

5444

KEYSTONE EXPLORATIONS LTD.

K & V MINERAL CLAIMS

SAKINAW LAKE AREA, VANCOUVER, M.D.

Long $124^{\circ} 00'$ W, Lat. $49^{\circ} 39\frac{1}{2}'$ N.

92F/9E; 92G/12W

GEOLOGICAL & GEOCHEMICAL REPORT

by

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

VLADIMIR CUKOR, P. ENG. 5444
NO. _____ MAP _____

May 1975

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APPENDIX "B"

KEYSTONE EXPLORATIONS LTD.

K & V MINERAL CLAIMS

SAKINAW LAKE AREA, VANCOUVER, B.C. M.D.

1. INTRODUCTION

This report is prepared on behalf of Keystone Explorations Ltd., and summarizes the geological and geochemical survey conducted by the author.

The writer, accompanied by the company president, has twice visited the property between April 5 and April 10, 1975 while conducting a program for assessment work on the K & V claims. During this period, the old working area, known in the past as the King Midas showings, were mapped in detail in a 1" = 40' scale (see Fig. 3). Two rock samples taken on the main showing confirmed in general the grades reported by the previous authors.

A general geological plan 1" - 500' was prepared for the whole claim area.

Detailed geochemical soil survey was conducted on four lines in the vicinity of the showing area.

2. SUMMARY

2.1 REVIEW

The K & V mineral claims are underlain by the jurassic coast intrusive of granodioritic to quartz dioritic composition.

Chalcopyrite and native copper mineralization, carrying also some silver values, appears in the calcite epidote skarn, as well as in the surrounding intrusive. Most of the mineralization appears as fracture and vug filling, but dissemination in intrusive was also noted. The copper minerals are usually associated with magnetite, specular hematite and pyrite.

A 95 ton shipment of hand picked ore contained 5,166 pounds of copper and 93 oz. of silver for an average grade of 2.72% copper and approximately 1.02 oz/ton silver.

The potassic and propylitic alteration resulted in the appearance of pink K feldspars and also an abundance of such minerals as epidote, chlorite and sericite. Aplite dykes and networks of fractures filled with quartz are wide spread in the area.

A skarn type copper deposit , Cambrian Chieftain, is located approximately three miles easterly from the showings in the similar geological setting.

2.2 CONCLUSIONS

The alteration and mineralization of the King Midas showings are of the kind that elsewhere in the coast intrusive range accompany important porphyry type deposits. Although the showings of copper mineralization are localized in a relatively small area, most of the surface of the surrounding area is overburden covered and little or no work was done apart from the original trenching to locate any further mineral occurrences.

In the writer's opinion, this is a good prospect, where geophysical and geochemical methods should be employed with the emphasis to search for a porphyry copper deposit.

2.3 RECOMMENDATIONS

The property is, in the writer's opinion, a good prospect which warrants a limited program consisting of geochemical and geophysical surveys, followed by trenching in the first stage.

Geochemical survey should be extended over the entire claim area at 200 feet intervals along four hundred feet grid lines. In the anomalous areas, additional 200 ft. lines and 100 ft. sample intervals should be filled in. Grid lines should be cut in N - S direction, more or less, perpendicular to the strike of mineralized zone. A minimum of \$150.00 per mile for linecutting should be allowed, because of the rugged topography and density of the undergrowth.

The induced polarization geophysical survey should be carried out over the areas of anomalous geochemical readings, to assist in finding any larger low grade sulfide bodies. A detailed ground magnetometer survey should assist in locating the extension of the known skarn zone.

An extensive trenching, detailed geological mapping and sampling program, in any anomalous areas, should conclude the first stage of exploration.

If the results of the first phase warrant, a diamond drilling program will be recommended at a later date.

It is also recommended that the company keep in good standing only claims K 7 - 10 and V 1 - 4 for a total of eight (8) mineral claims. Claims K 11 and K 12 should be abandoned as they cover the lake; claims K 1 to K 6 claims are in the area of relatively fresh granodiorite and basalt.

