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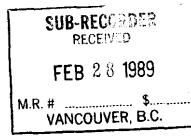
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ACTION:

FILE NO:

GEOLOGICAL REPORT on the GAB 5 MINERAL CLAIM

Located in the Iskut River Area Liard Mining Division British Columbia NTS 104B/15W



56°50' North Latitude 130°45' West Longitude

- Prepared for - KIRBY ENERGY INC.

- Prepared by -W.D. KIESMAN, Geologist C.K. IKONA, P.Eng.

December, 1988

GEOLOGICAL REPORT on the GAB 5 MINERAL CLAIM

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APPENDICES

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1.0 INTRODUCTION

During the summer of 1988, a limited geological reconnaissance program was conducted on the Gab 5 mineral claim. The program consisted of several prospecting and mapping traverses combined with rock chip and soil sampling.

No gold values were obtained during the limited sampling, however, significant pyritic gossans anomalous in arsenic were discovered which require further sampling to test for an arsenic-gold association.

This report is intended to summarize the work to date and outline recommendations for additional work on the property.

2.0 LIST OF CLAIMS

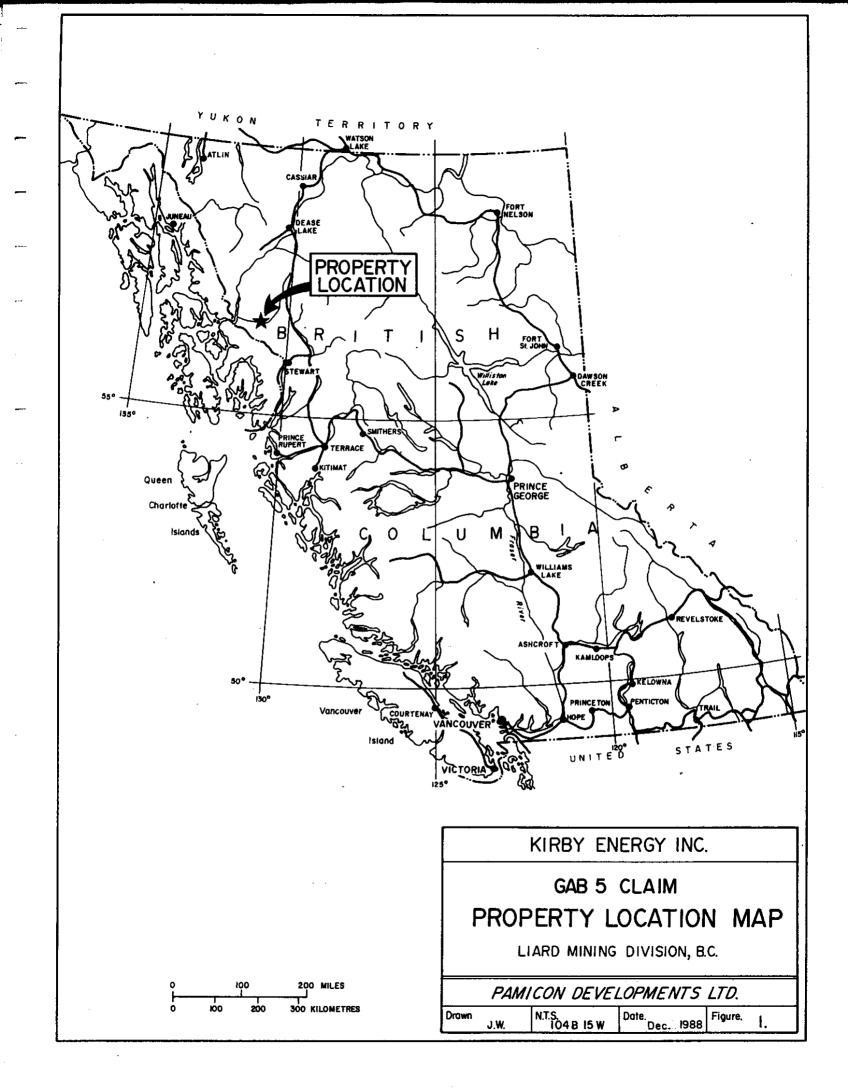
Records of the British Columbia Ministry of Energy, Mines and Petroleum Resources indicate that the following claim is recorded in the name of Western Informational Services Ltd. Separate documents indicate the claim is under option to Kirby Energy Inc. by an agreement dated June 6, 1988.

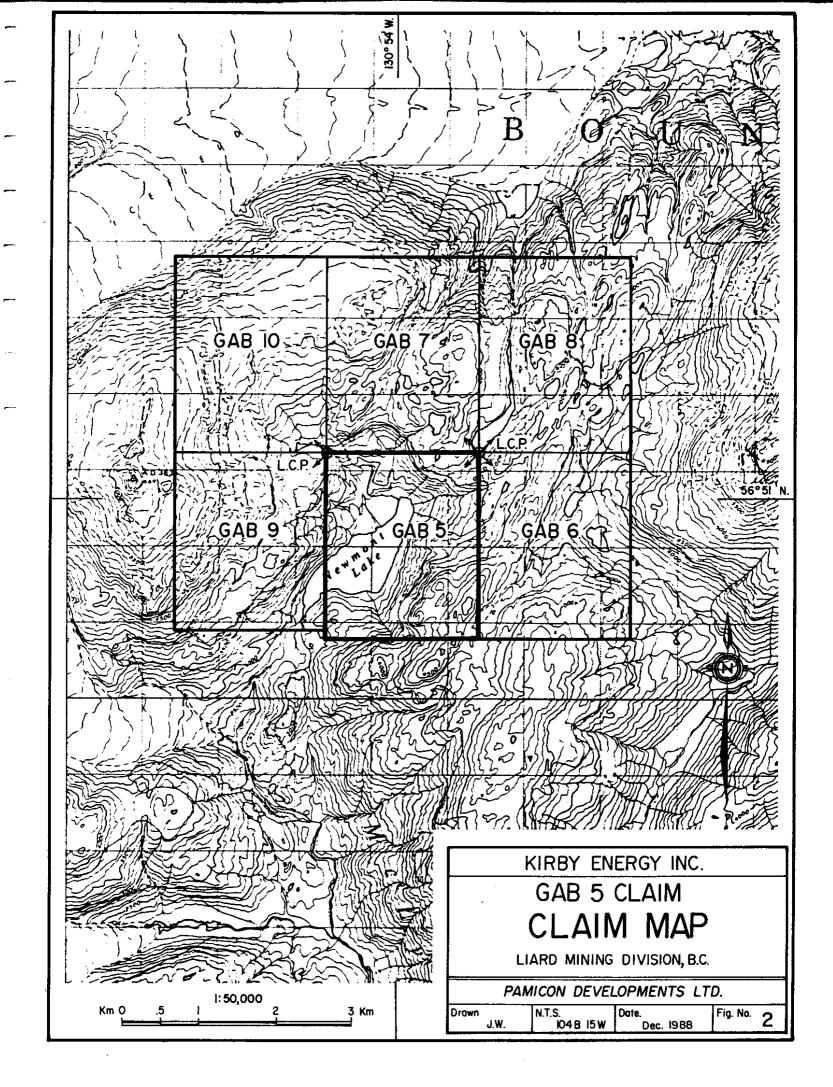
Claim	Record	No. of		
Name	Number	Units	Record Date	Expiry Date
Gab 5	3830	20	December 22, 1986	December 22, 1990

The legal corner post for the Gab 5 mineral claim was inspected and is located as recorded.

