres to in excess of 2,000 metres. Spruce and alder represent the general vegetation while above treeline (900-1,000 m) alpine vegetation such as white and purple heather are present.

The Tic 2-5 claims are situated 8 km northeast of Newmont Lake between the elevations of 700 metres on the northwest corner of Tic 4 to 2000 metres on Tic 2. The claims lie above treeline and are partly covered by glaciers to the south and east.



The area receives heavy precipitation, snow in excess of 6 metres being common during the winter. The field season extends from June to mid-October.

#### CLAIM INFORMATION

The Tic 2-5 mineral claims consisting of 71 units are owned by Kestrel Resources Ltd.

Claim data is as follows:

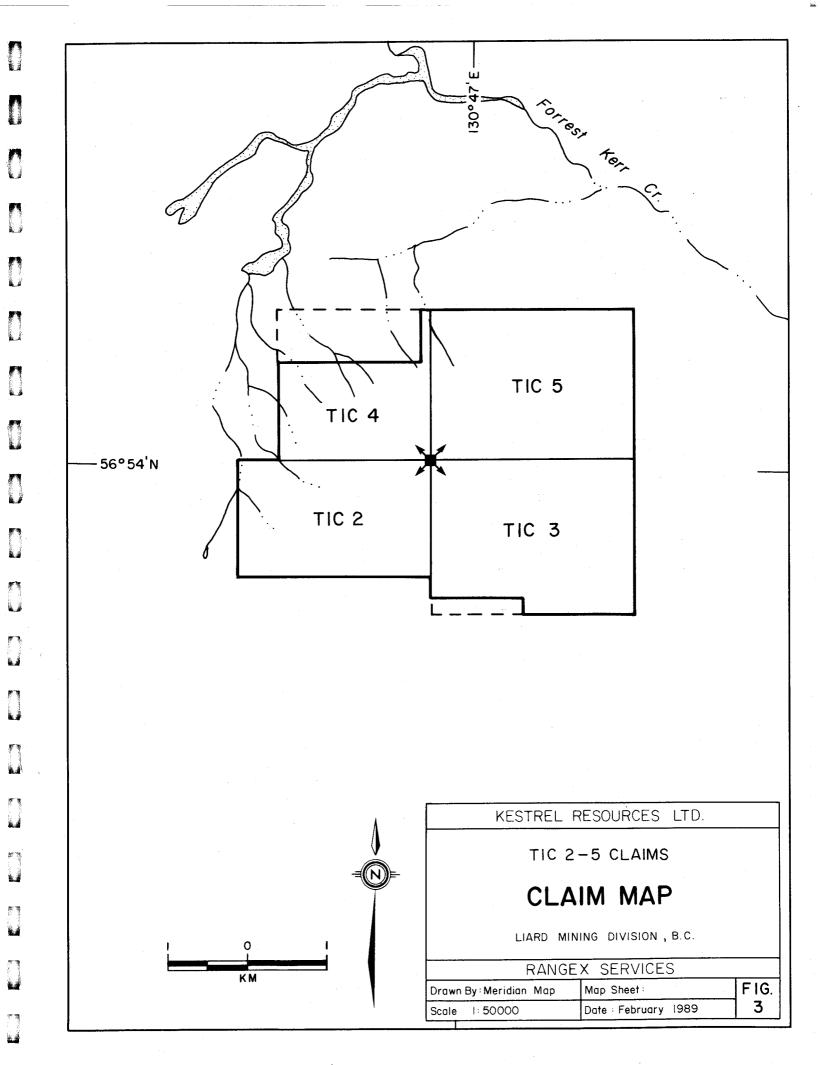
Claim Name	<u>Units</u>	Record #	Record Date
Tic 2	15	4501	February 24, 1988
Tic 3	20	4502	February 24, 1988
Tic 4	16	4503	February 24, 1988
Tic 5	20	4504	February 24, 1988

### **AREA HISTORY**

There is no recorded work from the Iskut River region prior to 1907 when a staking party from Wrangell, Alaska, recorded nine mineral claims north of Johnny Mountain. Iskut Mining Company worked these crown granted claims undertaking trenching and drifting on veins yielding Galena, gold and silver. The 1917 Minister of Mines annual report states the Iskut Mining Company shipped a ton of ore which yielded, in 1917 currency, \$1.20 in gold, 44.2 ounces of silver and 12.45 percent copper.

Hudson Bay Mining & Smelting Ltd. located high gradegold, silver and lead in float during 1954. This was known as the Pick Axe showing and forms part of Skyline Explorations Stonehouse Gold deposit on Johnny Mountain.

Throughout the 1960's several major mining companies undertook exploration programs in the Johnny Mountain and Sulphurets Creek region. This work resulted in the discovery of several porphyry copper-molybdenum targets. Cominco completed several core holes on Johnny Mountain in 1965.



Skyline staked and the Inel property in 1969 following the discovery of massive sulphide in float on the Bronson Glacier and later in 1980 restaked the Reg property. During the period of 1981 to present Skyline has developed both these properties discovering high grade veins and polymetallic massive sulphide mineralization on the Inel and Reg properties.

As of January, 1988, GROVE, E.W., reported reserves from the Stonehouse Gold Deposit of 851,170 tons grading 25.0 Au g/tonne 29.1 Ag g/tonne and 0.76% Cu.

Delaware Resources Ltd. completed 10,000 metres of diamond drilling on their Cominco Snip claims located directly north of the Stonehouse Gold Deposit. This exploration resulted in estimated reserves of 997,810 tonnes grading 24.0 Au g/tonne. During the 1988 season an underground program was initiated on this deposit.