3. PROPERTY

3.1 CLAIMS

The K & V property consists of the following eight (8) contiguous, full size mineral claims

<u>Claim</u>	<u>Record No.</u>	<u>Recording Date</u>
K 7 - 10 incl.	26119 - 26122	April 17, 1974
V 1 - 4 incl.	26125 - 26128	April 17, 1974

These claims were staked by Mr. Watters and sold to Mr. Harold Vannerus, who in turn transferred them to Keystone Explorations Ltd. The author has examined the claim posts in the field, and although the position of the posts somewhat differ from their location on the claim map, the staking appears to be done in accordance with the B.C. Mineral Act.

3.2 LOCATION

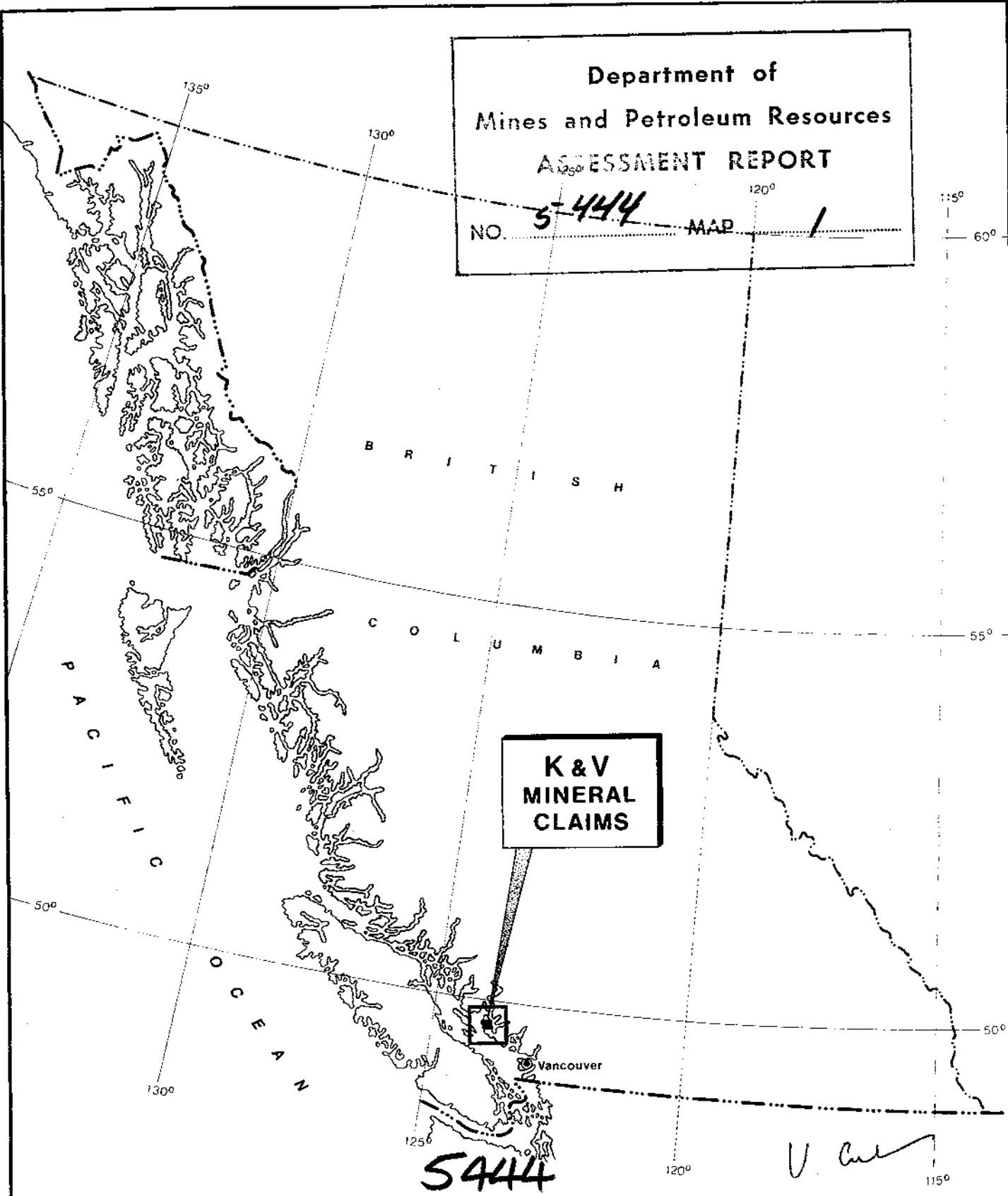
The claims are located on the south shore of Sakinaw Lake, about fifty air miles NW of Vancouver, B.C. on the N.T.S. sheets 92F/9-E and 92G/12-W, in the Vancouver, B.C. Mining Division. The centre of the claims is situated at 49°40' north latitude and 124°00' west longitude. The main workings are on the approximate altitude of 475 ft. with a total relief of 750 ft. The closest settlement is Irvines Landing, 2.5 miles southwest from the property.

