MAP No.

115 0 11

ASSESSMENT REPORT [X]
PROSPECTUS [ ]
CONFIDENTIAL [X]
OPEN FILE [ ]

DOCUMENT NO.: 091941

MINING DISTRICT: DAWSON

TYPE OF WORK: PRELIMINARY GEOLOGICAL REPORT

REPORT FILED UNDER: Volcano Resources Corp.

DATE PERFORMED: Oct. 5-7/85 Aug. 12-16/86 DATE FILED: April 3, 1987

LOCATION		AREA:
LAT.	63°40'N	INDIAN RIVER AREA
LONG.	139°07'W	

CLAIM NAME & NO.

KEY 1-12 YA87792-YA87803
KEY 14, 16 YA87804, YA87805
KEY 17, 18 YA87818, YA87819
KEY 19-28 YA87808-YA87817
KEY 29-38 YA87820-YA87829

VALUE $ 3,600.00

WORK DONE BY: D.H. Waugh

WORK DONE FOR: Volcano Resources Corp.

DATE TO GOOD STANDING

REMARKS: KEY # 115

A PRELIMINARY GEOLOGICAL EVALUATION REPORT

on the

KEY 1-12, 14, 16-38 Quartz Claims

McKinnon Creek - Indian River Area
N.T.S. 115-0-11
Dawson Mining District
Yukon Territory
Latitude: 63°40'
Longitude: 139°07'

For:
VOLCANO RESOURCES CORP.
Suite 502 - 595 Howe Street
Vancouver, B.C.
V6C 2T5

By:
D. H. WAUGH, Geologist

March 1987

091941

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as exploration work in the amount of $3600.00.

D B Emond

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

TABLE OF CONTENTS

APPENDICES

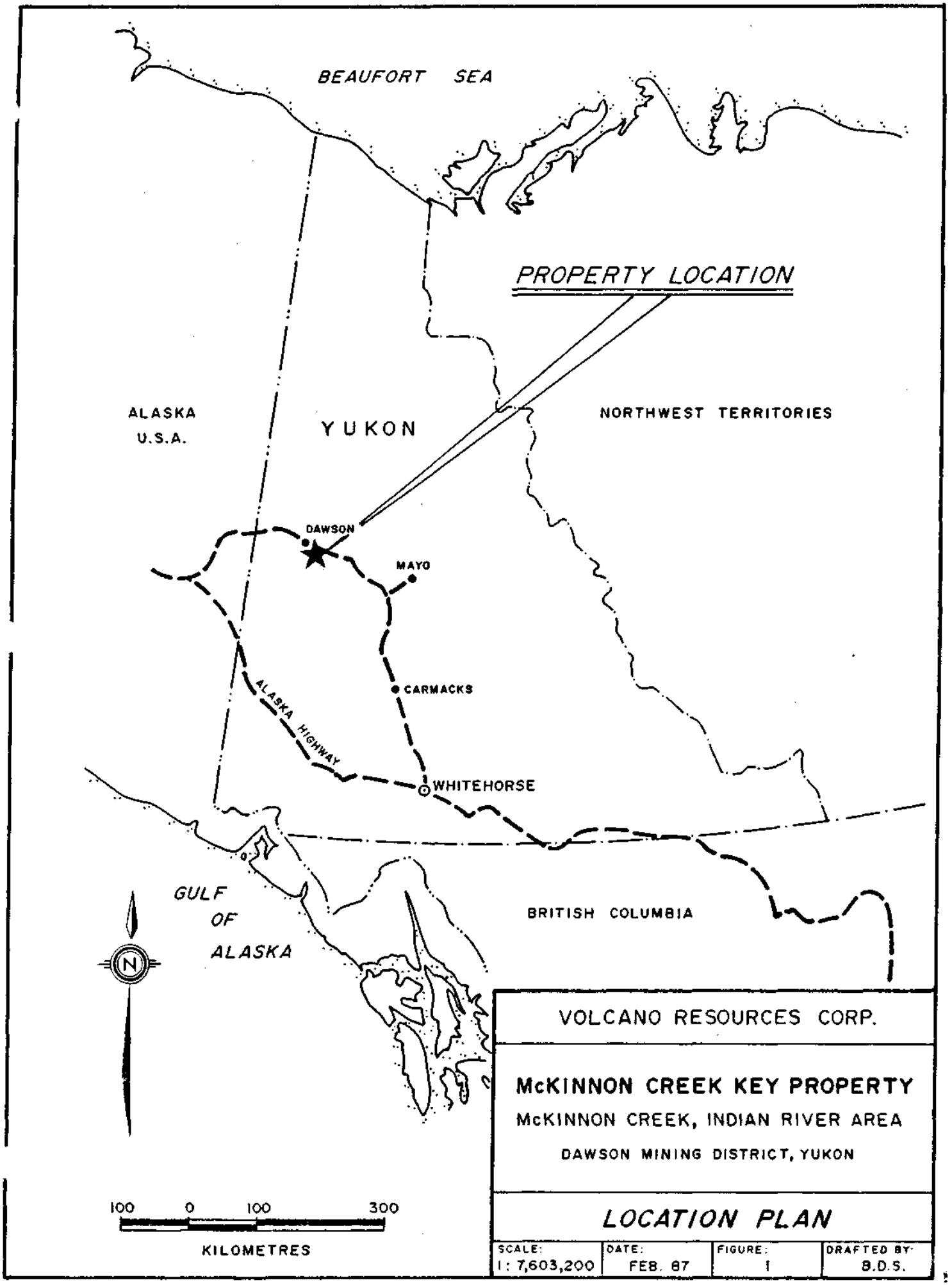
SUMMARY

The KEY claims 1-12, 14 and 16-38 are located about 40 kilometers southeast of Dawson City in west-central Yukon. The property is presently held under option by Volcano Resources Corp. and has been expanded since the work described in this report was conducted to include another 87 contiguous mineral claims, for a total of 123.

The property is accessible by road and the logistics involved in exploration and development are good. Since the early 1900's, exploration has included numerous trenches, three adits and three shafts and, more recently, three percussion holes and seven diamond drill holes, of which only four were systematically sampled and assayed for gold. Limited sampling, geological mapping, soil sampling and an airborne magnetometer survey were conducted in recent years.

Recent investigations and sampling by the writer of old workings confirmed the presence of visible gold in the Indian River Conglomerates. However, sampling of old trenches, rock dumps and one short (20') adit on the Brittania claim failed to provide strongly supportive gold assays. Rock dumps around old workings might best be described as waste rock dumps and it is reasonable not to expect ore grade values from samples taken from these sites. Silicification in the vicinity of some of the old workings suggests hydrothermal alteration and the potential for a Carlin-type low-grade gold deposit. Further, the black conglomerate "McKinnon Conglomerate Unit" is considered a favourable host for an epigenetic hydrothermal type gold deposit.

A program of line cutting, ground magnetometer and EM-16 electromagnetic survey followed by diamond drilling is recommended to test the auriferous conglomerates for concentrations of gold.



VOLCANO RESOURCES CORP.

McKINNON CREEK KEY PROPERTY

McKINNON CREEK, INDIAN RIVER AREA

DAWSON MINING DISTRICT, YUKON

LOCATION PLAN

SCALE:	DATE:	FIGURE:	DRAFTED BY:
1 : 7,603,200	FEB. 87	1	B.D.S.