3.0 LOCATION, ACCESS AND GEOGRAPHY

The Gab 5 claim is located approximately 100 kilometres east of Wrangell, Alaska, and 115 kilometres northwest of Stewart, British Columbia, on the eastern edge of the Coast Range Mountains (Figure 1). Newmont Lake is situated within the claim boundaries and the Iskut River 15 kilometres to the south of the Gab 5 claim.





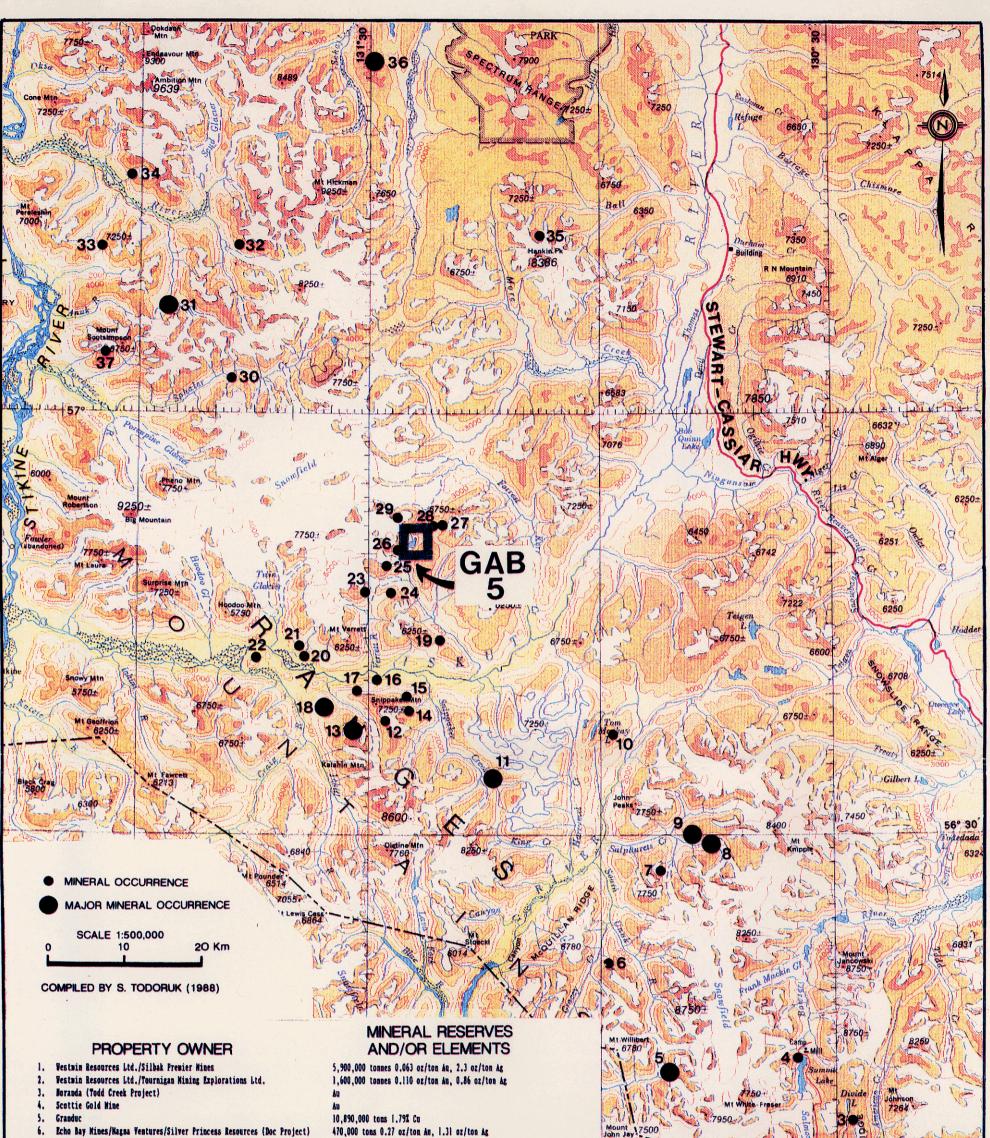
Coordinates of the claims area are 56°50' north latitude and 131°45' west longitude, and the property falls under the jurisdiction of the Liard Mining Division.

Access to the Gab 5 claim would be via fixed wing aircraft from Wrangell, Alaska or Stewart, British Columbia to either the Forrest Kerr gravel airstrip 10 kilometres northeast of the Gab 5 claim or the Bronson Creek gravel airstrip located 22 kilometres southwest from the claims. From these gravel airstrips, helicopter support is needed to reach the Gab 5 mineral claim. In addition, the Bob Quinn gravel airstrip is located 40 kilometres to the northeast on Highway 37 at Kilometre 139. Access to the property by helicopter or fixed wing can also be accomplished from this airstrip.

Geographically, the area is typical of mountainous and glaciated terrain with the elevations ranging from 700 metres above sea level in the river valley bottoms to in excess of 1500 metres at the ridge tops. Major drainages are U-shaped, whereas smaller side creeks tend to be steeply cut due to the intense erosional environment. Active glaciation is prevalent above the 1200 metre contour, with the tree line existing at 1000 metres. The upper reaches of the area are covered with alpine vegetation. The lower slopes are predominantly timbered with a variety of conifers with an undergrowth of devil's club. More open areas and steeper slopes contain dense slide alder growth. Both summer and winter temperatures would be considered generally moderate and in excess of 200 centimetres of precipitation may be expected during any given year.

4.0 AREA HISTORY

Figure 4 of this report presents a 1:500,000 scale area of northwestern B.C. from Stewart in the south to near Telegraph Creek in the north. This represents some 225 km. Within this area, which has been referred to as the Stikine Arch, mining activity goes back to the turn of the century. Due to the size of the region it historically has been referred to in more specific

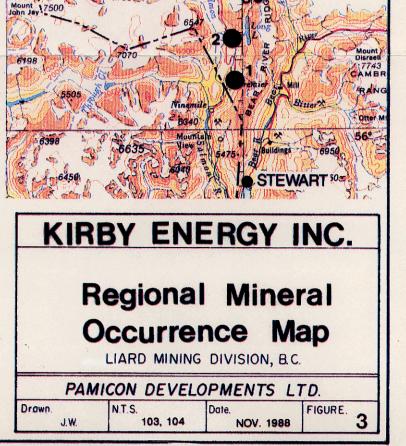


- Echo Bay Mines/Magna Ventures/Silver Princess Resources (Doc Project) 6. 1.
- Western Canadian Mining (Kerr Project)