3.3 ACCESS

The property is easily accessible from Vancouver by a float plane landing on Sakinaw Lake. It is also accessible by road

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NO. 5-444 MAP 1



KEYSTONE EXPLORATIONS LTD.

MAP 1

K & V MINERAL CLAIMS
LOCATION MAP

VANCOUVER M.D., B.C.

N.T.S. 92 F-9E, 92 G-12W

VLADIMIR CUKOR, P.Eng.

VANCOUVER, B.C.

DATE: April 1975

SCALE: 0 100 Miles

FIG. 1

taking Highway 101 north from Gibsons Landing, for about 44 road miles and then paved road toward Irvines Landing for about two miles. A Forestry dirt road, passable by four wheel drive vehicle provides access to within 300' of the main workings.

3.4 TOPOGRAPHY

The property is situated in rugged country covered with thick underbrush and dense coastal vegetation of cedar, fir, poplar and arbutus. The terrain rises from sea level at Sakinaw Lake, to just slightly over 700 feet at the southwest corner of the K 7 claim. The slopes in general are moderately shallow, but a number of subvertical E - W shear walls from 30 - 50 feet high are developed on various parts of the property.

3.5 CLIMATE

The climate of Sakinaw Lake is coastal which is mild throughout the year with high annual precipitation but only moderate snow falls. Work conditions are generally good throughout the year. Plentiful timber for exploration purposes is readily available on the property, while water might have to be trucked to the working location.

4. HISTORY

The property was known in the past as King Midas showing. Four open cuts were described in the 1937 British Columbia Department of Mines Annual Report and several assays reported, including the following assay of the selected material:
gold 0.02 oz/ton, silver 11 oz/ton and copper 17.2%

In 1940, the 95 ton shipment of ore returned an average assay of 2.72% copper and 1.0 oz/ton silver.

During the field work, the writer found the evidence of past staking that occurred repeatedly from 1961 to 1972, but not much evidence appears of any further work in the vicinity of the original workings.

5. GEOLOGY

5.1 GENERAL

The areal geological mapping was conducted by W.P. Bacon on the 1" to 2 miles scale (B.C.D.M. Bull.39). This map is appended to the report as Fig. 2.

The property area is underlain by the quartz diorite and granodiorite of the jurassic coast intrusive. The older sediments and/or volcanics of the Jervis Group form the $\frac{1}{2}$ mile wide and about six miles long belt, trending N to NNW, which appears immediately next to the western border of the claim group. The smaller occurrence of the same rock type appears on the claim group at the King Midas showing. The Cambrian Chieftain copper deposit lies in the same geological environment only three miles east of the property.