INTRODUCTION

This report is written as a follow-up to a property evaluation of the McKinnon Creek KEY claims and a representation work requirement. Fieldwork was conducted during the periods of October 5-7, 1985 and August 12-16, 1986 by the writer and partly by Esso Resources staff geologist Paul McGuigan and assistant. The property evaluation also included a study of available data on previous and recent exploration programs conducted on the property.

The purpose of the study and examination of the claim group was to evaluate previous and recent results and propose an exploration program that would best determine the economic potential of the property.

PROPERTY AND OWNERSHIP

The property consisted of 36 contiguous quartz claims held by location at the time the evaluation study and property examinations were conducted.

The claims are located on Claim Sheet 115-O-11 and are as follows:

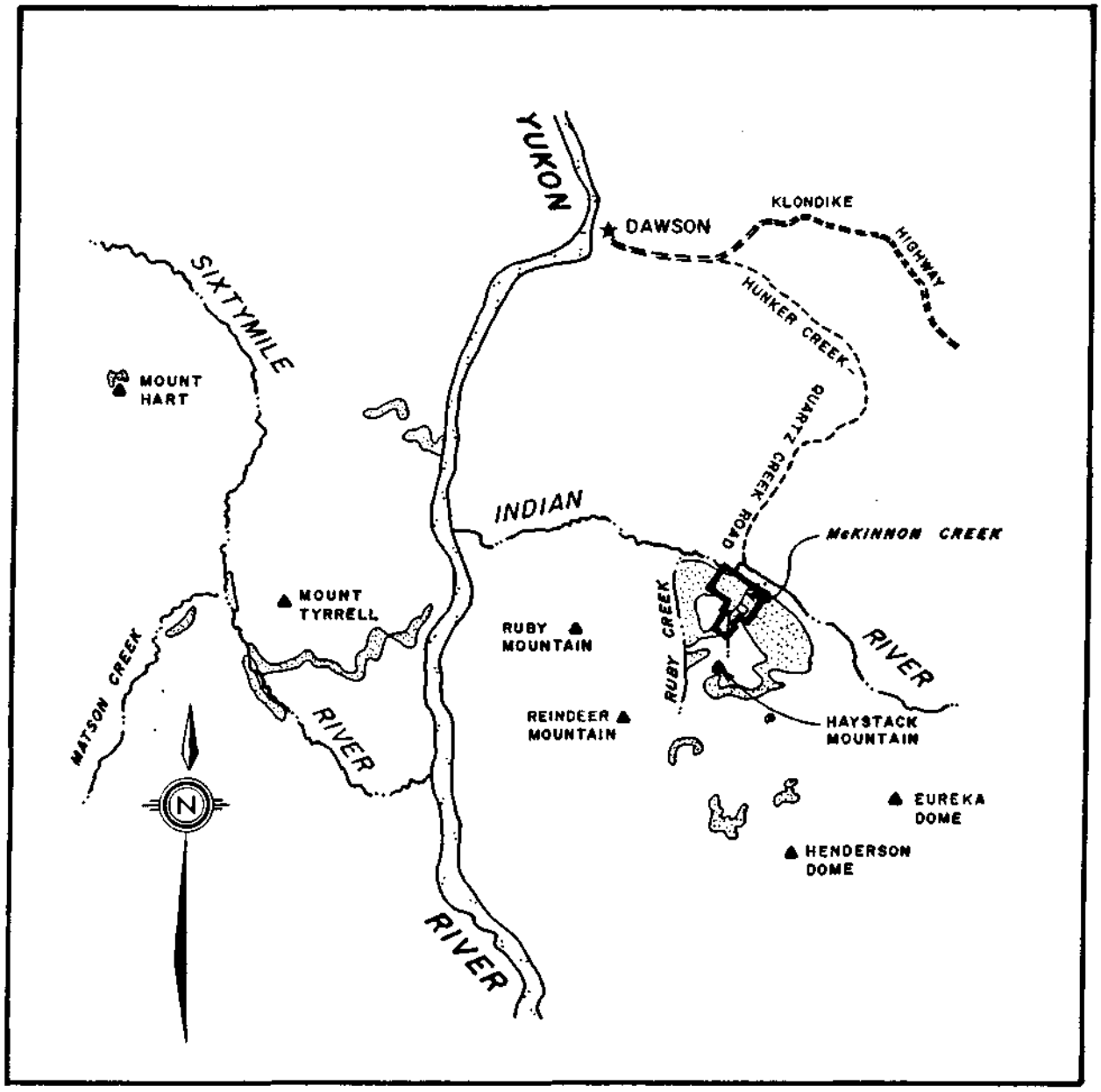
Claim Number	Record Number	Expiry Date
KEY 1-12 incl.	YA87792-YA87803 incl.	4 October 1987
KEY 14, 16	YA87804, YA87805	4 October 1987
KEY 17, 18	YA87818, YA87819	7 October 1987
KEY 19-28 incl.	YA87808-YA87817 incl.	7 October 1987
KEY 29-38 incl.	YA87820-YA87829 incl.	7 October 1987

The claims are currently in good standing, subject to acceptance of this report, and are held under option by Volcano REsources Corp. of 502-595 Howe Street, Vancouver, B.C., V6C 2T5.

LOCATION AND ACCESS

The KEY claims are located along McKinnon Creek near its confluence with the Indian River - a distance of about 40 kilometers southeasterly from Dawson City, in the Dawson Mining District, Yukon Territory, at latitude 139°7' and longitude 63°43'.

The property is accessible by road along a good government-maintained gravel road that leads from Dawson via the Upper Bonanza Creek road or via the Hunker Creek road to the junction of the Quartz Creek road - a



DISTRIBUTION OF CLASTIC SEDIMENTARY ROCKS

FROM: G.W. LOWEY, 1984

5 0 10

KILOMETRES

VOLCANO RESOURCES CORP.