8.	Catear Resources Ltd.
9.	Bewhavk/Lacana/Granduc (Sulphurets Project)
10.	Calpine/Consolidated Stikine Silver Ltd. (Zskay Creek Project)
11.	
	Consolidted Silver Standard Hines Ltd. (E & L Deposit)
12.	
13.	
14.	
15.	Bector Resources Inc. (Golden Spray Vein)
16.	Tungco Resources Corp.
17.	Finslow
18.	Cominco/Delaware Resource Corp. (Snip Deposit)
19.	Pezzold Resource Corp.
20.	Neridor Resources Ltd.
21.	Delaware Resource Corp./American Ore Ltd./Golden Band
22.	Magenta Development Corp./Crest Resources Ltd.
23.	Ticker Tape Resources Ltd. (King Fein)
24.	Pezzold Resource Corp.
25.	Consolidated Sea-Gold Corp.
26.	
21.	
28.	Pergold Resource Corp. (Cuba Zone)
29.	
30.	
11.	
	Continental Gold Corp.
	Bellex Resources Ltd./Sarabat Resources Ltd. (Jack Wilson Project)
	Pass Lake Resources Ltd. (JD Project)
	Lac Hinerals (Bankin Peak Project)
36.	
11.	Paydirt

291,916 tons 0.835 oz/ton Au, 2.44 oz/ton Ag 2,000,000 tons 0.462 oz/ton Au, 21.78 oz/ton Ag Au, Cu, As 3,200,000 tons 0.801 Mi, 0.601 Cu Au; As, Cu, Pb, Zo 1,100,000 tannes 0.700 oz/ton Au, 1.0 oz/ton Ag, 1% Cu Au, As, Cu, Pb, Zn AU, AS Au, As, Cu, Pb, In Au, As, Co, Pb, Za 1,200,000 tons 0.700 oz/ton Au As, Au Au Au Au, As, Cu, Pb Au Au Au, As, Cu Az, Cu, Au As, Pb, Zn Cu, Au Cu, Au 125,000,000 tonnes 1.061 Cu, 0.397 g/t Au, 7.94 g/t Ag Au, As, Cu Au, Cu Au, Cu AU 910,000,000 tonnes 0.301 Cu, 0.0201 No, 0.113 g/t Au, 0.992 g/t Ag 200,000 tons 0.120 oz/ton Au

Cu, Au



areas ranging from the Stewart area to Sulphurets, Iskut and Galore Creek. As can be noted in Figure 4, however, all of these individual camps appear to be related to the Stikine Arch as a whole. Recent discoveries appear to be filling in areas between these known mineralized camps. It is probable that the entire area be considered as one large mineralized province with attendant subareas. As the Gab claims are located near the Iskut and Sulphurets-Tom MacKay areas a more detailed history of these is presented below.

The first recorded work done in the Iskut Region occurred in 1907 when a prospecting party from Wrangell, Alaska staked nine claims north of Johnny Mountain. Iskut Mining Company subsequently worked crown granted claims along Bronson Creek and on the north slope of Johnny Mountain. Up to 1920, a 9 metre adit revealed a number of veins and stringers hosting galena and gold-silver mineralization.

In 1954, Hudsons Bay Mining & Smelting located the Pick Axe showing and high grade gold-silver-lead-zinc float on the open upper slopes of Johnny Mountain, which today is part of Skyline Explorations Ltd.'s Stonehouse Gold deposit. The claims were worked and subsequently allowed to lapse.

During the 1960s, several major mining companies conducted helicopter borne reconnaissance exploration programs in a search for porphyry-copper-molybdenum deposits. Several claims were staked on Johnny Mountain and on Sulphurets Creek.

Between 1965 and 1971, Silver Standard Mines, and later Sumitomo, worked the E + L prospect on Nickel Mountain at the headwaters of Snippaker Creek. Work included trenching, drilling and 460 metres of underground development work. Reserves include 3.2 million tons of 0.80% nickel and 0.60% copper.

In 1969 Skyline staked the Inel property after discovering massive sulphide float originating from the head of the Bronson Creek glacier.

During 1972, Newmont Mining Corporation of Canada Limited carried out a field program west of Newmont Lake on the Dirk claim group. Skarn-type mineralization was the target of exploration. Work consisted of airborne and ground magnetic surveys, geological mapping and diamond drilling. One and one-half metres grading 0.220 ounces gold per ton and 15.2 metres of 1.5% copper was intersected on the Ken showing.

In 1980 Dupont Canada Explorations Ltd. staked the Warrior claims south of Newmont Lake on the basis of a regional stream sediment survey. In 1983, Skyline Explorations Ltd. and Placer Developments Ltd. optioned the Warrior claims from Dupont. Efforts were directed at sampling and extending several narrow quartz-pyrite-chalcopyrite veins with values ranging from 0.1 to 3.0 oz/ton gold. Geophysics and coincident geochemical values indicated a significant strike length to the mineralized structure. The Warrior claims were allowed to lapse in 1986, at which time, Gulf International Minerals Ltd. acquired the McLymont claims covering much the same area.

Assays of interest from recent Gulf drilling are listed below (Gulf International Minerals Ltd., Annual Report, 1987 and news releases):

Drill	<u>Interval</u>	<u>Length</u>	Copper	<u>Silver</u>	Gold
<u>Hole</u>	(feet)	(feet)	(%)	(oz/ton)	(cz/ton)
87–25	343.0-373.0	30.0	0.23	0.11	0.404
	409.3-412.0	2.7	0.55	0.35	0.250
	470.2-473.8	3.6	0.42	0.19	1.520
87-29	167.0-170.0	3.0	0.001	0.01	0.140
	205.0-241.5	36.5	0.97	39.73	1.605
88-28	213.9-229.0 260.5-276.6 354.0-363.2	15.1 16.1 9.2			0.810 0.645 0.319

(average grade = 149.0 feet of 0.290 oz/ton gold)

After restaking the Reg property in 1980, Skyline carried out trenching and drilling for veined high-grade gold and polymetallic massive sulphide mineralization on the Reg and Inel deposits between 1981 and 1985.

In 1986, drilling and 460 metres of underground cross-cutting and drifting on the Stonehouse Gold Zone confirmed the presence of high grade gold mineralization with additional values in silver and copper over mineable widths with good lateral and depth continuity. As of January 1988, reserves on the Stonehouse Gold Zone were reported as:

	Au (oz/ton)	Tons
Total Measured	1.246	121,000
Total Drill-Indicated	0.556	236,875
Total Inferred	0.570	700,000
Subtotal	0.644	1,057,875
McFadden	2.800	30,000
Ore Reserve Total	0.704	1,087,875

On the Cominco/Delaware Snip claims immediately north of the Stonehouse Gold deposit, approximately 20,000 metres of diamond drilling has been carried out defining the Twin Zone gold deposit. Three thousand metres of underground development work has also been completed as the project readies for production. As of December, 1987, reserves on the Twin Zone were reported as:

		Au	<u> </u>	
		(oz)	_	
Total	Inferred	0.700	1,200,000	

Also, during 1987, Inel Resources Ltd. commenced an underground drifting and diamond drilling program along the main cross-cut intent on intersecting the Discovery Zone which hosts gold-bearing polymetallic massive sulphide mineralization. Underground drilling on the centre section of workings has returned in U88-3 a grade of 0.769 oz/ton gold for 4.1 metres (September,

1988). As of November, 1988, 730 metres of underground development has been completed in the area of the Discovery zone.