5.2 LOCAL

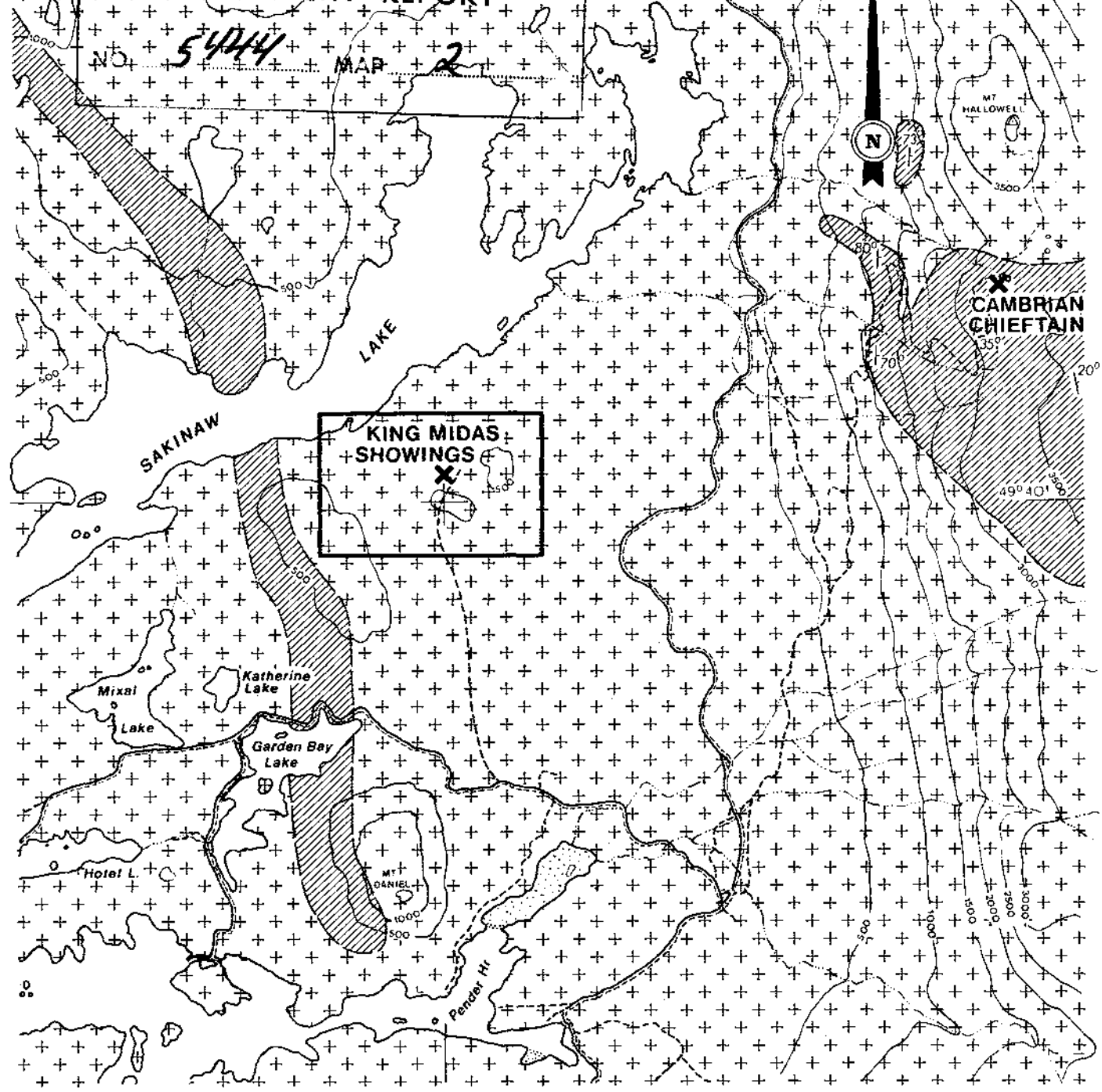
The author has prepared a detailed survey, in 1" = 40' scale, of the immediate showing area (see Fig.4). Intrusive and sedimentary rocks, with a contact metamorphic skarn zone, appear on the plan area.

The intrusive is hydrothermally altered and fractured granodiorite with a stockwork of fractures filled with quartz. The widest spread is a feldspar potassic alteration, which resulted in intense pink colouring of the feldspar. Moderate sericite and chlorite alteration is also noted as well as appearances of epidote along the fractures which increases in

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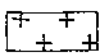
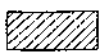

NO. 5444 MAP 2



5444 MAP 2 U. Cule

After: W.R. Bacon, B.C. D.M. Bull. 39

LEGEND

-  COAST INTRUSIVE
Granodiorite and Quartzdiorite
-  JARVIS GROUP
Basalt, Andesite, minor limestone,
Chert, Argillite
-  MINERAL SHOWING

KEYSTONE EXPLORATIONS LTD.

K & V MINERAL CLAIMS

CLAIMS AND GEOLOGY PLAN

VANCOUVER M.D., B.C.

NTS. 92 F-9E, 92 G-12W

VLADIMIR CUKOR, P.Eng.

VANCOUVER, B.C.

DATE: April 1975

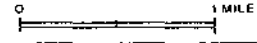
SCALE:  1 MILE

FIG. 2

numbers and intensity toward the contact with sedimentary rocks. In the vicinity of the contact, magnetite and specular hematite also appears in the fractures.