McKINNON CREEK KEY PROPERTY

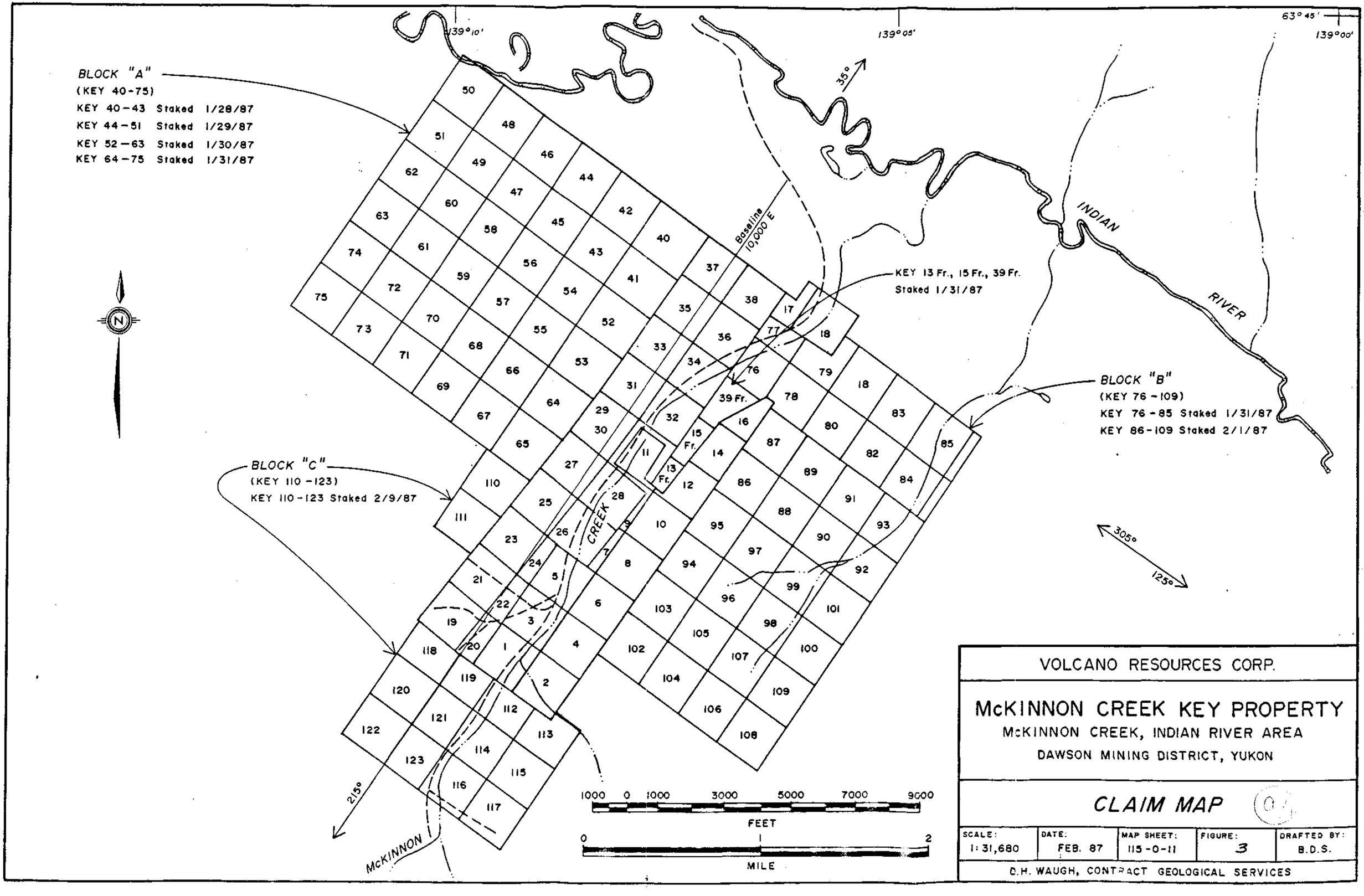
McKINNON CREEK, INDIAN RIVER AREA

DAWSON MINING DISTRICT, YUKON

CLAIM LOCATION MAP

SCALE:	DATE:	MAP SHEET:	FIGURE:	DRAFTED BY:
1:250,000	FEB. 87	115-O-11	2	B.D.S.

D.H. WAUGH, CONTRACT GEOLOGICAL SERVICES



VOLCANO RESOURCES CORP.

McKINNON CREEK KEY PROPERTY

McKINNON CREEK, INDIAN RIVER AREA

DAWSON MINING DISTRICT, YUKON

CLAIM MAP

SCALE:	DATE:	MAP SHEET:	FIGURE:	DRAFTED BY:
1:31,680	FEB. 87	115-O-11	3	B.D.S.

D.H. WAUGH, CONTRACT GEOLOGICAL SERVICES

distance of about 29 kilometers and 34 kilometers respectively. The Quartz Creek dirt road is periodically maintained by placer miners and leads to the Indian River over a distance of approximately 11 kilometers. A bulldozer trail leads up the south bank of the Indian River then up McKinnon Creek to the field camp - a distance of 7 kilometers from the ford at the Indian River crossing near the confluence of Quartz Creek. This section of road requires upgrading to provide year-round access by 4x4 vehicles.

In addition, the property is accessible from Dawson City by helicopter.

TOPOGRAPHY AND CLIMATE

The elevation of the claims varies between 460 and 730 meters above sea level. Most of the property is occupied by gentle slopes. Grades steepen somewhat in the vicinity of McKinnon Creek along the east bank of the valley.

Winters are usually cold with moderate to light snowfall and temperatures ranging from lows near -45°C and highs to -10°C, averaging around -25°C. The summers are temperate with long, warm, sunny days and temperatures ranging from about 10°C to as high as 30°C, averaging about 20°C.

Rainfall is usually light and the region can be classified as semi-arid.

HISTORY

The Indian River-McKinnon Creek conglomerates were first discovered and staked for gold by the MacKinnon brothers, Donald and Archibald, in 1899. They held and worked their prospect, covered by the Brittania and Andromeda claims, for the ensuing twenty-odd years, exploring for gold in the conglomerates by trenching, sinking shafts and driving adits. A small mill was erected on the Britannia claim and several small shipments of 'ore' were sent to outside mills for testing. In 1902, a government mill-run of two tons averaged $2.24 per ton at $20.00 per ounce gold. In the Dawson Daily News article dated March 3, 1919 a Mr. Chris Fothergill reported on the Indian River conglomerate deposits quoting values from a number of assay reports ranging from trace to a high of 48 ounces of gold per ton, with the average tenor being about 0.35 ounces/ton. At the peak of activity over 3,000 claims were staked to cover the conglomerates.

During the 1930's and 1940's attempts to raise money to test the conglomerates failed. In 1968 Cominco held the MacKinnon prospect and conducted limited mapping and surface sampling, and reported values ranging from trace to 0.10 ounce per ton gold.

Yukon Revenue Mines reported assay results from grab samples taken in 1974 that ranged from trace to 0.07 ounces per ton. In 1975 three Becker drill holes (percussion) were put down on the KIN claims. No samples were taken for assay, thus leaving the results of this work inconclusive. Cyprus Anvil Mines drilled three NQ size holes on a coal permit that covered the KIN claims held by Yukon Revenue. This drilling intersected one four-foot coal seam and 34 meters of conglomerate. The coal was of poor quality and the conglomerate was not analyzed.