Western Canadian Mining Corp. in 1987 drilled tested to Khyber Pass massive sulphide showing on their Gossan claims in the Iskut area while in 1988 drilling was carried out on their Kerr project copper-gold porphyry deposit in the Sulphurets camp to the southeast.

Tungco Resources Corporation has drill tested four main gold/copper quartz vein targets; the Bluff, No. 7, Swamp and Gold Bug Zones. The Bluff Zone has been delineated 70 metres along strike and 60 metres downdip with better intersections grading up to 0.243 oz/ton gold across 2.45 metres. The No. 7 Vein returned 1.12 metres of 0.651 oz/ton gold. Drill testing was also carried out near the western edge of the claims on the Boot Zone lead/zinc/ copper/silver/gold prospect.

During 1988 Pezgold Resource Corp./International Prism Exploration drill tested the old Newmont Ken Zone magnetite/chalcopyrite/gold skarn zone north of Gulf International Minerals' Northwest Gold Zone. High grade silver-leadzinc was also found on the eastern side of the property.

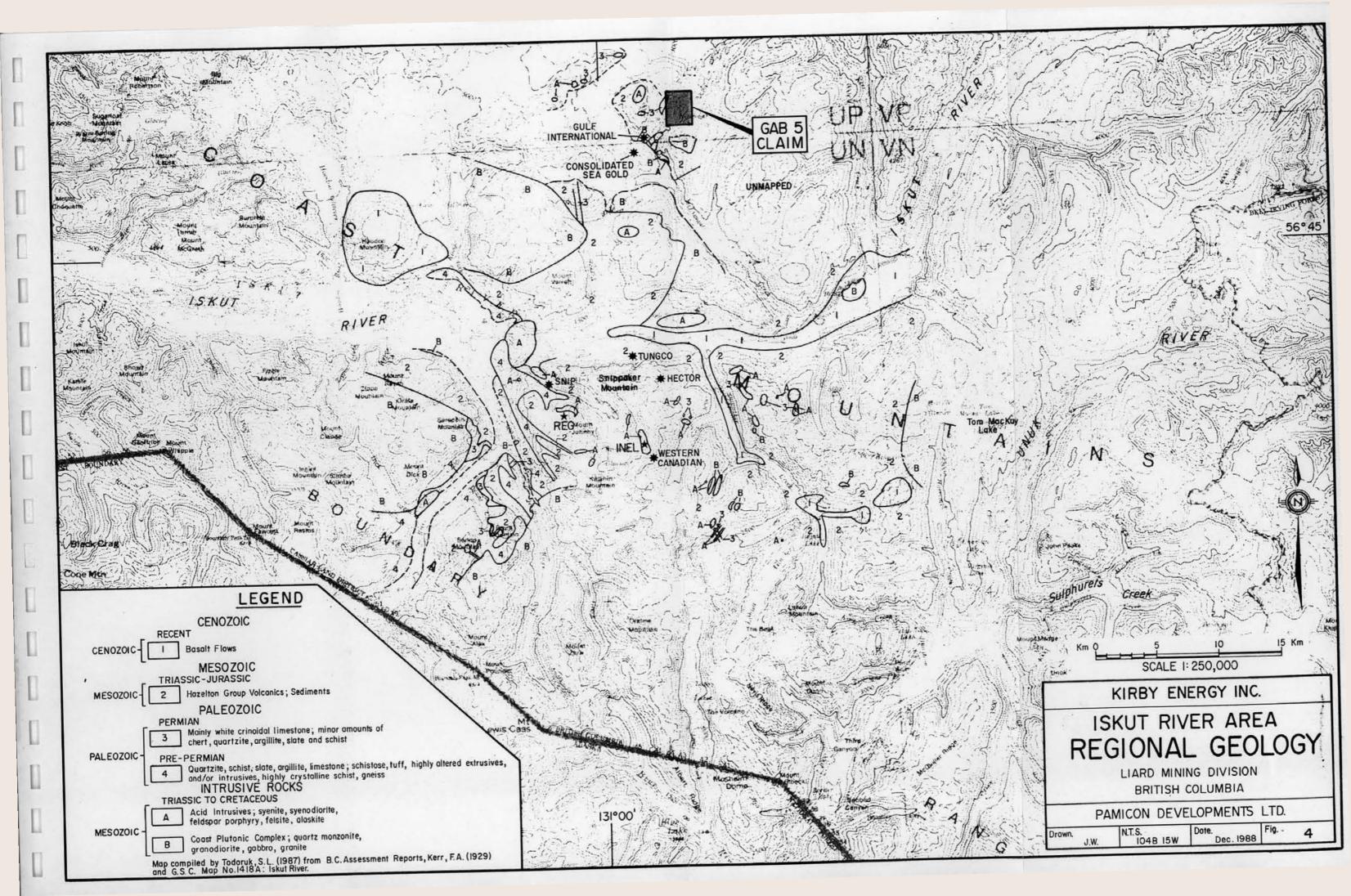
In late 1988, Calpine Resources Incorporated/Consolidated Stikine Silver announced several exciting drill holes on their Eskay Creek Project at Tom McKay Lake. Drill hole CA88-6 reported values of 0.730 oz/ton gold across 96.5 feet.

South of Calpine's Eskay Creek Project and in the Sulphurets Gold Camp several properties are quickly moving into production phases as listed below:

Project

Mineral Reserves

Newhawk/Granduc/Lacana Mine2,000,000 of 0.462 oz/ton Au, 21.78 oz/ton AgCatear Resources Ltd. Mine291,916 of 0.835 oz/ton Au, 2.44 oz/ton AgEcho Bay Mines/Magna/
Silver Princess Project470,000 of 0.270 oz/ton Au, 1.31 oz/ton Ag



Magenta Development Corp. also discovered an exciting gold/silver/copper/lead quartz vein in 1988 on the Rob claims in the Skyline area with values in trenches up to 2.567 oz/ton Au across 9.8 feet including 7.394 oz/ton Au across 3.3 feet.

5.0 REGIONAL GEOLOGY

The following regional geological interpretation is taken from B.C. Geological Survey Branch publication, in press, Exploration in British Columbia 1987 by D.V. Lafebure and M.H. Gunning.

A northwest-trending belt of Permian to Lower Jurassic volcanic and sedimentary rocks and their metamorphic equivalents trends northward from Alice Arm to Telegraph Creek and forms part of Stikinia. It is bounded to the west by the Coast Complex and is overlapped to the east by the clastic sediments of the Bowser Basin.

The dominant lithologies in the Bronson Creek area are clastic sediments and volcanics with minor carbonate lenses which are intruded by a diverse suite of intrusive rocks, most commonly granitic and syenitic. The sedimentary rocks are sandstones (typically greywackes), siltstones, shales, argillites, conglomerates and minor limestones. Volcanic rocks vary in composition from mafic to felsic and display a wide variety of igneous, pyroclastic and volcaniclastic textures.