The sediments are of the calcareous type, strongly silicified and fractured. The contact with intrusives is trending approximately N 60°E with about 80 - 85° northerly dip. Bedding is obscured, but a system of fractures subparallel to contact resembles bedding.

A 15 - 20 feet wide skarn zone appears along the sediment intrusive contact. Main skarn minerals are calcite, epidote and garnet with abundance of magnetite and specular hematite. The skarn zone was followed for about 250 feet in length and then disappears under the overburden. Relatively deep overburden also covers the northern sedimentary limit.

The author has also prepared a 1" = 500' outcrop geology map for the claim area (see Fig. 3). Intrusive which appears on this map varies from a medium to coarse grained granodiorite in general fairly fresh, except for the area in the vicinity of the mineral showings. In several localities, the K-feldspar and moderate sericite epidote alterations appear, and also the stockwork of quartz, but no sulfide mineralization was found in any of these places. Magnetite is also locally abundant and produces a rusty hematite stain, which could be mistaken for the potassic alteration of feldspar.

The Jervis group, which appears westerly of the property boundary consists mostly of barren volcanic rocks, andesite and basalt. A chain and Brunton, or pacing and Brunton control was used to locate the features on the map.

5.3 MINERALIZATION

Copper mineralization appears in both skarn and intrusive rock, in a zone explored by trenches and cuts for a total length of over 250 feet.

In the skarn, pyrite and chalcopyrite appears as irregular streaks and blobs along the strong, steep NE - SW trending fracture system. Occasional small occurrences of native copper was also reported in the same rock type.

In the intrusive, the chalcopyrite appears as a stockwork and dissemination and in one occasion it was noted in a strongly brecciated quartz vein.

Chalcopyrite is in general fairly fresh and only minor quantities of copper carbonates were observed.

Although some of the samples were reported to assay fairly high silver, no silver minerals were recognized in any of the examined specimens.

5.4 DESCRIPTION OF MINERAL SHOWINGS

King Midas mineral showings consist of five open cuts at 425 to 475 feet elevation (see Fig.4)).

NO. 5444 MAP 3
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Deep Overburden

dump

dump

ALTERED GRANODIORITE

SKARN ZONE

ALTERED GRANODIORITE

Zone of better mineralization

SILICIFIED CALCAREOUS SEDIMENT

CHIP CHANNEL SAMPLE, 6 ft
 Cu 2.44 % Ag 1.28 oz/t

80°
 FRACTURE WITH MAGNETITE AND CHALCOPYRITE (30 %)

85°
 80°
 FRACTURED GRANODIORITE WITH NETWORK OF QUARTZ VEINS

85°
 QUARTZ VEIN WITH CHALCOPYRITE

60°
 ALTERED GRANODIORITE

FAIRLY FRESH FRACTURED GRANODIORITE

68°
 70°
 APLITE DIKE



LEGEND

- Geological Contact -
 ——— mapped
 - - - - - inferred
- Outline of Outcrop
- Cliff
- Bedding
- Fracture

V. Cukor

KEYSTONE EXPLORATIONS LTD.

K & V MINERAL CLAIMS

KING MIDAS SHOWINGS

VANCOUVER M.D. B.C.

N.T.S. 92 F-9E, 92 G-12W

VLADIMIR CUKOR, P. Eng.

VANCOUVER, B.C.

DATE: April, 1975

SCALE: 1" = 40'

FIG. 4

5444
 MAP 3

The main cut was excavated from north to S30°E, for a length of about 40 feet toward the bluff face 30 feet high, and then turned westerly along the mineralized zone. It crosscuts the silicified sediments and skarn zone which is about 15 - 20 feet wide. The whole skarn zone contains some irregularly distributed low grade chalcopyrite, but the 4 - 6 feet zone along the intrusive contact is strongly mineralized.