GEOLOGY

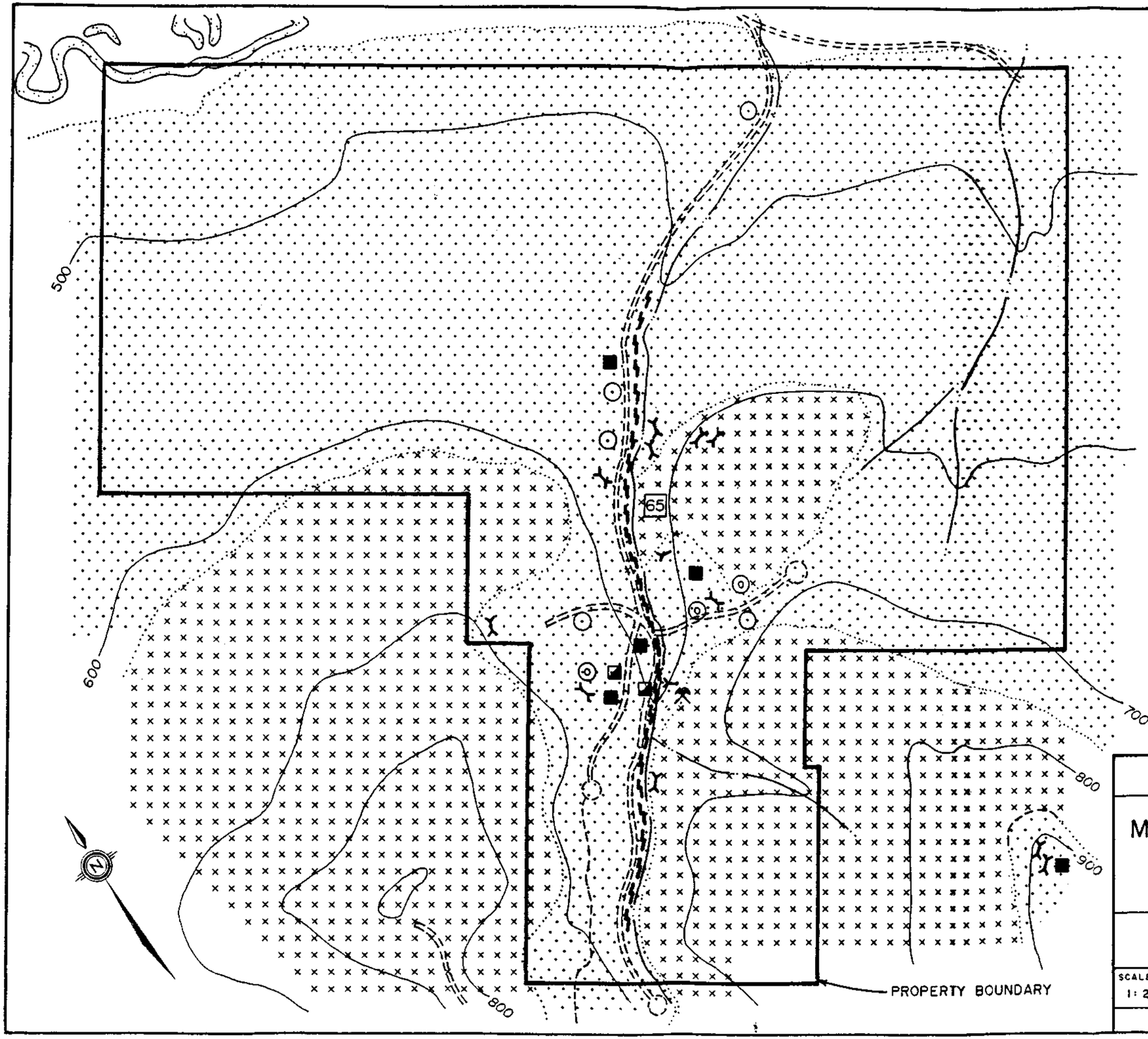
The dominant rock type of the prospect, and the only one from which gold values were reported, is a clast-supported, upward-finning, conglomerate horizon in a clastic sequence which exceeds 500 meters in thickness.

Prior to Bostock's work, McConnell (1905) and MacLean (1914) had examined the auriferous conglomerates in the Indian River area. The KEY claims are located within the area mapped by H. S. Bostock between 1935 and 1937 and published in 1942 as Map 711A, Ogilvie. Bostock describes the area as underlain by Precambrian gneiss, schist, quartzite, slate and limestone of the Yukon Group along with gneissic granite and ultrabasic units. Both younger clastics (conglomerate, sandstone, shale, coal) and volcanics (andesite, dacite, rhyolite, tuff and agglomerate) overlie the Precambrian units.

Mr. G. W. Lowey, as part of a Doctorate thesis requirement, studied the stratigraphy and sedimentology of the siliciclastic rocks of the Indian River-McKinnon Creek area and published his findings in June 1984. Lowey describes the Indian River Formation as an interbedded sandstone, shale, conglomerate unit with minor coal.

The unit is light-grey to dark grey-green and black and poorly indurated. Data presented by Lowey demonstrates that these rocks are Lower Cretaceous (Albian) in age and of fluvial and fan-delta origin rather than just fluvial as reported by Bostock (1942).

Along McKinnon Creek, the conglomerates have been tested over the years by numerous pits and trenches and by at least three adits and four shafts. All but one adit on the old Brittania claim, now covered by KEY 5, are presently inaccessible. One shaft, the Winchester, also located on KEY 5, remained in volcanic rocks for its



LEGEND

RECENT
Unconsolidated alluvial deposits

PALEOCENE AND UPPER CRETACEOUS
Carmacks Group – Haystack Andesite:
andesite and minor dacite, porphyritic; light- to dark-green, weathering light-green-brown

LOWER CRETACEOUS
Indian River Formation: interbedded sandstone, shale, conglomerate and minor coal; light-grey to black, weathering light-grey

Geologic boundary (approximate, assumed)

Fault (assumed)

Mine (Gold Mine)

Diamond drill hole, Rotary drill hole

Shaft

Adit

Trench

Building

Trail (bulldozer, foot)

65 Radiometric age (millions of years)

500 0 750
METRES

FIELD WORK BY G.W. LOWEY, 1981, 1983.

VOLCANO RESOURCES CORP.

McKINNON CREEK KEY PROPERTY

McKINNON CREEK, INDIAN RIVER AREA

DAWSON MINING DISTRICT, YUKON

GEOLOGY MAP

SCALE:	DATE:	MAP SHEET:	FIGURE:	DRAFTED BY:
1:25,000	FEB. 87	115-O-11	4	B.D.S.

D.H. WAUGH, CONTRACT GEOLOGICAL SERVICES

reported 50-foot length. Gold values were reported from three locations: the Brittania, the Arctic and the Andromeda workings.

Seven widely-spaced diamond drill holes and three percussion holes were drilled on the property in the mid-'seventies and in 1980 by Dome Exploration, Yukon Revenue and Cyprus Anvil (coal exploration). The four Dome holes failed to intersect gold in economic concentrations; the three Yukon Revenue holes (percussion) were panned but not assayed; and the three Cyprus Anvil holes were logged and tested for coal only. See Figure 4 for drill hole locations.

There are two distinct varieties of the Indian River Conglomerate;these are described by G. Lowey as part of the Upper Ruby Quartz Member. The Ruby Quartz Member is at least 450 meters thick and coarse-grained clastics are characterized by vein quartz and metamorphic rock fragments. The Ruby Quartz Member is subdivided by Lowey into the McKinnon Conglomerate Bed that measures roughly 25 to 30 meters thick; it is characterized by a black, fine-grained graphite matrix. This conglomerate is found on the KEY 5 claim in the vicinity of the Andromeda shaft and adit locations. The White Conglomerate unit is light to medium-grey, sandy and siliceous, pebble to cobble gravel, and forms medium to thick massive beds.

MINERALIZATION

The gold in the Indian River-McKinnon Creek area occurs as very fine-grained (silt size) particles and occasionally coarser, and appears to be disseminated throughout the matrix of the conglomerates that are exposed along portions of the Indian River and McKinnon Creek valleys and surrounding slopes. Gold in the conglomerates varies from trace to 0.100 ounces per ton. Visible gold has been found by the writer while cutting samples with a diamond saw. Free gold is apparently associated with increased induration and/or silicification of the conglomerates.

The auriferous conglomerates of McKinnon Creek show both placer and Carlin-type deposit characteristics. The proximity of the felsic to intermediate volcanic intrusives, extensive alteration (silicification, etc.) and fineness of the gold particles point to an epigenetic, epithermal origin for the gold.