Newmont Mining Corporation of Canada Ltd. staked 324 claims (Dirk Claim Group) west of Newmont Lake in 1962. An exploration program of geological mapping, airborne and ground magnetics survey, sampling and diamond drilling was conducted to explore the skarn type mineralization discovered on the Dirk and Ken showings. Intersections of 0.23% Cu and 3.4 Ag g/tonne over 15.85 metres were reported from the Ken showing while Hole 4 on the Dirk showing returned assays of 0.30% Cu over 1.83 metres.

Gulf International Minerals staked the McLymont claims south of Newmont Lake in 1986. These claims had been staked by Dupont Canada Explorations Ltd. in 1980 as the Warrior claims and optioned to Skyline Explorations Ltd. and Placer Development Ltd. Exploration has extended the existence of quartz - pyrite - chalcopyrite veins which retain values of up to 102.8 Au g/tonne. Gulf International Minerals has conducted extensive diamond drilling on the McLymont claims reporting in their 1987 Annual Report, drilling results of up to 55.0 Au g/tonne, 1,362.1 Ag g/tonne and 0.97% Cu over 11.12 metres.

A number of exploration companies examined claims in the Arctic Lake area approximately 75 kilometres north of the Skyline Cominco deposits.

Kennco Exploration conducted a program of geological mapping on the Bam Claim group in 1965. Mitsui Mining and Smelting Co. Ltd. undertook geological mapping and silt sampling in the Arctic and Big A Groups during 1968.

#### **REGIONAL GEOLOGY**

The Iskut area lies within a complex geological setting of the Circum-Pacific orogenic belt of North America. Specifically it forms a part of the geological setting defined by Grove as the Stewart Complex. Grove E.W. (1986) states the following:

"The Stewart Complex lies 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."

Government workers have attempted, since 1948, to clarify relationships and assign ages to the various lithological units of the area, and to trace structural events affecting these units. This work has not been entirely successful, however, due to the extremely inaccessible terrain and difficult physical conditions confronting workers.

Mineral exploration studies carried out by private companies have added significantly to the geological knowledge of the area, but are not generally available publicly. Work completed by Kerr, 1948, <u>G.S.C. Memoir 246</u>; G.S.C maps <u>9-1957</u> and <u>1418-1979 - "Iskut River"</u>, form the basis of government mapping. Private companies active in the area since the early 60's include Newmont, Kennco, Cominco, Skyline and others too numerous to list.

The oldest known rocks of the area are limestone, dolomite and low grade metamorphosed sediments (quartzite, slates, phyllite) of lower Cambrian age that have been correlated with the Cache Creek Group prevalent in the southern half of the province. The limestone unit contains fossil crinoids and is unconformably overlain by upper Triassic Hazelton Volcanics and sediments. Bivalve fossils found west of Newmont Lake date these rocks as late Triassic and correlation of these rocks with both Stuhini volcanics and Unuk River formation has been attempted by various workers.

Overlying the Triassic Hazelton volcanic-sedimentary assemblage is a similar group of volcanic-sedimentary rocks of middle Jurassic age named the Betty Creek Formation.

Cretaceous to Tertiary Coast Plutonic intrusions of granite, granodiorite, and diorite occupy large plutons of the map area. In addition smaller bodies of monzonite or syenite as well as subvolcanic acidic porphyries are sparsely distributed.

Tufa, hot spring deposits and pyroclastic material of Pleistocene and Recent age occur at several localities within the area, notably at Hoodoo Mountain.

Schistose rocks, although present in the area are not of great lateral extent and owe their origin to deformation metamorphism, rather than high temperature regional metamorphism.

Structurally, the map area is bisected by a prominent thrust fault along the Iskut River from Forrest Kerr Creek to the Stikine River Junction. The thrust separates unconformably, Mississippian-Pennsylvanian rocks from middle Jurassic strata and is thought to override rock formations to the south. Regionally, a dominant northeast trending and a subdominant northwest trending fault system complicate the local geology, especially where folding of the strata, which is common, has occurred.

### PROPERTY EXPLORATION

A crew of seven people prospected and sampled the Tic 2-5 mineral claims throughout the summer of 1988. Work was undertaken from Forrest Kerr Camp.

A total of 119 rock samples and 22 silt samples were collected from the property. The samples were shipped to Van Geochem Lab Ltd. for analysis for gold (ppb) and silver (ppm) using fire assay, geochemical assay, and atomic absorption techniques. Twenty-six of these samples were also assayed using ICAP geochemical analysis.

# SEDIMENTARY AND VOLCANIC ROCKS

	QUATERNARY RECENT	
	Unconsolidated glacial and fluvial clay, silt, sand, a till; peat, muskeg	gravel;
ပ	19 Tuía, hot spring deposits	
010		
020	18 Olivine baselt, ash, cinders	
ENC	TERTIARY	
C	PLEISTOCENE AND (?) EARLIER  Basalt, rhyolite, ash, tuff, agglomerate; locally may clude 16; 17a, rhyolite, pisolitic siliceous tuff, chaldonic rhyolite breccia	
	EOCENE  Basalt, rhyolite and associated volcanic rocks; mino conglomerate, sandstone, shale	<b>)</b>
į	CRETACEOUS AND TERTIARY UPPER CRETACEOUS AND PALEOCENE	
. '	15 Conglomerate, sandstone, shale, minor coal	
	CRETACEOUS POST LOWER CRETACEOUS  14 Volcanic rocks, breccia	CRETACEOUS AND /OR EARLIER PRE UPPER CRETACEOUS
		Mainly volcanic rocks; minor conglomerate, grey- wacke; chert, argillite
U	JURASSIC AND CRETACEOUS  UPPER JURASSIC AND LOWER CRETACEOUS	
Z 0 I	Argillite, greywacke, conglomerate, coal; 12a, andesite, chert; tuff, conglomerate, shale, greywacke	
୍ଦ		
MES	JURASSIC LOWER AND MIDDLE JURASSIC	
Σ	Conglomerate, greywacke, grit, siltstone, shale; lla, may include younger rocks	JURASSIC AND /OR EARLIER PRE UPPER JURASSIC
		9 10 9. Mainly volcanic rocks; minor conglomerate; grey-wacke, argillite
	TRIASSIC  R Tuff, siltstone, limestone, conglomerate, breccia	10. Mainly sedimentary rocks
	8 Iuit, stitstone, ilmestone, conglomerate, preceta	
	PERMIAN AND/OR TRIASSIC  7. Yolcanic and sedimentary rocks undivided; 7a, mainly andesitic and basaltic volcanic rocks; flows, breecia, tuff breecia, tuff; 7b, mainly	
	greywacke, siltstone, conglomerate; 7c, mainly limestone	