Chalcopyrite is mostly associated with epidote and also with the irregular blobs of magnetite and specular hematite. The author's 6 ft. chip channel sample, across the epidote, calcite skarn assayed 2.44% copper and 1.28 oz/ton silver. The sample was taken in a rather conservative manner, avoiding any concentrations of chalcopyrite. The sample containing several pieces of magnetite hematite with chalcopyrite assayed 1.99% copper and 1.02 oz/ton silver. Although some of the previously reported assays of selected material were fairly high, the author's results co-incide in general with the average grade of ore shipment in 1940. These high results are easily understandable as the author obtained several specimens of vein material containing from 30% to over 80% chalcopyrite by visual estimate.

Assays published in the 1937 British Columbia Department of Mines Annual Report are as follows:

<u>Cu %</u>	<u>Au oz/ ton</u>	<u>Ag oz/ton</u>	
10.5	tr.	tr	Grab of better material
17.5	0.02	11.0	Selected mixed cpy - py
0.6	tr.	tr.	Rocks with native cu only

Three more cuts easterly of the main showing were completed in the extension of the same contact zone, but the mineralization seems to be more irregular and of overall lower grade.

About 90 feet westerly of the main cut, chalcopyrite appears as stockworks and dissemination in intensely altered granodiorite. Some chalcopyrite also appears as irregular blobs in epidote, magnetite and specular hematite veins. A reported assay of a selected sample returned: 16.8% copper, 6 oz/ton silver and 0.02 oz/ton gold.

About 30 feet westerly from this cut, a small outcrop of altered granodiorite also contains pyrite and chalcopyrite as fracture filling.

At this most westerly showing, copper mineralization is very irregularly distributed. The highest concentrations occur where dissemination and stockwork type mineralization co-incide with the magnetite-hematite- chalcopyrite veins.

6. GEOCHEMISTRY

6.1 SAMPLING

A total of 41 geochemical soil samples were collected along two hundred ft. lines and at approximately 100 ft. intervals. The samples were taken in the area of known copper mineralization to test the applicability of geochemistry as an exploration tool.

The samples were collected from the shallow holes, chiefly from the brown, oxidized "B" horizon. Where developed, this horizon 1 - 6" thick, lies under a black humus layer and covers the layer of a light coloured soil mixed with rock fragments of weathered bedrock. The "B" horizon consists of a yellowish-brown to dark brown fine grained matrix mixed with coarser quartz grains 1 - 2 mm in size.

6.2 METHOD

Collected soil samples were placed in standard soil sample envelopes, marked and dried up. They were assayed for copper, silver, and zinc in the Vangeochem Laboratories Ltd., which reported to have had them processed as follows:

1. Samples sifted to - 80 mesh
2. Weight used 0.5 g
3. Volume of dilution used 10 ml
4. Extraction by hot HClO_4 and HNO_3
5. Method of analysis - Atomic Absorption spectrophotometry

6. Instrument: Techtron AA4 and AA5

Sample locations are shown on the appended 1" = 500' map and all values are in the assay report (see Appendix "A")

6.3 DISCUSSION OF RESULTS

The writer has not made an attempt to apply statistical methods for establishing the background and threshold values for the property as only 42 samples were collected at this time.

Zinc and silver values in most of the samples are low. Some scattered higher than average readings still remain in the background level, and they do not seem to be directly related to the known mineral exposures. Copper results, however, decidedly confirmed that a geochemical soil survey as an exploration method is fully applicable and further sampling should be carried out over the entire property. By experience the values of over 100 ppm copper should probably be considered anomalous and over 150 ppm copper definitely anomalous. A number of such values were obtained from the showing area and also in its eastward extension.

Respectfully submitted by



May 1, 1975
Vancouver, B.C.

Vladimir Cukor, P. Eng.

APPENDIX "A"

CERTIFICATE OF GEOCHEMICAL ANALYSES



VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 988-2172
AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-


Vladimir Cukor
2841 W 18th Ave
Vancouver BC
Attention:

Report No: 75 01 004 Page 1 of 2
Samples Arrived: April 24, 1975
Report Completed: April 25, 1975
For Project: --
Analyst: E. Tang
Inv# 3255 Lab # 75018