The concentration of shaft and tunnel work near the McKinnon Creek valley further indicates that better gold concentrations, as reported to be found at the 60-foot depth of the Brittania shaft, might be located adjacent to the McKinnon Creek (fault) lineament. The gold therefore could have been preferentially precipitated near the carbonaceous-rich McKinnon Conglomerate Bed or "Black Conglomerate" since finely disseminated or "invisible" type gold deposits are known

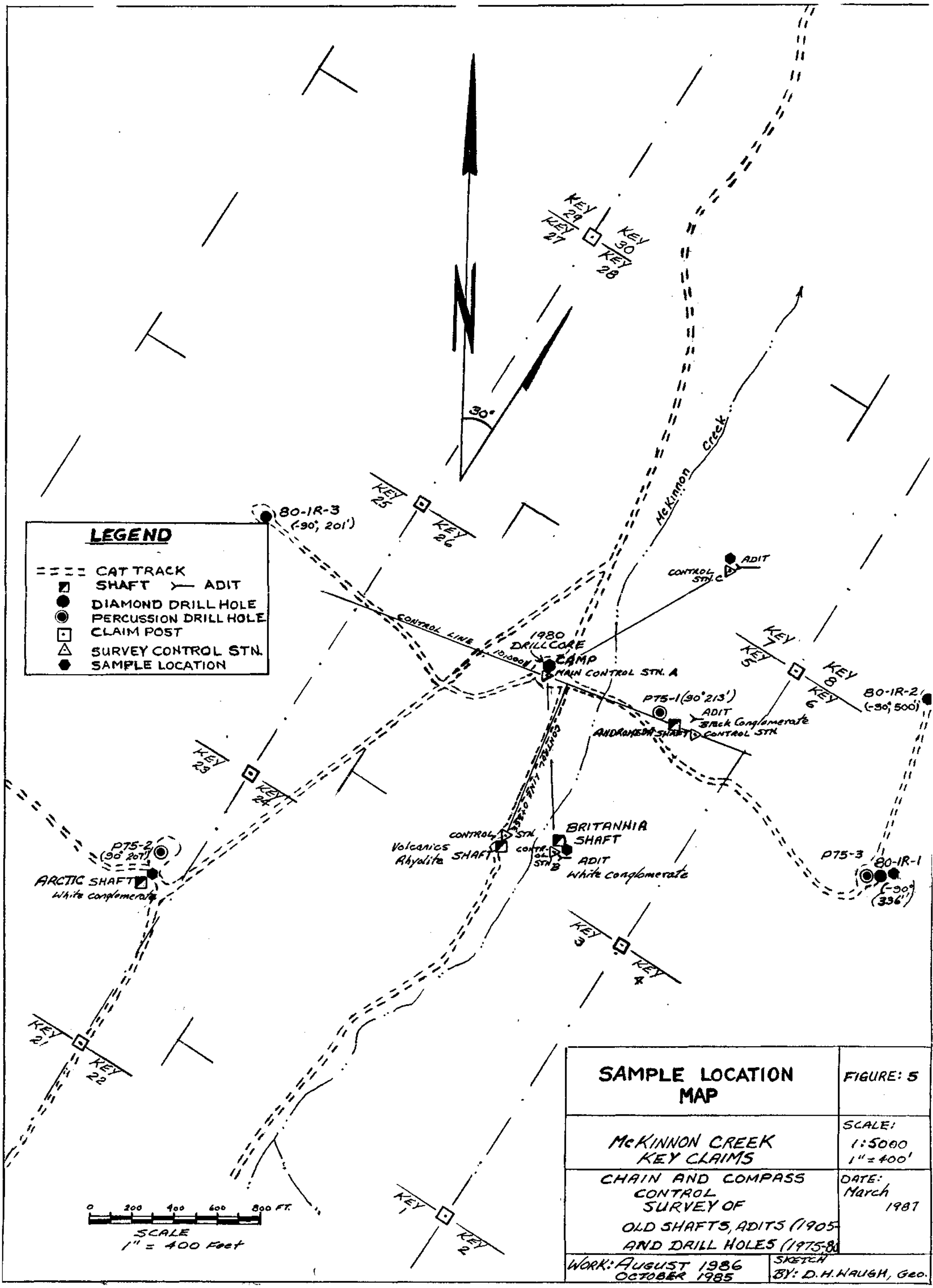
to be associated with carbonaceous rock formations. Gold might have been introduced by intrusive fluid action (magnetic origin) or remobilized from the sedimentary units (detrital origin) and precipitated in favourable horizons of the same sedimentary rock sequence where economic concentrations may be found.

SURVEY

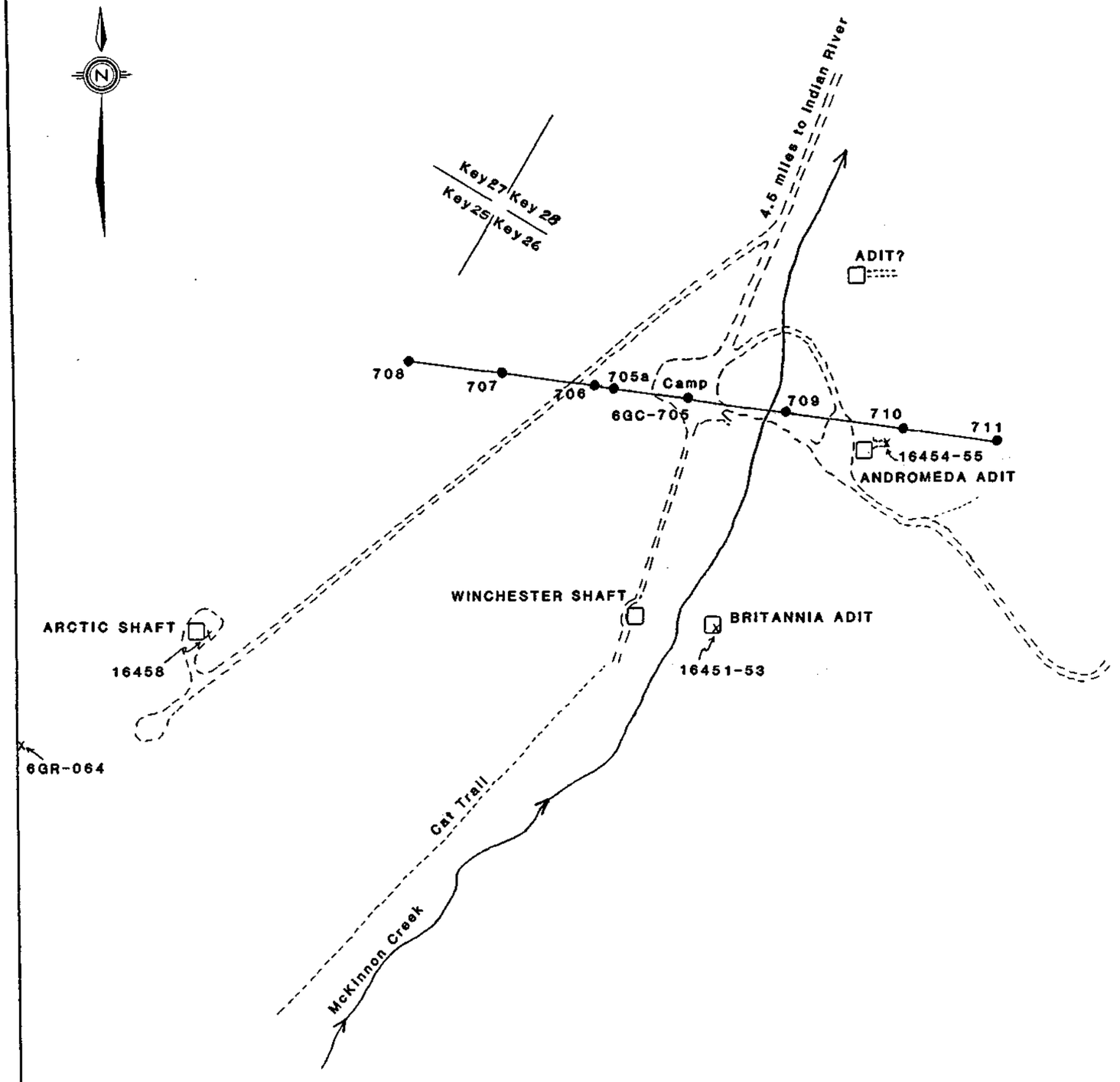
The author examined the old workings, shafts, adits, trenches, drill core and dumps in October 1985 and August 1986. Esso Resources' geologist Paul McGuigan visited the KEY claims in August of 1986 and also examined and sampled these same old workings. In all, 34 samples were taken by the author and analyzed by Bondar-Clegg of Vancouver for gold and six samples for silver. Esso geologists collected 37 rock, 9 rock geochem and 13 soil geochem samples and analyzed them at Min-en Laboratories Ltd. of Vancouver. Esso's rock samples were analyzed for gold and silver; rock geochem samples were analyzed for silver, arsenic, gold, bismuth, mercury and antimony; soil geochem samples were analyzed for barium, copper, moly, lead, zinc, tin and tungsten.