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

Kerr (1948) correlated most of the rocks along Bronson Creek with Triassic volcanics that he had seen farther to the north and northwest. These volcanics consist of intensely folded and sheared tuffs, agglomerates, lavas, rare pillow lavas and bedded sediments. He believed that the volcanics are

overlain by Triassic argillites with lenses of limestone. The lower northern and western slopes of Johnny Mountain are underlain by pre-Permian metamorphosed shale, sandstone and limestone.

stratigraphic columns for Exploration geologists have defined specific properties (Birkeland and Gifford, 1972; Sevensma, 1981) and for the area as a whole (Parsons, 1965; Bending, 1983). Bending defined a stratigraphic column with black argillite conformably overlain by banded siltstone which underlies a green volcanic unit composed principally of intermediate to felsic rocks. The green volcanic unit has an irregular upper contact with the "Upper Tuffaceous Sedimentary Unit," a sequence of limestones, tuffaceous sandstones, argillites and siltstones with lenses of conglomerate near the upper contact. At the top of Bending's sequence is hornblende-biotite andesite tuff and subordinate breccia. Based on descriptions by Kerr (1930, 1948), Bending correlated the basal argillite and siltstone with the upper Paleozoic, the green volcanic unit with the Triassic and the upper tuffaceous sediments with the lower Jurassic. Fossils collected from 350 metres southwest of Snippaker Peak have been determined as Lower Jurassic, probably Toarcian age, by H.W. Tipper of the Geological Survey of Canada (Graf, 1985).

Grove (1986b) subdivided the sedimentary and volcanic rocks on the top of Mount Johnny into the Unuk River and Betty Creek formations of the Hazelton Group, based on correlations with his work to the east.

6.0 PROPERTY GEOLOGY

The Gab 5 claim geologically is underlain by coarse andesitic fragmental rocks and finer crystal tuffs. These volcanics have been stratigraphically correlated to early Jurassic Hazelton volcanics. Massively bedded, oxidations of the matrix supporting fragments produced hues of purple and red.

These volcanics form the dominant rock type areally on the Gab 5 claim with good exposures on the shores of Newmont Lake and the steep cliffs either side of the lake.

Intrusive rocks found on the Gab 5 claims are termed quartz syenites and can be found at higher elevations from Newmont Lake near the Gab 5/Gab 10 corner post.

The McLymont Fault, a 35 km lineament traceable on air photographs, forms a dominant structural component for Gulf International's Northwest Zone. This lineament trace lies just to the northwest of the Gab 5/Gab 10 corner post and has parallel structures found within the Gab 5 claim boundaries.

7.0 MINERALIZATION

During the brief prospecting and mapping program it was noted that oxidized fracture systems appeared to follow creek cuts seen on both sides of Newmont Lake. One such gossanous zone was traced for some 500 metres. Sampling within the more prominent pyritic gossans has returned anomalous arsenic values up to 7,990 ppm, although, no significant gold values have been received to date.

In the extreme southeast corner of the Gab 5 claim, a rock chip sample taken from fracture controlled mineralization located near the outcrop trace of a section of Mississippian limestones returned values of 15.6 ppm silver and >20,000 ppm copper.

8.0 DISCUSSION AND CONCLUSIONS

Gulf International Minerals Ltd. has reported that soil geochemical values \geq 325 ppm arsenic were anomalous on their Northwest, Main, Northeast and A.R.

grids (Grove, 1987). Gulf's Northwest Zone gold discovery is located 3.0 kilometres southwest of the Gab 5 mineral claim.

The pyritic gossans rich in arsenopyrite on the Gab 5 claim are encouraging indicators since arsenopyrite and gold are commonly associated. More detailed prospecting, sampling and geological interpretation will be necessary to fully assess their importance. Since stratiform barite-pyrite-magnetite with associated gold values has been reported by Gulf International to occur at limestone-chert-marble contacts at their Northwest Zone discovery, the silvercopper values encountered in the southeast corner of Gab 5 must be evaluated by prospecting and soil geochemistry.

9.0 RECOMMENDATIONS

For the 1989 field season on the Gab 5 mineral claim it is recommended that:

- Additional prospecting and geological mapping with emphasis on identifying limestones, magnetite rich zones and pyrite gossans within the volcanics.
- 2. Soil geochemical sampling of the slopes either side of Newmont Lake. Soil lines should follow slope fall line where possible and where steep slopes prevail contour soil sampling be undertaken.
- 3. Contingent upon prospecting, geological mapping and soil sampling results, trenching of gold/silver anomalies should occur.

10.0 RECOMMENDED BUDGET

STAGE I - GEOLOGICAL MAPPING AND PROSPECT SAMPLING

WAGES

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Project Geologist - 20 days @ \$350/day	\$ 7,000
Prospector - 20 days @ \$225/day	4,500
Helpers – 2 x 20 days @ \$175/day	7,000

Total Wages

\$18,500

EXPENSES

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ANALYSIS			
Heavy Mineral Concentrates 60 @ \$32.50/sample Assays (rock chips, soils and silts)	\$ 1,950		
200 @ \$20	4,000	\$ 5,950	
SUPPORT 80 man days @ \$100/day		8,000	
TRENCHING SUPPLIES		1,300	
TRANSPORTATION Vehicle Rental - 4 days @ \$50/day Airfares, Fixed Wing, Helicopter	\$200 <u>13,000</u>	13,200	
REPORT		2,500	
Total Expenses			30,950
TOTAL WAGES AND EXPENSES			49,450
Contingency @ 10%			4,900
Management Fee @ 15% on Expenses			4,650
TOTAL STAGE I			\$59,000

Subject to results of the Stage I program, a Stage II program may be warranted. Detailed costs of such a program cannot be estimated at this time. Such a program could entail additional sampling, trenching and may include a small preliminary drill program. The sum of \$100,000 should be available to initiate such a program if warranted.

Respectfully submitted,

W. Milman

William D. Kiesman, Geologist

Charles K. Ikona, P.Eng.

APPENDIX I

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BIBLIOGRAPHY

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APPENDIX II

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COST STATEMENT

COST STATEMENT GAB 5 MINERAL CLAIM LIARD MINING DIVISION JULY 5 TO NOVEMBER 30, 1988

WAGES

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Field Geologist - 2 days @ \$250	\$ 500.00
Prospectors - 5 days @ \$250	1,250.00
Samplers - 1 day @ \$200	200.00
Field Support Crew	693,15
	\$ 2,643.15

EXPENSES

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Man Day Camp Support Costs	1,260.00
Equipment and Supplies	250.00
Travel and Accommodation	117.96
Communication and Telephone	51,75
Freight	40.74
Assays	472.00
Fixed Wing	89.37
Helicopter	568.78
Report	1,500 .00
Reproductions	200.95
Project Supervision	202.92
	\$ 7,396.92

APPENDIX III

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ANALYTICAL PROCEDURES

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MAIN OFFICE 1521 PEMBERTON AVE. NORTH VANCOUVER, B.C. V7P 2S3 (604) 986-5211 TELEX: 04-352578 BRANCH OFFICE 1630 PANDORA ST. VANCOUVER, B.C. V5L 1L6 (604) 251-5656

December 23, 1987

TO: Steve Todoruk PAMICON DEVELOPMENTS 711 - 675 W. Hastings St. Vancouver, B.C. V6B 1N4

- FROM: Vangeochem Lab Limited 1521 Pemberton Avenue North Vancouver, British Columbia V7P 283
- SUBJECT: Analytical procedure used to determine Aqua Regia soluble gold in geochemical samples.