Mainly diorite; minor gabbro

E

Granite porphyry, granophyre, syemite and related rocks

Serpentinite, peridotite; locally includes meta-andesite and meta-diorite

PERMIAN AND (?) EARLIER

Limestone, greenstone, chert, argillite, phyllitic quartzite, greywacke; meta-andesite and meta-

# METAMORPHIC ROCKS

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TRIASSIC OR EARLIER  Phyllite, sericite schist, hornfels, granulite, fine-grained biotite- hornblende gneiss; Fa, may include or be equivalent to 9
PERMIAN AND/OR EARLIER PRE MIDDLE PERMIAN
Ga, Gneiss; Gb, phyllite, quartzite, minor crystalline limestone, highly altered and sheared greywacks and volcanic rock
MAINLY CARBONIFEROUS AND PERMIAN  Broute-quartz-feldspar gneiss, biotite-muscovite schist, crystalline limestone, greenstone, quartaite, phyllite
MISSISSIPPIAN AND EARLIER
Gneiss, schist, crystalline limestone, crystalline dolomite, quartaite

Sample locations and results of analytical data are plotted on Figures 4. Assay results are presented in Appendix IV.

## PROSPECTOR'S REPORT

The Tic 2-5 claim group is made up argillites and shales with some underlying limestone to the north and west. To the south and east the rock units are predominantly intrusives mostly monzonites and syenites. There is a major north-south fault present on the northeast side of the claim block. Mineralization occurs in zones of alteration along shears on the northern part of the property. These zones contain pyrite, chalcopyrite, magnetite, calcite, quartz, chlorite and epidote. A quartz stockwork system occurs in the centre of the claim block. Quartz veins vary in widths from a few centimeters to 1 meter wide and extend to 10 metres in length striking at 020° and dipping to the northwest. These veins carry anomalous gold and silver values. The stockwork is hosted by altered andesite with syenite dykes which trend 130° to 150°. This area lies at 1,850 metres and runs east along a ridge for approximately 1 kilometre.

A second area of interest is situated on the west side of the Tic 2 and 4 claims. This zone consists of restructured limestone and dolomite with evidence of altered volcanics, both andesite and basalt. A zone of bedded sediment is also present with pyrite veins up to 2½ metres wide carrying galena and barite. The bedded sediments showed extreme folding and reworking with bands of argillite and smaller bands of jasper. Anomalous gold values were found in the calcite veins with chalcopyrite and bornite.

Anomalous values in the quartz stockwork were:

Claim	Sample #	Au(ppb)	Ag(ppm)	Description
Tic 4	32358	4210	32	10 cm x 10 metre quartz vein with pyrite and chalcopyrite
	32359	10,000	50	South end of 32358 vein

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Claim	Sample #	Au(ppb)	Ag(ppm)	Description
Tic 4	32360	4010	50	Center of 32358 vein
	32361	10,000	27	Quartz vein with pyrite chalcopyrite, malachite 10 cm x 2 metres
	32427	440	13.9	Resample of 32361
	32432	4830	14.5	Quartz vein with pyrite and chalcacite
	32436	8360	50	Pyrite in quartz vein
	32437	4760	16.5	Extension of 32436
	32438	10,000	50	North end of vuggy quartz vein with pyrite 12 cm x 2 metres
	32439	600		South end of 32438
	32440	4010	15.1	Pyrite in 10 cm x 1 metre quartz vein
	32441	2040	19.9	Pyrite in 10 cm x 1 metre quartz vein
	32442	4350	27.0	Pyrite and malachite in quartz vein
	32443	5000	37	Quartz vein
	32444	9180	31	Quartz vein
	32624	10,000	31.0	Pyrite, malachite in quartz vein
Tic 2	32357	10,000	45.0	Unmineralized quartz vein
	32445	6,200	25.0	Resample of 32357
	32446	4,280	14.6	Pyrite and malachite in quartz vein
	32447	5480	23	Pyrite, chalcopyrite, malachite in quartz vein
	32448	8910	40	Same vein as 32447
Tic 5	32628	2160	- -	Malachite staining in quartz vein

Anomalous values in the sedimentary unit were:

Claim	Sample #	Au(ppb)	Ag(ppm)	Description					
Tic 4	32104	360	50	Altered argillite with chalcocite, azurite, malachite, and chalcopyrite					
	32132	210	<b>-</b>	Chalcopyrite in fracture					
	32134	300	11.8	Chalcopyrite in calcite vein with 15% bornite					
	32135	1115	- -	Same as 32134					
	32140	<b>-</b> :	17.3	Pyrite, chalcopyrite, bornite in float					

## **RECOMMENDATIONS**

Further work recommendations are as follows:

- 1. Continued prospecting and sampling.
- 2. Grid establishment over the quartz stockwork followed by a closely spaced sampling program of every vein and geological mapping.
- 3. A geochemical program at lower elevations.