Most sample locations are shown on Figures 5 and 6 accompanying this report. Included in Appendix I are copies of rock and core assays and soil geochemical analyses.

Control was provided by a chain and compass survey in the area encompassing the old shafts and adits. A reconnaissance magnetometer survey was also conducted over control lines 10,000N and 0+35E (see Figure 5) to determine the feasibility of utilizing a magnetic survey to assist in mapping geological contacts between the moderately magnetic volcanics and weakly magnetic sediments. It was concluded that a ground magnetometer survey, in conjunction with an electromagnetic survey, would be a suitable method of delineating favourable drill targets as well as assisting in mapping geological boundaries. Maximum magnetic relief in the area of the old workings was 400 gammas. 1985 and 1986 samples of core from the rock dumps, trenches and the Brittania adit all returned low values in gold. Assays ranged from trace to 0.006 ounces per ton. However, one sample (number 9776) taken from the rejects of a conglomerate specimen which contained visible free gold assayed only <0.002 ounces per ton. This indicates the random nature of the gold distribution in the rock and the need for careful sampling and the taking of large bulk samples to determine the tenor of these conglomerates. In addition, it is worth mentioning that it is unlikely for one to expect to find good values in the rock dump material from the old workings since pay material would almost certainly have been milled or sent for assay, or at least removed from the dump to an ore pile or storage place of sorts. Also, values of ore grade material reported in the old literature from the Brittania claim were taken from a shaft depth of 60 feet. This old working is completely inaccessible and confirmation of these values could not be made. Reopening the shaft or drilling in the immediate vicinity of the shaft is required.



SAMPLE LOCATION MAP	FIGURE: 5
McKINNON CREEK KEY CLAIMS	SCALE: 1:5000 1" = 400'
CHAIN AND COMPASS CONTROL SURVEY OF OLD SHAFTS, ADITS (1905-) AND DRILL HOLES (1975-80)	DATE: March 1987
WORK: AUGUST 1986 OCTOBER 1985	SKETCH BY: D. H. HAUGH, Geo.



SCALE
1" = 400ft

ESSO MINERALS CANADA

INDIAN RIVER AREA
KEY CLAIMS
SAMPLE LOCATIONS

Yukon Project Generation
for David Waugh 1986

Project MD-02	Figure: 6
NTS: 115O/11	By:KD
Date: Nov. 22/86	Mining Div: Dawson

CONCLUSIONS

Gold has been found in the Indian River-McKinnon Creek conglomerates at several locations. The concentration of old workings, particularly shafts and adits, in the McKinnon Creek valley indicates a possible spatial relationship between the auriferous conglomerates and tectonic-volcanogenic activity along the creek lineament. The black conglomerate unit is considered a favourable host for an epigenetic, hydrothermal type gold deposition. Silicification in the vicinity of Arctic shaft and the adit (Andromeda?) located on the KEY 7 claim further points to hydrothermal alteration and the potential for a Carlin-type low-grade gold deposit occurring on the property.

RECOMMENDATIONS

- Expand the claim group to include favourable areas where the favourable host auriferous conglomerates are known to outcrop. This will require approximately 80 to 100 new claims (see Figure 3).

- Establish a reconnaissance and detailed grid of about 50 km total (see Figures 7 and 8).

- Conduct a ground magnetometer survey and EM-16 electromagnetic survey over the grid.

- Carry out 2,000 feet of diamond drilling in the vicinity of the Brittania and Andromeda shafts and test any coincident, geophysical-geological targets that are disclosed.

15'

10'

05'

139°00'

63°45'

L 35

LOT 20

LOT 21

LOT 13

INDIAN

RIVER

LINE

N

30°30'

10,000E BASE

10,000N

CREEK

McKINNON

PROPOSED 1987 "KEY CLAIM" GRID PLAN AND PROPERTY EXPANSION

N.T.S: 115-O-11

SCALE 1:31,680

1000 0 1000 3000 5000 7000 9000

FEET FEET

0 1 2

MILE MILE

FIGURE 7

9,000E

9,500

10,000 E

10,500

11,000

11,500E

9,000 N

9,500

10,000N

10,500

11,000

11,500

12,000 N

35°

A PROPOSED PLAN MAP For A KEY GRID

MCKINNON CREEK-
INDIAN RIVER AREA

CLAIM SHEET 115-0-11
DAWSON MINING DIST.
YUKON

FIGURE: 8

SCALE 1:10,000

100 50 0 100 200 300 400 Meters

D. H. Z., January, 1987

COST ESTIMATES

PHASE I

Additional staking: 100 @ $50/claim	$ 5,000	
Grid: 50 km @ $400/km	20,000	
Magnetometer survey: 40 km @ $350/km	14,000	
EM-16 electromagnetic survey: 50 km @ $350/km	17,500	
10% contingency	5,500	$62,000

PHASE II

Diamond drilling - HQ core size: 2,000 feet @ $28/foot	$56,000	
Mobilization, camp support, fees, wages, assays, reports, transportation, misc.	42,000	
10% contingency	9,800	107,800

PHASE III (contingent on favourable Phase I results)

Diamond drilling - HQ core size: 2,000 feet @ $28/foot	$56,000	
Wages, camp support, etc., demobilization	28,000	
10% contingency	8,400	92,400

THREE-PHASE TOTAL	$262,200

STATEMENT OF QUALIFICATIONS

I, **DAVID H. WAUGH**, of 118 Alsek Road, Whitehorse in the Yukon Territory, do hereby state that:

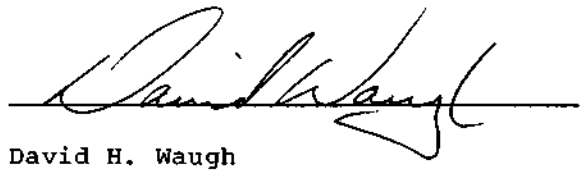
1. I have practised my profession as an exploration geologist for 23 years.