Sample Marking	Cu ppm	Zn ppm	Ag ppm		
L1-S2	--	--	--		No sample sent
S3	24	60	1.2		
S4	31	66	1.0		
S5	147	93	1.6		
S6	80	80	1.6		
S7	--	--	--		No sample sent
S8	38	75	1.0		
S9	28	70	0.8		
L1-S10	26	50	0.9		
L2-S1	190	65	0.8		
S2	135	93	1.2		
S3	45	30	1.7		
S4	75	72	1.2		
S5	15	40	0.6		
S6	31	40	1.0		
S7	45	90	1.0		
S8	24	50	0.7		
S9	9	35	0.2		
L2-S10	50	54	0.6		
L3-S1	--	--	--		No sample sent
S2	30	60	0.7		
S3	53	27	0.5		
S4	35	60	0.6		
S5	50	107	1.2		
S6	--	--	--		No sample sent
S7	105	130	1.2		
S8	60	65	0.8		
S9	32	60	0.8		
L3-10S	23	55	0.9		
L4-S1	275	42	0.8		
S2	140	38	0.6		
S3	35	70	0.6		
S4	54	45	0.9		
S5	28	35	0.4		
S6	205	90	0.8		
S7	195	85	1.0		
S8	80	32	0.8		
S9	75	45	0.8		
L4-10S	71	32	0.6		

MASTER PRINTING LTD.

REMARKS:

Signed: 

% Mo x 1.6683 = % MoS₂ 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million
All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

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-IN ACCOUNT WITH-

Report No: 75 01 004 Page 2 of 2

Samples Arrived: April 24, 1975

Report Completed: April 25, 1975

For Project: --

Analyst: E. Tang

Inv. #3255 Job #75018

Attention:

Sample Marking	Cu ppm	Zn ppm	Ag ppm			
S-1	135	30	0.8			
S-2	43	23	0.6			
S-3/1	55	52	0.9			
S-3/2	48	50	0.6			
S-3/3	48	24	0.5			
S-3/4	65	32	1.0			

MASTER PRINTING LTD.

REMARKS:

Signed:

% Mo x 1.6683 = % MoS₂ 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million
 All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

APPENDIX "B"

FIELD WORK

Name & Occupation	Period	Days	Wages
V. Cukor Geologist	April 5 - 10, 1975	4	700.00
H. Vannerus Prospector	April 5 - 10, 1975	4	240.00
D. Cukor, Helper	April 5 - 10, 1975	4	160.00
Field Expenses & Transportation			<u>100.00</u>
TOTAL FIELD WORK			\$ 1,200.00

REPORT

V. Cukor Geologist	April 20 - 30, 1975	2	350.00
N. Cukor Drafting		1	50.00
M. Kyme Typing		1	40.00
Enlarging topographic map 1" = 500'			150.00
Assays			160.00
Printing, Misc.			<u>30.00</u>
			\$ 780.00

SUMMARY:

FIELD WORK	1,200.00	
REPORT	<u>780.00</u>	\$ <u>1,980.00</u>

AFFIDAVIT

I, VLADIMIR CUKOR, of 2841 West 18th Avenue, Vancouver, B.C.
hereby declare:

In the matter of the K & V Claims, Geological & Geochemical Report, and the list of personnel employed and costs incurred as listed in Appendix "B" of this Report, that I have inspected and/or carried out personally the work and that the information contained in Appendix "B" is true and accurate to the best of my knowledge and belief



VLADIMIR CUKOR, P. ENG.

CERTIFICATE

I, Vladimir Cukor, of 2841 West 18th Avenue, Vancouver, British Columbia, DO HEREBY CERTIFY:

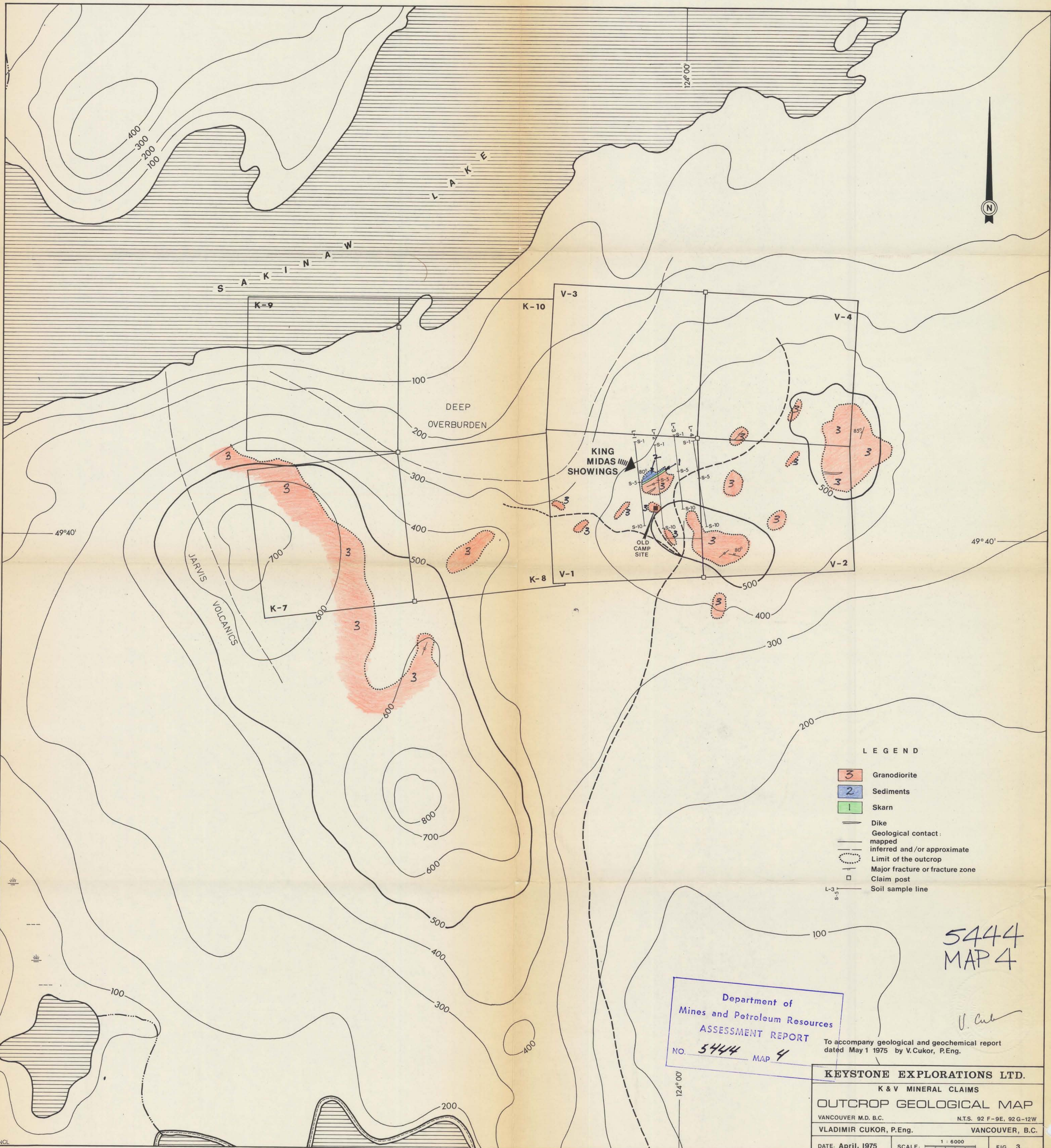
1. That I am a Geological Engineer
2. That I graduated from the University of Zagreb, Yugoslavia in 1963.
3. That I am a Registered Professional Engineer in the Geological Section of the Association of Professional Engineers of the Province of British Columbia.
4. That I have practised my profession as a Geological Engineer for the past 12 years both in Yugoslavia and Canada
5. That I have personally examined the K & V property
6. That I have no interest directly or indirectly in any of the securities or properties of KEYSTONE EXPLORATIONS LTD. nor do I expect to acquire or receive any.
7. That I consent to the use of this report for the KEYSTONE EXPLORATIONS LTD. prospectus.

V. CUKOR, P. ENG



Dated at Vancouver, B.C. this

day of May 1975



5444
MAP 4

V. Cukor

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5444 MAP 4

To accompany geological and geochemical report
dated May 1 1975 by V.Cukor, P.Eng.

KEYSTONE EXPLORATIONS LTD.	
K & V MINERAL CLAIMS	
OUTCROP GEOLOGICAL MAP	
VANCOUVER M.D. B.C.	N.T.S. 92 F-9E, 92 G-12W
VLADIMIR CUKOR, P.Eng.	VANCOUVER, B.C.
DATE: April, 1975	SCALE: 1 : 6000 500 FEET
	FIG. 3