A budget will be submitted when required.

APPENDIX I

1

PROGRAM COST

# PROGRAM COSTS

# Tic 2-5

Wages (3	July 4 -	October	9,	1988)
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TOTAL

Ray Cournoyer	4.5 days @ \$225.00/day	\$ 1,012.50	
Ron Riedel	10.5 days @ \$200.00/day	2,100.00	
Dave Hagemoen	3.5 days @ \$175.00/day	612.50	
John Buccholtz	3 days @ \$225.00/day	675.00	
Barry Foster	1 day @ \$200.00/day	200.00	
Kelly Kaye	1.5 days @ \$200.00/day	300.00	
Ian Hagemoen	6 days @ \$250 <b>.</b> 00/day	1,500.00	
Total Wages			\$ 6,400.00
Expenses			
Room and board		4,035.01	
Expendables		340.79	
Rentals		120.60	
Travel and accom	nmodation	175.51	
Freight		659.20	
Expediting		133.80	
Fixed wing		875.13	
Helicopter		1,788.50	
Assaying		1,825.25	
Report costs		750.00	
Subcontracts		703.06	
Total Expenses			11,396.85

\$17,79**6.**85

APPENDIX II

**BIBLIOGRAPHY** 

## **BIBLIOGRAPHY**

- Kerr, F.A. (1948): G.S.C. Memoir 246 Lower Stikine, Western Iskut River Areas, B.C.
- Grove, E.W. (1986): Geological Report, Exploration and Development Proposal on the Skyline Exploration Ltd. Reg Property.
- Castin, C.T. (1973): Report on Geological, Geophysical and Physical Work Dirk Claim Group Newmont Mines.

Assessment Report 4150 Province of B.C.

Davis R.E. (1987): Progress Report McLymont Claim Group - News Release for Gulf International Minerals Ltd.

# APPENDIX III

Application of the second

STATEMENT OF QUALIFICATIONS

## STATEMENT OF QUALIFICATIONS

- I, RAYMOND D.E. COURNOYER, of Site L, R.R. I, Kispiox Valley Road, Hazelton, B.C. in the Province of British Columbia do hereby certify:
- I am employed by Rangex Services with offices at 1124 470 Granville Street, Vancouver, B.C.
- 2) I am a graduate of the Ministry of Energy, Mines and Petroleum Resources' advanced prospecting course (1987).
- 3) I have practiced my profession of prospecting since 1980.
- 4) I have personally prospected the properties described within this report.
- 5) I have no interest in any of the properties described herein, nor do I expect to receive any such interest.
- 6) That I hereby authorize Kestrel Resources Ltd. to present this report or part thereof, in any prospectus or other documentation required by any regulatory body.

DATED at Vancouver, British Columbia, this 23 day of Feb.

RAYMOND D.E. COURNOYER

APPENDIX IV

ASSAY CERTIFICATES

MAIN OFFICE 1988 TRIUMPH ST. VANCOUVER, B.C. V5L 1K5

(604) 251-5656

• FAX (604) 254-5717

REPORT #: 881865 DA		R	ANGEX	Projec	t: TIC 2	2					Page	1 of	1
Sample Number	Johno	Mo	Cu	Pb	Zn	Ag	Au	¥.	Ag	Au			
		pp∎	ppm	ppe	ppe	ppm	ppb	ppm	oz/st	oz/st			
32356	881109					<0.1	₹5						
32357	881109					45.0	>10000		1.27	0.359			
32357	881588						'						
32445	681588												
32445	881340		~~.			25.0	6200			0.175			
32446	881588												
32446	881340					14.6	4280			0.123			
32447	881588												
32447 - See 22 4 6	881340					23.0	5480			0.140			
32448	881588						·						
32448 +	881340					40.0	8910			0.226			
32463	881340					(0.1	₹5						
32464	881340					(0.1	₹5						
32465	881340					(0.1	⟨5						
32466	881340					0.2	10						
32467	881340						1						
32468	881340					0.2	20						
Minimum Detection	650001	1	1	2	1	0.1	5	3	0.01	0.005			
Maximum Detection	999999	1000	20000	20000	20000	50.0	10000	1000	100.00	10.000			
<pre>&lt; = Less than Minimum</pre>	is = Insuff	icient	Sample	ns =	No samp	le > =	Greater	than	Maximu	•	•		