2. I was educated at Michigan Technological University, class of 1964, and majored in geological engineering.

3. I personally conducted the property evaluation work on the KEY quartz claim property during October 1985 and August 1986, which property is held under option by Volcano Resources Corp.

4. The observations, conclusions and recommendations made in this report are those of my own unless otherwise disclosed.

DATED at Whitehorse, Yukon, this 27th day of March 1987.



David H. Waugh

COST STATEMENT

Casual Labour	
G. Harris: 4 days @ $150/day	$ 600.00
B. Waugh: 6 days @ $100/day	600.00
Geologist Fees	
D. Waugh: fieldwork, report, drafting: 15 days	3,750.00
Disbursements	
TRANSPORTATION: 4x4 3/4 ton truck rental: 5 days	650.00
Car rental: 15 days	375.00
Helicopter charters	817.60
ACCOMMODATION AND FOOD: hotel, groceries, restaurant	300.26
RENTAL EQUIPMENT: magnetometer, ATC, trailer	1,250.00
ASSAYS: 80 rock samples/13 soil samples	1,367.10
SUPPLIES: gasoline, flagging, thread, etc.	157.01
REPRODUCTION: photocopying, map reproduction	77.03
MISCELLANEOUS: office supplies, report, etc.	56.00
Note: Cost of salaries, meals, ground transportation, etc. for Esso geologists are not included in this cost statement.	
Total	$9,700.00

Cost per claim is: $9,700 ÷ 36 = $270.00

APPENDIX I

APPENDIX I

BIBLIOGRAPHY

Bostock, H. S.	1936	Carmacks District, Yukon: Geol. Survey. Can. Mem. 189.
Bostock, H. S.	1942	Ogilvie, Yukon Territory: G.S.C. Map 711A.
Tully, D. W., P.Eng.	1974	"KIN No. 1-16 Claim Group, McKinnon Creek, Indian River Area, Dawson Mining District, Yukon Territory."
Armstrong, W. P.	1969	"Geological Report on MAC Group 1-16 for Cominco Ltd."
Adamson, J. A.	1980	"Drilling Report, Coal Licence 101, Cyprus Anvil Mining Corporation."
Lowey, G. Wm.	1984	"The Stratigraphy and Sedimentology of Siliciclastic Rocks, West-Central Yukon, and their Tectonic Implications" - PhD thesis.

APPENDIX II

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R5
Phone: (604) 985-0681
Telex: 04-352667

BONDAR-CLEGG

Certificate of Analysis

REPORT: 425-3819

PROJECT: NONE GIVEN PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Ag OPT
R2 9776		<0.002	<0.02
R2 9777		0.002	
R2 9778		<0.002	
R2 9779		<0.002	
R2 9780		0.002	
R2 9781		0.002	
R2 9782		<0.002	
R2 9783		0.005	
R2 9784		<0.002	<0.02
R2 9785		0.002	
R2 9786		<0.002	<0.02
R2 9794		<0.002	<0.02
R2 9795		<0.002	<0.02
D2 9787		0.002	<0.02
D2 9788		<0.002	
D2 9789		<0.002	
D2 9790		0.002	
D2 9791		<0.002	
D2 9792		<0.002	
D2 9793		<0.002	

D.D.H IR-01 (1980)

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R5
Phone: (604) 985-0681
Telex: 04-352667

Certificate of Analysis

REPORT: 426-6290

PROJECT: NONE GIVEN PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au OPT
P4 23553		0.003
P4 23554		0.004
P4 23555		0.003
P4 23556		0.003
P4 23557		<0.002
P4 23558		<0.002
P4 23559		0.002
P4 23560		0.003
P4 23561		0.005
P4 23562		0.004
P4 23563		<0.002
P4 23564		0.005
P4 23565		<0.002
P4 23566		0.003

Registered Assayer, Province of British Columbia

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R5
Phone: (604) 985-0681
Telex: 04-352667

BONDAR-CLEGG

Geochemical Lab Report

REPORT: 126-6290

PROJECT: NONE GIVEN PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au PPB
P4 23551		15
P4 23552		5

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

P. :(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of ASSAY

Company:ESSO MINERALS CANADA
Project:MD-02
Attention:PAUL MCGUIGAN

File:6-685/P1
Date:AUGUST 27/86
Type:ROCK ASSAY

We hereby certify the following results for samples submitted.

Sample Number	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON
6GR 045	20.1	0.59	.01	0.001
6GR 046	2.5	0.07	.01	0.001
6GR 047	2.0	0.06	.04	0.001
6GR 048	1.9	0.06	.03	0.001
6GR 049	2.0	0.06	.11	0.003
6GR 050	1.2	0.04	.05	0.001
6GR 051	2.2	0.06	.18	0.005
6GR 052	3.0	0.09	.11	0.003
6GR 053	4.0	0.12	.07	0.002
6GR 054	2.5	0.07	.01	0.001
6GR 055	1.8	0.05	.01	0.001
6GR 056	2.6	0.08	.01	0.001
6GR 057	30.5	0.89	1.80	0.053
6GR 058	27.8	0.81	.98	0.029
6GR 059	3.5	0.10	.10	0.003
6GR 060	2.2	0.06	.04	0.001
6GR 061	4.3	0.13	.05	0.001
6GR 062	6.4	0.19	.03	0.001
6GR 063	34.5	1.01	.41	0.012
6GR 064	2.0	0.06	.02	0.001
6GR 065	2.1	0.06	.04	0.001
6GR 066	2.3	0.07	.01	0.001
6GR 067	2.0	0.06	.01	0.001
6GR 069	1.5	0.04	.22	0.006
6GR 070	2.0	0.06	.02	0.001
6GR 071	2.1	0.06	.04	0.001
6GR 072	2.2	0.06	.03	0.001
6GR 073	1.4	0.04	.01	0.001
6GR 074	394.0	11.49	.06	0.002

Certified by

MIN-EN LABORATORIES LTD.

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Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

Ph (604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of ASSAY

Company:ESSO MINERALS CANADA
Project:MD-02
Attention:PAUL MCGUIGAN

File:6-685/P2
Date:AUGUST 27/86
Type:ROCK ASSAY

We hereby certify the following results for samples submitted.

Sample Number	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON
16451	1.8	0.05	.01	0.001
16452	0.4	0.01	.02	0.001
16453	0.6	0.02	.02	0.001
16454	0.8	0.02	.09	0.003
16455	1.0	0.03	.01	0.001
16456	0.2	0.01	.01	0.001
16457	0.3	0.01	.01	0.001
16458	0.4	0.01	.02	0.001

Certified by _____

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Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:ESSO MINERALS CANADA
Project:MD-02
Attention:PAUL MCGUIGAN

File:6-685/P1
Date:SEPT.3/86
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	HG PPB	AS PPM	SB PPM
6GR-045	41000	50	26
6GR-046	480	10	1
6GR-047	195	8	1
6GR-048	155	15	1
6GR-049	625	27	4
6GR-050	520	38	2
6GR-051	100	29	14
6GR-052	200	19	11
6GR-053	130	25	22
6GR-054	105	10	13
6GR-055	195	84	13
6GR-056	130	14	3
6GR-057	720	95	70
6GR-058	1420	400	54
6GR-059	80	25	12
6GR-060	70	3	31
6GR-061	210	55	18
6GR-062	60	24	34
6GR-063	4500	1140	178
6GR-064	65	17	12
6GR-065	55	9	11
6GR-066	80	15	6
6GR-067	40	8	6
6GR-069	240	15	13
6GR-070	70	10	10
6GR-071	100	6	1
6GR-072	70	33	1
6GR-073	70	4	1
6GR-074	4000	2	3240
16451	1900	5	3

Certified by

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PH: (604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:ESSO MINERALS CANADA
Project:MD-02
Attention:PAUL MCGUIGAN

File:6-685/P2
Date:SEPT.3/86
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	HG PPB	AS PPM	SB PPM
16452	70	3	2
16453	40	4	2
16454	35	1	4
16455	35	1	3
16456	30	1	4
16457	40	1	3
16458	30	2	5

Certified by

MIN-EN LABORATORIES LTD.