1. <u>Method of Sample Preparation</u>

- (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

2. <u>Method</u> of Digestion

- (a) 5.00 to 10.00 grams of the minus 80-mesh portion of the samples were used. Samples were weighed out using an electronic micro-balance and deposited into beakers.
- (b) Using a 20 ml solution of Aqua Regia (3:1 solution of HCl to HNO3), each sample was vigorously digested over a hot plate.
- (c) The digested samples were filtered and the washed pulps were discarded. The filtrate was then reduced in volume to about 5 ml.



MAIN OFFICE 1521 PEMBERTON AVE. NORTH VANCOUVER, B.C. V7P 2S3 (604) 986-5211 TELEX: 04-352578 BRANCH OFFICE 1630 PANDORA ST. VANCOUVER, B.C. V5L 1L6 (604) 251-5656

- (d) Au complex ions were then extracted into a di-isobutyl ketone and thiourea medium (Anion exchange liquids "Aliquot 336").
- (e) Separatory funnels were used to separate the organic layer.

3. Method of Detection

The detection of Au was performed with a Techtron model AA5 Atomic Absorption Spectrophotometer with a gold hollow cathode lamp. The results were read out onto a strip chart recorder. A hydrogen lamp was used to correct any background interferences. The gold values, in parts per billion, were calculated by comparing them with a set of gold standards.

Analysts

• 2

The analyses were supervised or determined by Mr. Conway Chun or Mr. Eddie Tang and his laboratory staff.

Eddie Tang VANGEOCHEM LAB LIMITED



MAIN OFFICE 1521 PEMBERTON AVE. NORTH VANCOUVER, B.C. V7P 2S3 (604) 986-5211 TELEX: 04-352578 BRANCH OFFICE 1630 PANDORA ST. VANCOUVER, B.C. V5L 1L6 (604) 251-5656

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- FROM: Vangeochem Lab Limited 1521 Pemberton Avenue North Vancouver, British Columbia V7P 283
- SUBJECT: Analytical procedure used to determine gold by fire assay method and detect by atomic absorption spectrophotometry in geological samples.

1. <u>Method</u> of <u>Sample</u> Preparation

- (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

2. Method of Extraction

- (a) 20.0 to 30.0 grams of the pulp samples were used. Samples were weighed out using a top-loading balance and deposited into individual fusion pots.
- (b) A flux of litharge, soda ash, silica, borax, and, either flour or potassium nitrite is added. The samples are then fused at 1900 degrees Farenhiet to form a lead "button".
- (c) The gold is extracted by cupellation and parted with diluted nitric acid.



MAIN OFFICE 1521 PEMBERTON AVE. NORTH VANCOUVER, B.C. V7P 2S3 (604) 986-5211 TELEX: 04-352578 BRANCH OFFICE 1630 PANDORA ST. VANCOUVER, B.C. V5L 1L6 (604) 251-5656

(d) The gold bead is retained for subsequent measurement.

3. Method of Detection

- (a) The gold bead is dissolved by boiling with aqua regia solution, then diluted with deionized water to 10 mls volume.
- (b) The detection of gold was performed with a Techtron model AA5 Atomic Absorption Spectrophotometer with a gold hollow cathode lamp. The results were read out on a strip chart recorder. The gold values, in parts per billion, were calculated by comparing them with a set of known gold standards.

4. <u>Analysts</u>

The analyses were supervised or determined by Mr. Conway Chun or Mr. David Chiu and his laboratory staff.

David Chiu VANGEOCHEM LAB LIMITED



VANGEOCHEM LAB LIMITED

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December 23, 1987

- TO: Steve Todoruk PAMICON DEVELOPMENTS 711 - 675 W. Hastings St. Vancouver, B.C. V6B 1N4
- FROM: Vangeochem Lab Limited 1521 Pemberton Avenue North Vancouver, British Columbia V7P 283
- SUBJECT: Analytical procedure used to determine hot acid soluble for 28 element scan by inductively Coupled Plasma Spectrophotometry in geochemical silt and soil samples.

1. Method of Sample Preparation

- (a) Geochemical soil, silt or rock samples were received at the laboratory in high wet-strength, 4" x 6", Kraft paper bags. Rock samples would be received in poly ore bags.
- (b) Dried soil and silt samples were sifted by hand using an 8" diameter, 80-mesh, stainless steel sieve. The plus 80-mesh fraction was rejected. The minus 80-mesh fraction was transferred into a new bag for subsequent analyses.
- (c) Dried rock samples were crushed using a jaw crusher and pulverized to 100-mesh or finer by using a disc mill. The pulverized samples were then put in a new bag for subsequent analyses.

2. Method of Digestion

- (a) 0.50 gram portions of the minus 80-mesh samples were used. Samples were weighed out using an electronic balance.
- (b) Samples were digested with a 5 ml solution of HCL:HN03:H20 in the ratio of 3:1:2 in a 95 degree Celsius water bath for 90 minutes.
- (c) The digested samples are then removed from the bath and bulked up to 10 ml total volume with dimineralized water and thoroughly mixed.



MAIN OFFICE 1521 PEMBERTON AVE. NORTH VANCOUVER, B.C. V7P 2S3 (604) 986-5211 TELEX: 04-352578 BRANCH OFFICE 1630 PANDORA ST. VANCOUVER, B.C. V5L 11.6 (604) 251-5656

3. Method of Analyses

The ICP analyses elements were determined by using a Jarrel-Ash ICAP model 9000 directly reading the spectrophotometric emissions. All major matrix and trace elements are interelement corrected. All data are subsequently stored onto disk.

1. Analysts

The analyses were supervised or determined by either Mr. Eddie Tang, and, the laboratory staff.

Eddie Tang VANGEOCHEM LAB LIMITED

APPENDIX IV

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ASSAY CERTIFICATES



VANGEOCHEM LAB L MAIN OFFICE AND LABORATORY 1988 Triumph Street Vancouver, B.C. V5L 1K5 (604)251-5656 FAX:254-5717 (604)

GEOCHEMICAL ANALYTICAL REPORT

CLIENT:	PAMICON DEVELOPMENT	LTD.	DATE:	July 26 1988
ADDRESS:	711-675 W. Hastings	St.		
:	Vancouver, B.C.		REPORT#:	880767 GA
:	V6B 1N4		JOB #:	880767

PROJECT#: Kirby SAMPLES ARRIVED: July 22 1988 REPORT COMPLETED: July 26 1988 ANALYSED FOR: Au ICP INVOICE#: 880767 NA TOTAL SAMPLES: 1 SAMPLE TYPE: Soil REJECTS: DISCARDED

BRANCH DFFICEG 1630 PANDORA ST. VANCOUVER ELC. 123-04 (604) 251-3856

SAMPLES FROM: Smithers, B.C. COPY SENT TO: Vancouver & Bronson Offices

PREPARED FOR: Mr. Bill Keisman

ANALYSED BY: VGC Staff SIGNED:

GENERAL REMARK: Invoice sent to Vancouver Office

VGC	VANGEC MAIN OFFICE AND 1988 Triump Vancouver, B. (604)251-5656	LABORATORY	BRANCH OFFICE 1630 PANDORA ST. VANCOUVER, B.C. V5L 1L6 (604) 251-5656				
REPORT NUMBER: BB0767 GA	JOB NUMBER: 880767	PANICON DEVELOPH	ENT LTD.	PAGE	1	OF	i
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VANGEOCHEM LAB LIMITED

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MAIN OFFICE: 1521 PEMBERTON AVE. N.VANCOUVER B.C. V7P 283 PH: (604)986-5211 TELEX:04-352578 BRANCH DFFICE: 1630 PANDORA ST. VANCOUVER B.C. V5L 1L6 PH: (604)251-5656

ICAP GEOCHEMICAL ANALYSIS

A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 MCL TO MNO3 TO H20 AT 95 DEG. C FOR 90 MIMUTES AMD IS DILUTED TO 10 ML WITH WATER. This leach is partial for SW, MM,FE,CA,P,CR,MG,BA,PD,AL,NA,K,W,PT AMD SR. AU AMD PD Detection is 3 PPM. IS= INSUFFICIENT SAMPLE, MD= MOT DETECTED, -= NOT AMALYZED

COMPANY: PA ATTENTION: PROJECT: KI)N DE	EVEL O	PMEN	т			REPO JOB# INVO	: 880	767		-			DAT		MPLE	TED:		7/22 07/30)				ANAL	YST_	h	2. j.	_
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VANGEOCHEM LAB LI MAIN OFFICE AND LABORATORY 1998 Triumph Street Vancouver, B.C. V5L 1K5 (604)251-5656 FAX:254-5717

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CLIENT: PAMICON DEVELOPMENT LTD. ADDRESS: 711-675 W. Hastings St. : Vancouver, B.C. : V68 1N4

DATE: July 22 1988

REPORT#: 880731 GA JOB#: 880731

BRANCH OFFI

1630 PANDORA S VANCOUVER, B.G

PROJECT#: Kirby INVOICE#: 880731 NA SAMPLES ARRIVED: July 19 1988 REPORT COMPLETED: July 22 1988 ANALYSED FOR: Au (FA/AAS) ICP TOTAL SAMPLES: 24 SAMPLE TYPE: Rock Chip REJECTS: SAVED

SAMPLES FROM: Smithers, B.C. COPY SENT TO: Vancouver Office & Bronson Office

PREPARED FOR: Mr. Bill Keisman

ANALYSED BY:	VGC Staff
SIGNED:	9/az.
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GENERAL REMARK: Invoice sent to Vancouver Office



MAIN OFFICE AND LABORATORY 1988 Triumph Street Vancouver, B.C. V5L 1K5 (604)251-5656 FAX:254-5717

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

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VANGEOCHEM LAB LIMITED

MAIN OFFICE: 1521 PEMBERTON AVE. N.VANCOUVER B.C. V7P 253 PH: (604)986-5211 TELEX:04-352578 BRANCH OFFICE: 1630 PANDORA ST. VANCOUVER B.C. V5L 1L6 PH: (604)251-5656

ICAP GEOCHEMICAL ANALYSIS

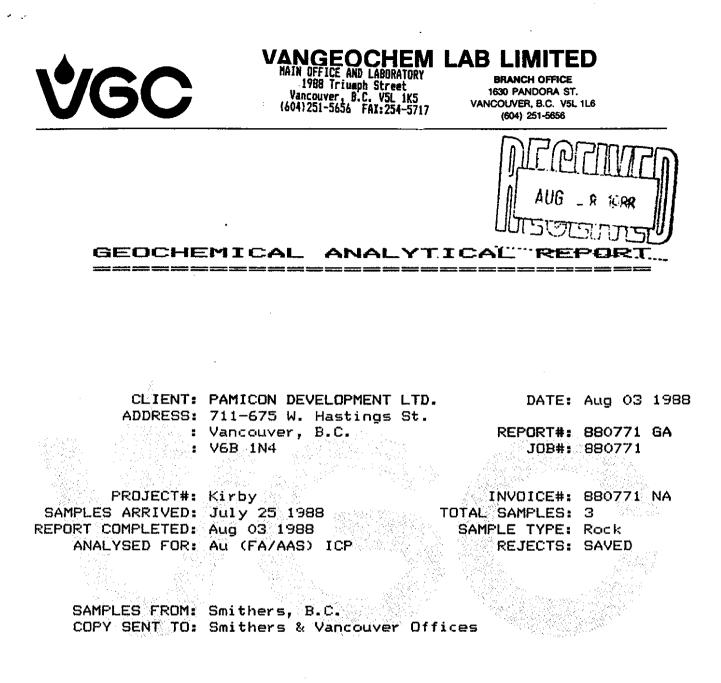
A .5 GRAM SAMPLE IS DIGESTED WITH 5 ML OF 3:1:2 HCL TO HNO3 TO H20 AT 95 BEG. C FOR 90 HIMUTES AND IS DILUTED TO 10 ML WITH MATER. THIS LEACH IS PARTIAL FOR SH, NN, FE, CA, P, CR, NG, BA, PD, AL, NA, K, W, PT AND SR. AU AND PD DETECTION IS 3 PPH. IS= INSUFFICIENT SAMPLE, ND BETECTED, -= NOT AMALYZED

COMPANY: PA ATTENTION: PROJECT: KI		DN DE	VELO	PMEN	IT			REPOR JOB#1 INVO	r 880	0731					DAT	e co				7/19 07/3()				ANAL	YST_	V	hy	,
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ANOMALOUS RESULTS:

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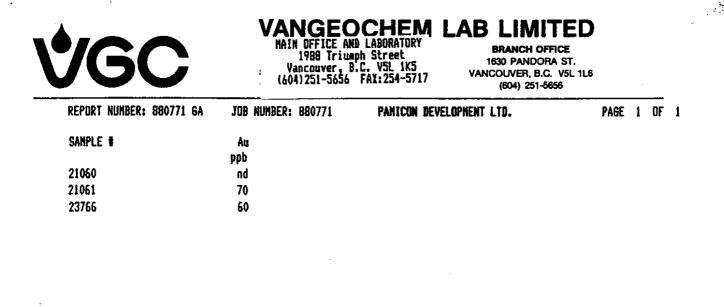
FURTHER ANALYSES BY ALTERNATE METHODS SUGGESTED



PREPARED FOR: Mr. Bill Keisman

ANALYSED BY:	VGC Staff
SIGNED:	VGJ.