MAIN OFFICE
1988 TRIUMPH ST.
VANCOUVER, B.C. V5L 1K5
● (604) 251-5656
● FAX (604) 254-5717

	REPORT 1	: 881865	DA		RA	NGEX	Projec	t: TIC	}					Page	1 of	3
	Sample N	lusber		Johno	Mo	Cu	Pb	Zn	Ag	Αu	W	Ag	Au			
					ppe	pps	op.	pp <b>a</b>	pps	ppb	ppa	oz/st	oz/st			
	32001			880696					0.1	60						
	32051			880696				٠	0.3	30						
	32052			880696		· ,			0.7	30						
	32100			880845					8.0	50						
,	32101			880845					⟨0.1	₹5						
	00100			000045					2.0	20						
	32102			880845					2.9 <b>6.4</b>	20 40			-			
	32103			880845						360		. <b></b>				
	32104			880845					>50.0							
	32105			880845					2.0	5						
	32130			880916					2.0	50						-
	32131			880916					0.8	10						
	32132			880916					1.7	210						
	32133		•	880916					1.0	₹5						
	32134			880916		·			11.8	300						
	32135			881588												
	32135			880916				- <del></del>	5.3	1115			0.036			
	32136			880916					1.0	10						
	32137			880916					5.9	30						
	32138			880916					1.1	₹5						
	32139			880916					2.1	15						
	32140			880916					17.3	30						
	32141			880916					1.4	5						
	32149			880916					2.1	⟨5						
	32151			880916			·		2.7	20						
	32152			880916					1.6	20						
								,								
	32153			880916					0.6	⟨5						
	32154			880916					0.8	₹5						
	32191			880988					1.0	40						
	32192			881588												
	32192			880988					0.7	120						
	32193			880988					⟨0.1	10						
	32194			880988					0.2	20						
	32195			880988					4.0	₹5						
	32196			881588												
•	32196			880988					13.9	70						
										• •						
	32197			880988					0.3	10						
	32198			880988					0.6	⟨5						
	32199			880988					0.7	₹5						
	32200			880988					0.2	⟨5			~~ <sup>1</sup>			
	M1=1=	Nakaati.		650001	1	1	2	. 1	0.1	5	3	λ Δ1	0.005			
		Detectio Detectio		999999	1000	20000	20000		50.0	10000			10.000			
				is = Insuf												

MAIN OFFICE 1988 TRIUMPH ST. VANCOUVER, B.C. V5L 1K5 ● (604) 251-5656 • FAX (604) 254-5717

REPORT #: 881865 DA		RA	NGEX	Projec	t: TIC	4	-				Page	2 of	3
Sample Number	Johno	No	Cu	Pb	Zn	Ag	Au	W	Ag	Au			
		ppm	ppm	ppa	ppa	ppa	ppb	ppe	oz/st	oz/st			
32226	880988					0.8	30						
32227	880988					0.3	. 10						
32228	880988			٠		0.1	⟨5						
32229	880988					0.4	30						
32230	880988					0.2	⟨5						
32231	880988					1.6	290						
32231	881588	'											
32232	880988					0.4	₹5						
32233	880988					0.2	₹5						
32234	880988					2.4	20						
32358 -	881109					32.0	4210			0.124			
32358	881588												
32359*	881588												
32359 🥠 💯 🚿	881109	***				>50.0	>10000		5.65	0.373			
32360	881588	-											
32360	881109					45.0	4010		1.55	0.123			
32361 + (^	881109						>10000			0.286			
32362	B81109	~				0.2	40						
32427	881588												
32427 1. 32361	881340			~-		13.9	4210		,	0.093			
32428	881340			***		⟨0.1	20			<u></u>			
32429	881340					⟨0.1	⟨5			-			
32430	881340					⟨0.1	. ⟨5						
32431	881588	~-		٠									
32431	881340	~-				1.5	240						
32432 🛪	881340					14.5	4830			0.111			
32432	881588						'						
32433	881340					<0.1	20						
32434	881340					(0.1	20						
32435	881340				,	0.1	30						
32436	881340			,		>50.0	8360			0.220			
32436	881588							·		'			
32437 ∤	881340					16.5	4760			0.105			
32437	881588								'	'			
32438	881588												
32438	881340						>10000		7.74	0.414			
32439	881340					5.4	600						
32439	881588		•										
32440	881588												
Minimum Detection	650001	1	1	2	1	0.1		3		0.005			
Maximum Detection	999999	1000	20000	20000		50.0	10000		100.00				
<pre>&lt; = Less than Minimum :</pre>	is = Insuff	icient	Sample	ns =	No samp	ole >	= Greate	r than	Maximu				

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REPORT #: 881865 DA		R	ANGEX	Projec	t: TIC	ŀ					Page	3 of	3
Sample Number	Johno	Мо	Cu	Pb	Zn	Ag	Au	W	Ag	Au			
		pp <b>s</b>	pps	pps	ppm	pps	ppb	ppa	oz/st	oz/st			
32440 /	881340					15.1	4010			0.085			
32441	881588												
32441	881340				'	19.9	2040		·	0.045			
32442	881340				-	27.0	4350			0.111			
32442	881588												
32443 :	881340					37.0	5000			0.122			
32443	881588												
32444	881340					31.0	9180			0.235			
32444	881588												
32461	881340	,				<0.1	50						
32462	881340					⟨0.1	⟨5						
32624 /	881364						>10000			0.411			
32624	881588												
32625	881364					0.6	⟨5						
Minimum Detection	650001	1	1	2	1	0.1	5	. 3	0.01	0.005			
Maximum Detection	999999	1000	20000	20000	20000	50.0	10000			10.000			
<pre>&lt; = Less than Minimum</pre>	is = Insuf												

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VANCOUVER, B.C. V5L 1K5
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● FAX (604) 254-5717

REPORT #: 881865 DA		R	ANGEX	Proje	ti TIC	5					Page	1 of	1
Sample Number	Johno	Mo	Cu	Pb	Zn	Ag	Au	V	Ag	Aŭ			
		ppe	ppe	pps	ppe	ppa	ppb	pps	oz/st	oz/st			
32363	881109					1.0	20						
32364	881109					1.0	₹5						
32365	881109					<0.1	₹5						
32366	881109					⟨0.1	⟨5						
32367	881109					1.8	<b>(5</b>		٠ .				
32626	881364			-		0.4	⟨5						
32627	881364		-			0.4	₹5			-			
32628	881364	-				5.3	2160			0.065			
32628	881588												
Minimum Detection	650001	i	1	2	1	0.1	5	3	0.01	0.005			
Maximum Detection	999999	1000	20000	20000	20000	50.0	10000	_	100.00				
<pre>&lt; = Less than Minimum</pre>	is = Insuf	icient											