COMPANY: ESSO MINERALS CANADA | MIN-EN LABS ICP REPORT | (ACT:6E027) PAGE 1 OF 1

PROJECT NO: MD-02 | 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 | FILE NO: 6-685/P1+2

ATTENTION: PAUL MCGUIGAN | (604)980-5814 OR (604)988-4524 | * TYPE ROCK GEOCHEM * | DATE:SEPT 3, 1986

(VALUES IN PPM)	BA	CU	MO	PB	ZN
6GR-045	162	14	1	2511	8757
6GR-046	333	33	1	64	206
6GR-047	204	35	2	38	241
6GR-048	84	19	1	30	289
6GR-049	62	329	1	68	198
6GR-050	49	359	1	72	430
6GR-051	80	202	2	65	407
6GR-052	63	453	2	120	391
6GR-053	104	97	28	296	502
6GR-054	114	16	1	76	246
6GR-055	91	33	1	161	454
6GR-056	140	15	1	71	118
6GR-057	146	120	3	3806	78
6GR-058	114	341	82	1821	1341
6GR-059	122	14	1	176	24
6GR-060	122	35	2	77	132
6GR-061	98	134	2	200	731
6GR-062	100	96	1	292	346
6GR-063	93	122	20	2798	1646
6GR-064	62	8	1	103	72
6GR-065	234	12	1	79	77
6GR-066	137	31	3	142	162
6GR-067	435	37	3	49	164
6GR-069	121	36	2	62	214
6GR-070	110	190	2	61	308
6GR-071	54	24	2	35	263
6GR-072	126	11	1	71	171
6GR-073	56	264	2	54	139
6GR-074	65	2451	1	59245	23044
16451	58	22	1	755	152
16452	48	6	2	321	27
16453	51	2	1	59	13
16454	59	2	1	106	8
16455	74	2	1	23	7
16456	82	3	2	23	10
16457	51	2	2	19	7
16458	71	3	2	27	13

Key Cls.

Key Cls

Paul McDuigan

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:ESSO MINERALS CANADA
Project:MD-02
Attention:PAUL MCGUIGAN

File:6-685
Date:SEPT.3/86
Type:SOIL GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AG PPM	AS PPM	AU PPB	SB PPM	
6GC-700	0.7	7	5	1	
6GC-701	0.5	13	5	1	
6GC-702	0.5	16	35	6	
6GC-703	0.4	8	5	2	
6GC-704	0.6	7	10	1	
6GC-705	0.7	15	5	2	
6GC-705A	0.7	20	5	1	
6GC-706	0.5	15	5	1	
6GC-707	0.7	8	10	2	
6GC-708	0.7	7	5	1	
6GC-709	0.5	6	5	1	
6GC-710	1.0	16	5	1	
6GC-711	0.8	11	10	4	
6KS-001	0.4	7	5	1	40MESH
6KS-002	0.4	5	5	1	40MESH
6KS-003	0.5	10	5	3	40MESH

Certified by

MIN-EN LABORATORIES LTD.

COMPANY: ESSO MINERALS CANADA | MIN-EN LABS ICP REPORT | (ACT:GE027) PAGE 1 OF 1

PROJECT NO: ND-02 | 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 | FILE NO: 6-685

ATTENTION: PAUL MCGUIGAN | (604)980-5814 OR (604)988-4524 | * TYPE SOIL GEOCHEM * | DATE:SEPT 3, 1986

(VALUES IN PPM)	MO	CU	PB	ZN	AG	MN
66C-700	250	11	2	18	47	3	3
66C-701	300	14	2	25	75	5	6
66C-702	308	16	2	28	86	5	7
66C-703	266	9	2	18	34	2	3
66C-704	196	10	2	24	61	4	4
66C-705	284	23	1	26	50	4	5
66C-705A	346	26	1	25	65	5	5
66C-706	322	21	1	22	69	4	5
66C-707	359	20	2	24	51	3	5
66C-708	297	17	1	23	55	4	5
66C-709	248	17	2	17	39	2	3
66C-710	563	36	2	34	102	7	10
66C-711	328	23	2	25	50	4	5
6KS-001 40M	114	12	1	15	40	3	3
6KS-002 40M	157	14	1	17	45	2	4
6KS-003 40M	165	22	2	22	50	3	3

Key cl. samples

Paul McGuigan

#2

		260°	
	1441		In HFP, soil
		260	6GC-703.
PM86-073	1645		In HFP, soil
		248°	6GC-704
PM86-074	1938		Curve in road to south
		210°	
	1938		
PM86-075		260°	End of Spur rd.
	2215		Top of Ridge.
		Along Ridge	
	2317		Peak in Ridge line.

86 = 9000'/ 1.00 = .46/3.19 [illegible]

120m	300°	=	.38
486m	230	=	1.54
531-1645 = 1114m	260	=	3.5
[illegible] 1.03	250		.60
[illegible]			.31

#1

Aug 16/86		Key Cl. McKinnon Crk	PM/KD
Δ	metres	bearing	Description
	0		Trailer Camp.
		300°	On road to [illegible] 80-
	120 m		Junction, turn south
	0 m		
		230°	Mixed QFP + cgl
	486		At Arctic Junction. nea[illegible]
		210°	Cgl n.t.
	531		
		255° approx	
PM86-069	808		Sheared qtz pbl cgl
6GR-064		260°	Spl 6GR-064
PM86-070	884		Contact in float
		255°	w. HFP
PM86-071	1020		
		250°	
PM86-072	1210		Contact w. Qtz Pbl Cgl
		260°	in float.
	1300		Contact/Float w. HFP.
		260	

#4

PH86-075 At ridge top - Float of
unaltered hornblende feldspar
porphyry. HSO. No outcrop

return to camp

PH86-076 Rubble near camp:
propylitic altered hornblende-
spl plag porph andesite sill.
HSO. Weathered brown w.
pits @ plag sites - similar
to ~~[illegible]~~ Winchester adit

Cyprus Anvil holes
IR-80-3 192 - 199 ft kaolinite altered
HFP sills. Strong kaol
totally rep. phenos + groundmass
relic texture only.
Kaol v.strong

#3

PH86-069 Sheared qtz-pbl cgl; as before
at Britannia shaft except
pbl. elongate

6GK-064 Rx spl of silicified margin
6GC-700 Poor soil development - Regosol

PH86-070 Contact in float w. HFP
PH86-071 Abundant float of hornblende-
Spl feldspar porphyry. Very fresh,
hbs. show no chl alteration.
6GC-701 Soil - mid brown regosol

PH86-072 Contact w. Qtz Pbl cgl in
6GC-702 float. Soil over Qtz-pbl cgl

PH86-073 Check traverse position
6GC-704 Soil 6GC 704

PH86-074 Road changes direction to 210°
[illegible]