GENERAL REMARK: Invoice sent to Smithers & Vancouver Offices



REPORT 4: 880771 PA		P	ANICON	DEVELOP	HENT	F	rej: K	IRBY		Date	In: 89/	07/25	Dati	DutiBl	8/08/05	Atl	I: B KEI	ISMAN		Vec	ICP REP	PORT			Pa	je 1	of 1		
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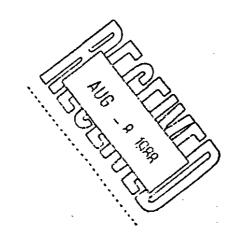
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ANOMALOUS RESULTS: FURTHER ANALYSES BY ALTERNATE METHODS SUGGESTED

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APPENDIX V

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STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, WILLIAM D. KIESMAN, of Suite 43, 866 Premier Street, North Vancouver, in the Province of British Columbia, DO HEREBY CERTIFY:

- THAT I am a Geologist in the employment of Pamicon Developments Limited, with offices at Suite 711, 675 West Hastings Street, Vancouver, British Columbia.
- 2. THAT I am a graduate of the University of Manitoba with a Bachelor of Science Degree in Geology.
- 3. THAT my primary employment since 1980 has been in the field of mineral exploration.
- 4. THAT my experience has encompassed a wide range of geologic environments and has allowed considerable familiarization with prospecting, geophysical, geochemical and exploration drilling techniques.
- 5. THAT this report is based on field work during July, 1988 and all available data.
- 6. THAT I have no interest in the property described herein, nor in securities of any company associated with the property, nor do I expect to receive any such interest.
- 7. THAT I hereby grant permission to Kirby Energy Inc. for the use of this report in any prospectus or other documentation required by any regulatory authority.

DATED at Vancouver, B.C., this 27th day of , 1988.

William D. Kiesman, Geologist

- Pamicon Developments Ltd. -

APPENDIX VI

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ENGINEER'S CERTIFICATE

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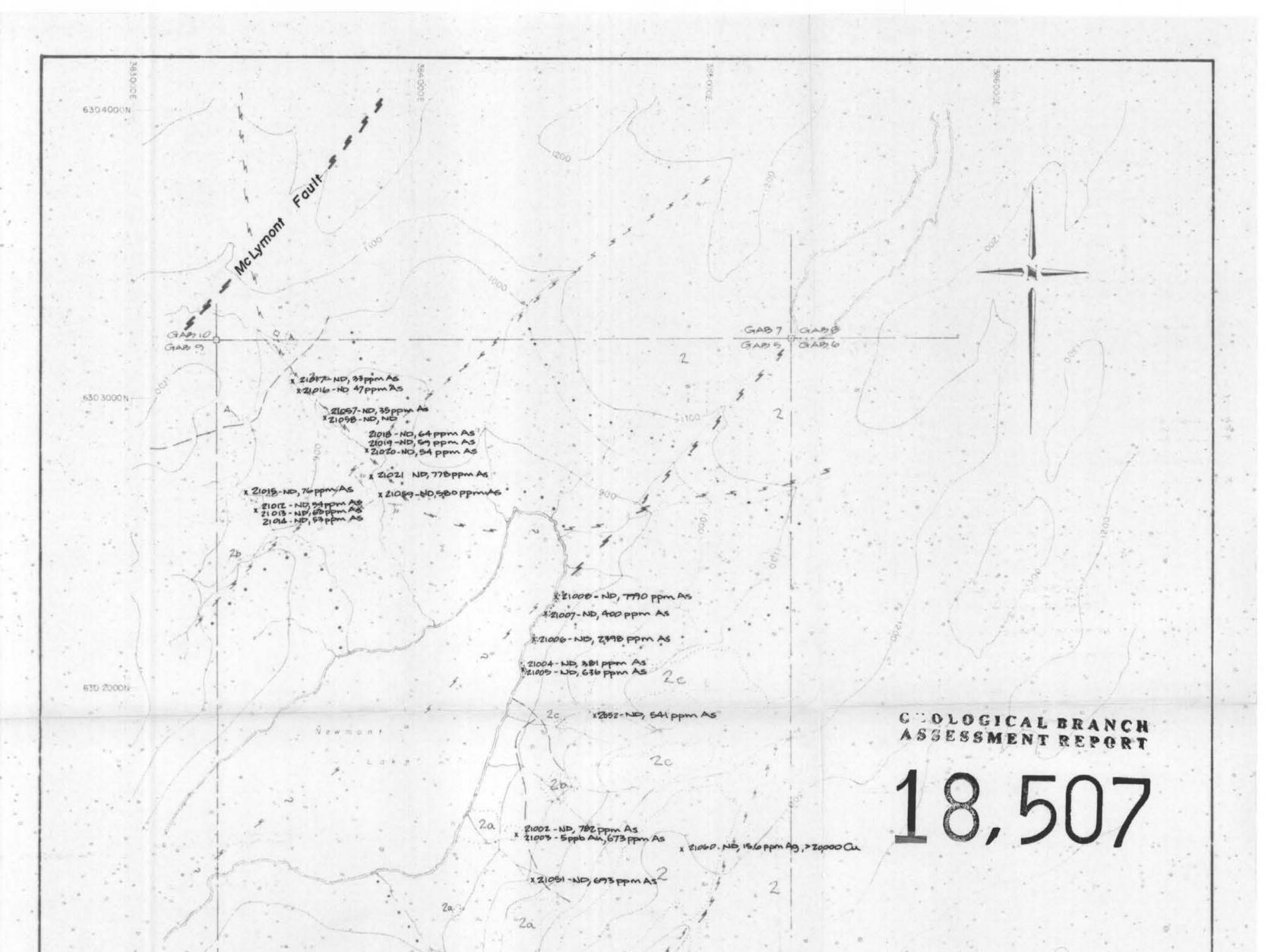
ENGINEER'S CERTIFICATE

I, CHARLES K. IKONA, of 5 Cowley Court, Port Moody, in the Province of British Columbia, DO HEREBY CERTIFY:

- THAT I am a Consulting Mining Engineer with offices at Suite 711, 675
 West Hastings Street, Vancouver, British Columbia.
- 2. THAT I am a graduate of the University of British Columbia with a degree in Mining Engineering.
- 3. THAT I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.
- 4. THAT this report is based on work conducted under my direction in 1988 and on a personal examination of the area in July 1988.
- 5. THAT I have no interest in the property described herein, nor in securities of any company associated with the property, nor do I expect to acquire any such interest.
- 6. THAT I consent to the use by Kirby Energy Inc. of this report in a Prospectus or Statement of Material Facts or any other such document as may be required by the Vancouver Stock Exchange or the Office of the Superintendent of Brokers.

DATED at Vancouver, B.C., this 23 day of <u>Feb</u>	
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Charles K. Ikona, P.Eng.	
and the second se	

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- Limestone, grey 3
- [] syenite (quarte syenite)
- 2a Lithic tuff (aggiomerate)
- [20] Green and purple volcanic flows
- Re Grey porphyritic crystal tuff
 - x Rock chip sample location, number and values

Geologic contact; defined, assur	Scale 1: 10,000
1" - Fault, inferred	KIRBY ENERGY INC.
- strike and dip	GAB 5 CLAIM
- Foliation and dip	GEOLOGY and ROCKCHIP
. Vertical foliation	LOCATION MAP
-P - LCP with claim boundaries	AU, AS LIARD MINING DIVISION, B.C.
 corner post 	
Limits of geologic mapping	PAMICON #711-675 West Hastings St., Vancouver, B.C. V6B 1N4
· · · · · · · · · · · · · · · · · · ·	Geologist: NTS: Date: Dec. 1988 FIGURE: 5