1

# **VANGEOCHEM LAB LIMITED**

MAIN OFFICE AND LABORATORY
1988 Triumph Street
Vancouver, B.C. V5L 1K5 2S3
(604)251-5654 FAX:254-571778

BRANCH OFFICE 1630 PANDORA ST. VANCOUVER, B.C. V5L 1L6 (604) 251-5656

 REPURT NUMBER: 880917 6A	JOB NU	MBER: 880917	RANGEY SERVICES	TIC 2.	PAGE 1	OF	1
SAMPLE #	Ag	Au					
	ppa	ppb					
T2 RCS 15	.1	15					
T2 RCS 16	.1	20					



MAIN OFFICE AND LABORATORY 1988 Triumph Street Vancouver, B.C. V5L 1K5 2S3 (604)251-5656 FAX:254-571778

BRANCH OFFICE 1630 PANDORA ST. VANCOUVER, B.C. VSL 1L6 (604) 251-5656

•	REPURT NUMBER: 880917 GA	JOB NI	UMBER: 880917	RANGEY SERVICES	TIC	4	 PAGE	1	OF	1
	SAMPLE #	Ág	Au							
		ppe	ppb							
	T4 RRS - 2	.2	15							
	14 RRS - 3	.2	40							
	T4 RCS 17	1	10							
	T4 RCS 18	nd	10							
	RRS 12"	.5	10							
	RRS-13	nd	15							
	RRS-14	nd	10							
	RRS-15	.3	15							

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### ICAP GEOCHEMICAL ANALYSIS

A .5 GRAN SAMPLE IS DIGESTED WITH 5 ML OF 3:1:3 HCL TO HND3 TO H20 AT 95 DEG. C FOR 90 41MUTES AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR SM, MM, FE, CA, P, CR, MG, BA, PD, AL, MA, K, M, PT, AND SR. AU AND PD DETECTION IS 3 PM.
IS= INSUFFICIENT SAMPLE, MD= NOT DETECTED, -= NOT ANALYZED

COMPANY: RANGEX SERVICES ATTENTION: K. KAYE PROJECT: KESTREL

REPORTM: 881588PA JOBM: 881588 INVOICEM: 881588NA DATE RECEIVED: 88/10/05 DATE COMPLETED: 88/10/29 COPY SENT TO:

MALYST

PAGE 1 11 5

																												7	
SAMPLE NAME	. 46	AL	AS	ALI	BA	81	CA	CD	CO	€ <b>R</b>	ĊU	FE	K	Mi	Ák	ďΩ	MA	MI	P	PB	PD	۴I	SB	Sh	SR	U	¥	<i>l</i> N	
	PPM	1	PPM	PPN	PPN	PPM	1	PPN	PPN	PPN	PPN	1	1	1	PPN	PPA	1	PPM	1	PPM	PPn	PPM	PPN	PPN	PPM	PFM	PPM	ffM	
32135	.1	.03	3450	14	31	5	17.32	16.7	1	17	11653	9.48	2.70	4.76	8410	5	. 08	4	.03	169	ND	NĐ	73	MD	123	MD	ND	2941	
32192	3.7	1.67	116	MÔ	130	ND	.61	5.3	39	68	508	4.17	.22	1.39	746	12	.04	17	.02	72	MD	NO	MĐ	8	10	ND	MB	888	
32196	13.1	. 94	22	MD	19	6	4.22	8.3	154	63	23667	14.35	1.06	.14	1625	11	. 05	27	.10	35	ND	MĐ	MD	3	- 22	MB	₩D	05	
32231		16	115		644		17.08	1.5	IJ	18	195	6.45	2.54	1.08	4048		02	1	<b>-11</b> -	29	MD.	ОŊ	ND	ND	38	26.	MO	324	
32350	31.5	. 29	MD	MB	29	MD	.51	8.8	10	211	651	2.08	.14	. 20	200	20	.01	9	.01	15	MD	MD	MÐ	ND	12	MĎ	MD	399	
32359	2100	.16	H)	. 110	18	MÔ	.10	4.3	12	163	3002	3.08	.12	.06	81	i5	.01	.41	.01	11	MD	as	ND	MD	. 3	MB	MD	208	
32360	44.5	.11	MĎ	. 115	33	MD	1.26	.11.1	8	103	192	_1.47_	.22	06	208	6	.01	6	10.	12	MD	MĐ	MD	MD	. 20	MD	MD	32.	
32427	19.5	. 38	58	<b>M</b>	84	ND	1.92	8.8	29	189	391	3.69	. 38	.32	383	17	.04	7	.01	179	ND	MÐ	MD	МŪ	14	НĎ	MĎ	1239	
32431	2.5	.68	12	MB	45	MB	. 97	1.0	13	214	172	1.77	.19	.56	399 -	10	.02	8	.01	177	NB	MD	MĐ	61	12	MD	MD	494	
32432	15.3	. 28	4	MB	48	MĐ	.22	۵.	11	222	489	2.12	.10	. 16	136	22	.01	6	.01	26	MD	#D	MD	3	4	MB	MD	249	
- 32436	82.4	.83	6	MB	49	MB	1.67	2.9	16	197	1963	3.62	. 34	.81	513	14	.02	19	.01	29 28	ND	NĐ	MD	MO	18	MD	MD	252	
32437	16.2	1.10	3	MŠ	40	MÐ	. 68	1.2	12	110	262	2.84	.19	.65	273	15	.01	9	.02	28	MÔ	MD	KD	MD	1	MĎ	MB	179	
32438	)100	.24	MD	MO	369 64	MD	.05	1.5	6	176	1280	3.69	.13	.07	84	15	.02	6	.01	19	ND	MB	MD	MO	6	MD	AD.	125	
32439	7.9	. 22	MB	MÔ		MD		1.1		81	170	1.64	.13	.06	163	64	.01	•	.01	- 11	ΔK	MO	MD	MD	11	MB	MĎ	125	
32440	15.1	. 34	MO	MD	SI	ND	. 56	.!	12	197	293	1.66	.13	.14	331	. 17	.01		.01	12	MO	NÜ	MD	MD	3	MD	ND	88	
32441	18.1	. 20		MĐ	43	ND	.22	. 3	12	167	367	2.11	-10	.10	171	R	.01	8	.01	12	ND	MD	ND	1	3	ND	ND	96	
32442	. 23.5	.17	ИÐ	MĐ	47	MB	.51	6.1	*	91	450	1.33	.11	. 13	187	8	.01	3	.01	15	MD	MD	MD	MD	. 3	ND	MD	173	
32443	33.7	. 20	3	MD	54	MD	. 13	2.4	5	189	194	1.52	.07	.11	85	- 11	.01	5	.01	13 25	MD	MĐ	MD	1	3	MD	ND	104	
32444	32.1	.66	ND	MD	73	1	.05	1.2	8	169	292	4.25	.15	,27	160	51	.02	8	.01	25	ND	MÜ	, ND	ı	4	NB	NÛ	415	
METECTION LIMIT	.1	.01	3	3	1	3	.01		1	- 1	· 1	.01	.01	.01	1	1	.01	. 1	.01	2	. 3	5	2	2	1	5	3	1	

MAIN OFFICE: 1988 TRIUMPH STREET, VANCOUVER B.C. VSL 1K5 PH: (604)251-5656 TELEX:04 352578 BRANCH OFFICE: 1630 FANDORA STREET, VANCOUVER B.C. VSL 1L6 PH: (604)251-7282 FAX: 4604)254-5717

#### ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED MITH 5 ML OF 3:1:3 HCL TO HNO3 TO H20 AT 95 DEG. C. OF 90 MINUTES AND IS DILUTED TO 10 ML WITH WATER.

THIS LEACH IS PARTIAL FOR SN, MN, FE, CA, P, CR, NG, BA, PD, AL, NA, K, N, PT AND SR. AU AND PO DETECTION IS 3 PM.

IS= INSUFFICIENT SAMPLE, MD= NOT DETECTED, -= NOT ANALYZED

ATTE	PANY: INTIO	N: I	K. K	AYE	vice T		2-1	4		REFOR JOB#: INVOI	881	588						CĎ)		TED:	88/19 88/1		9				ANAL	YST	V	(a)
SAMPLE	NAME		AG PPM	AL I	AS PPM	AU PP#	BA PPN	D! PPN	CA I	CD PPM	CQ PPn	CR PPM	CU PPM	FE 1	K 1	NG 1	AN PPA	n0 PPn	MA I	ni PPn	P 1	PB PPB	PD PPM	PT PPM	SB PPH	Sh PPR	SR PPn	U PPM	u Přn	in Prn
32445 32445 32446 32447		•	43.2 27.2 14.6 20.7	.26 .35 .40 .70	H0 H9 5 HD	MD MD	36 85 48 96	MD MD MD	1.09 .05 .20 .20	1.1 4.1 25.7 34.5	7 6 10 12	122 159 99 183	775 391 823 632	4.00 2.90 2.37 2.68	.10 .11 .12	.53 .14 .22 .51	314 94 138 214	46 57 11 17	.01 .02 .05 .05	13 8 25 18	.01 .01 .01	13 16 22 22	MD MD MD	ND ND ND	MB MB MU MB	1 1 1	10 5 4 5	MD MD MD	МО ИН ИМ	
.3244 <u>8</u> 32624			36.2 26.4	_1.21 .17	a MD	ND	70 578	4 ND	,32° .32	76.9 19.9	12 8	140 118	2980 1458	4. <u>69</u> 1.15	. 20 . 00	.81 .15	281 179	38	.12 .03	- 17	.02	23 10	MB MB	MD .	00 <u>0</u>	1	5 55	ND MB	WQ NO	4/64 1079

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APPENDIX V

SAMPLE DESCRIPTIONS

TIC 2 - 4
RIDGE SHOWING SAMPLE DESCRIPTIONS

Sample No.	Sample Type	Sample Width	Description
32200	Rock Chip	3 m	Py in alt chloritic zone 3 m wide
32233	Rock Chip	75 cm	Qtz/calc alt. zone 6 m wide in shear zone
32234	Rock Chip	1 m	Siliceous band with chlrt, py, mag 8 cm wide
32356	Rock Chip	40 cm	Qtz, calc, carbonate in shear zone 30 cm wide
32357	Rock Chip	30 cm	Qtz vein 10 cm wide
32358	Rock Chip	50 cm	Qtz vein 12 cm wide py, cpy, malachite
32359	Rock Chip	50 cm	South end of 32358
32360	Rock Chip	50 cm	Same as 32358-59
32361	Rock Chip	60 cm	Qtz vein cpy, py, malachite 15 cm wide
32362	Rock Chip	80 cm	Py in chlort/qtz diorite
32363	Rock Chip	1.5 m	Qtz veins with chlrt alteration in pods 4 m x 2 m
32364	Float	1 m	50% py in chlorite alt. volcanic
32427	Rock Chip	50 cm	Qtz vein with 10 cm wide
32428	Rock Chip	50 cm	Qtz with py, cpy in altered andesite 60 cm zone
32429	Float		Rose qtz
32430	Float	1 m	Chlrt andesite
32431	Rock Chip	50 cm	Rusty qtz with py 12 cm wide
32432	Rock Chip	50 cm	North end of 32431 py, chalcocite, malachite
32433	Rock Chip	75 cm	Qtz/carb 60 cm wide
32434	Rock Chip	1.5 m	Syenite dyke 1.5 m x 20 m
32435	Rock Chip	1 m	Qtz in chloritic intrusive
32436	Rock Chip	50 cm	Py in rusty qtz vein 12 cm wide
32437	Rock Chip	40 cm	Py in rusty qtz veîn 8" wide
32438	Rock Chip	60 cm	20 cm wide qtz vein with py
32439	Rock Chip	50 cm	South end of 32438
32440	Rock Chip	50 cm	10 cm wide rusty qtz vein with py
32441	Rock Chip	25 cm	8 cm wide
32442	Rock Chip	50 cm	15 cm wide rusty qtz vein with py, malachite

Sample No.	Sample Type	Sample <u>Width</u>	Description
32443	Rock Chip	25 cm	5 cm wide rusty qtz vein
32444	Rock Chip	50 cm	12 cm wide rusty qtz vein with py
32445	Rock Chip	50 cm	Rusty, vuggy qtz vein with pyrite 10 cm wide
32446	Rock Chip	50 cm	Qtz vein 15 cm wide with py, cpy
32447	Rock Chip	50 cm	Middle of 32446
32448	Rock Chip	50 cm	West end of 32446 py, cpy, malachite, azurite
32461	Rock Chip	50 cm	Qtz/calcite outcropping 1 m wide
32462	Rock Chip	25 cm	Qtz/carb vein 60 cm wide
32463	Rock Chip	1 m	Siliceous andesite
32464	Rock Chip	75 cm	Qtz/carb vein 20 cm wide
32465	Rock Chip	50 cm	Vuggy qtz vein 30 cm wide
32466	Rock Chip	50 cm	Qtz vein 20 cm wide with malachite, cpy
32467	Rock Chip	50 cm	Qtz/carb vein
32468	Rock Chip	50 cm	Qtz vein 30 cm wide with cpy
32624	Rock Chip	25 cm	Rusty qtz vein 60 cm wide with py, cpy
32625	Rock Chip	50 cm	Qtz vein 10 cm wide with py, malachite
32626	Rock Chip	50 cm	Qtz vein in felsic dyke 8 cm wide
32627	Rock Chip	50 cm	Qtz vein 12 cm wide with py, cpy
32628	Rock Chip	25 cm	Qtz vein cpy, malachite 60 cm wide

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# **SAMPLE DESCRIPTIONS - TIC 4**

Sample No.	Sample Type	Sample Width	Description
32001	Rock Chip	1 m	Disseminated mag. in chlrt argillite
32051	5 11	50 cm	Mass. py in argillite
32052	11	1 m 50 cm	Mass. py in argillite
32100	11	3 m	Py, cpy, in calcite / carbonate Calcite crystals in limestone
32101	11	50 cm	Band of py in carbonate
32102	Float	JU CIII	Py, mal, az, mal, in calcite/lms
32103	Lioat	_	Cpy, mal, az in calcite in argillite
32104		1 m	Cpy in carbonate stringers
32105	Rock Chip	1.5 m	Cpy in lms
32130	11	3 m	Py in fractures in calcite vein
32131	11	1 m	Cpy in carb with py in calcite filling
32132 32133	11	2 m	Py in calcite
32133	11	50 cm	Bor, cpy in calcite vein
32135	H	2 m	Bor, cpy in calcite vein
32136	. 11	50 cm	Py in argillite
32137	11	50 cm	Py pod in argillite
32138	H H	50 cm	Py, cpy in siliceous argillite
32139	11	50 cm	Py in calcite vein
32141	11	1 m	Cpy in calcite / arg. breccia
32149	11	2 m	Py fracture filling in carb lms.
32151	Ħ	50 cm	Py in altered lms.
32152	11	1 m	Py in calcite / argillite
32153	11	3 m	Py, cpy, mal, bor in calcite in arg.
32154	11	50 cm	Py, cpy in calcite / arg.
32191	n n	50 cm	Py, mag pods
32192	11	50 cm	Py in siliceous chirt intrusive
32193	**	1 m	Volcanic dykes
32194	ti ti	50 cm	Py, cpy in chirt sed.
32195	Rock Chip	3 m	Py, cpy, mal, az in skarn
32196	lt.	50 cm	High grade at 32195
32197		3 m	Py in siliceous chirt alteration
32198	11	1 m	Py, cpy, mal, az, epidote in chirt alt.
32199	11	1 m	Py, cpy, mal in chirt porphyry
32226	97	1 m	Alt. band with calcite in dolomite
32227	19	2 m	Breccia zone with pods of py/chlrt
32228	19	3 m	Py, pyr, mag in qtz altered breccia
32229	H	50 cm	Fracture filling of py in breccia zone
32230	, H	50 cm	Py in fracture filling in breccia
32231	H	50 cm	Calcite vein in qtz (chlrt dolomite)
32232	Ħ	1 m	Py, maag, cpy in mass chirt alteration zone

# **SAMPLE DESCRIPTIONS - TIC 5**

Sample No.	Sample Type	Sample <u>Width</u>	Description	
32365	Rock Chip	50 cm	Py in quartz vein	
32366	Rock Chip	50 cm	Py in quartz veinlet	
32367	Rock Chip	1 m	Py in chirt dyke	

