GEOLOGICAL AND GEOCHEMICAL INVESTIGATION ON THE RABBIT-CANYON MOUNTAIN CLAIM GROUP

Claim:	CAN 1 - 52
Mining Division:	Whitehorse, Yukon
NTS:	115F/15
Latitude:	61^{o} 48' N
Longitude:	140^{o} 55' W
Owner:	Homestake Mineral Development Company
Author:	Robert T. Boyd Michael Flanagan
Date:	November 1983

091499

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 13,000.00.

K. Grapes

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

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MAPS & FIGURES

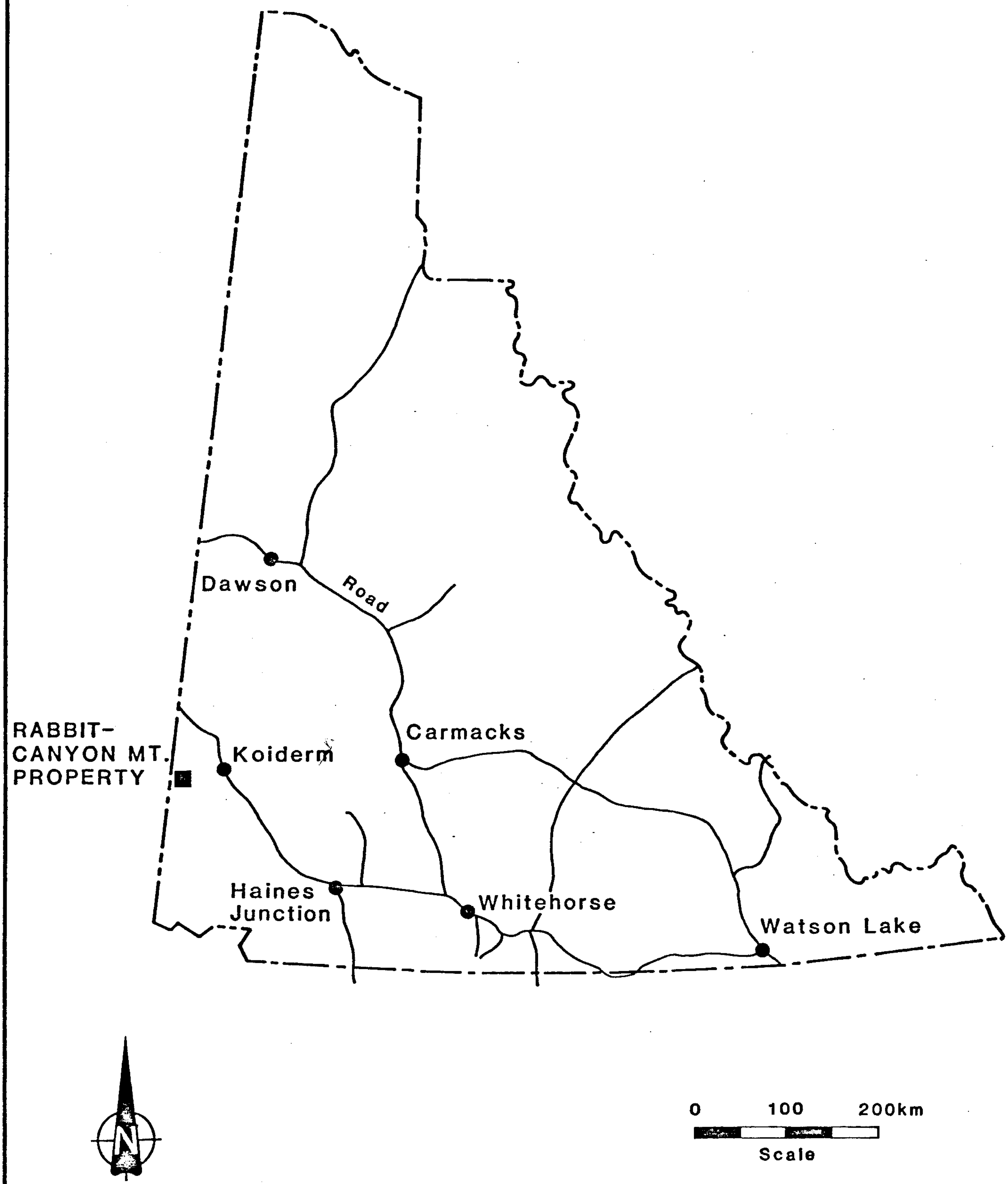
APPENDICES

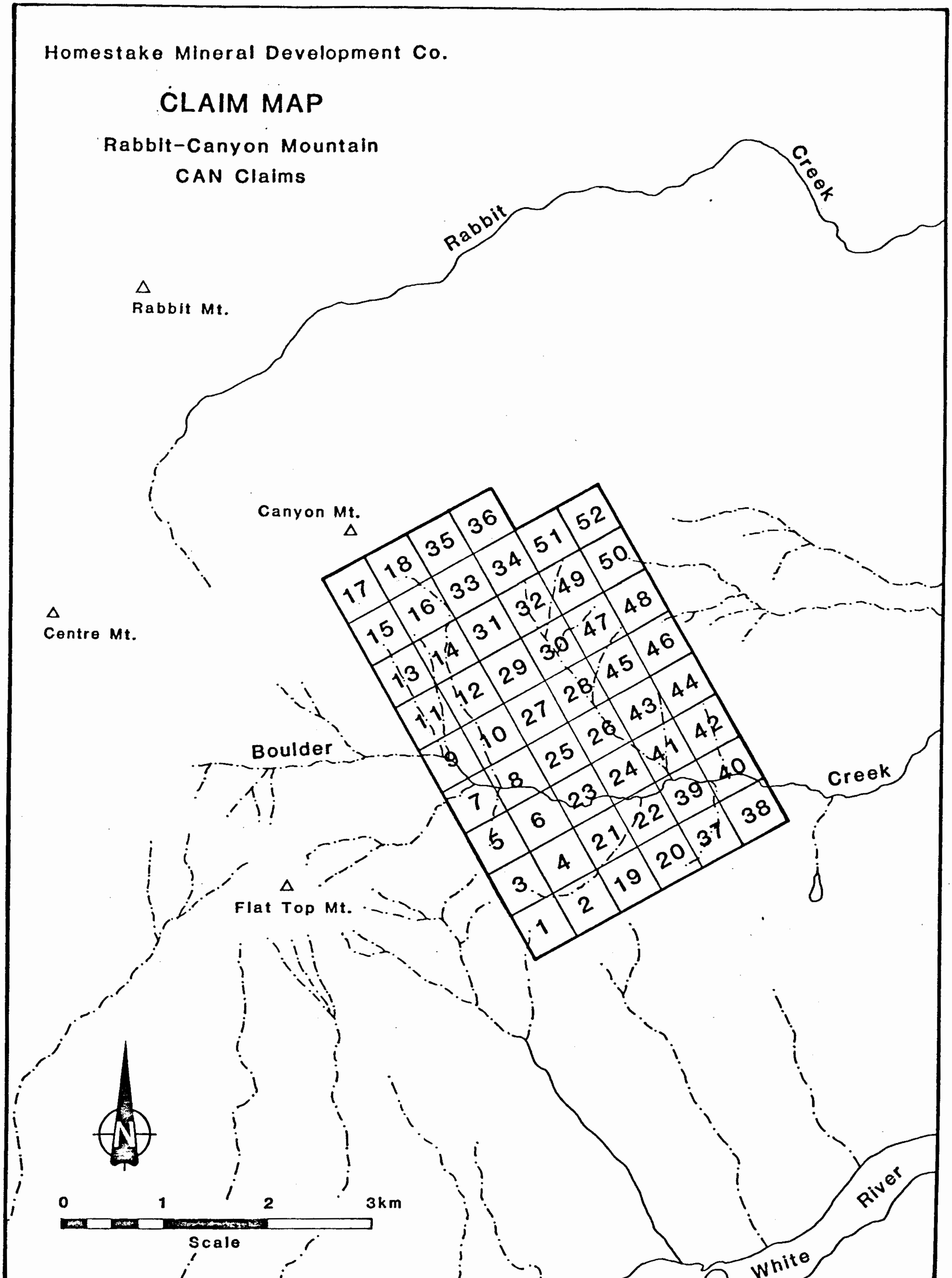
*Attached

Homestake Mineral Development Co.

LOCATION MAP

Yukon Territory




Homestake Mineral Development Co.
CLAIM MAP
Rabbit-Canyon Mountain
CAN Claims
Rabbit Creek
Rabbit Mt.
Canyon Mt.
Centre Mt.
Boulder Creek
Flat Top Mt.
White River
N
0 1 2 3km
Scale
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

A. INTRODUCTION

(i) Location

The Rabbit-Canyon Mountain property is located on the north side of the White River about 27 kilometers west of the settlement of Koiderm on the Alaska highway. The property is two kilometers east of the Yukon-Alaska border. Access is by a 15-minute helicopter flight from the White River Lodge in Koiderm. The closest casual helicopter is stationed at Haines Junction which is about a one-hour helicopter ferry from Koiderm. Elevation of the key areas of the property varies from 4,000 to 6,000 feet ASL.

Good outcrop and rubble-crop exposure is present on the steeper slopes of the north eastern portion of the property, however, the western and central areas consist of an alpine meadow with very poor outcrop.

(ii) History

There is no evidence that the area of CAN claims has ever been previously staked or examined for its mineral potential. Placer claims have been recorded on Boulder Creek, but there is no documented placer production. The White River native copper-silver property 4 kilometers to the southeast of the CAN claims is the only significant historic mineral property in the area. This property was discovered in 1905. Regional reconnaissance work by Robert Boyd of Homestake in the late summer of 1982 identified a large pyritically-altered area coincident with anomalous gold and base-metal values in stream sediment samples. Weather conditions prevented a proper evaluation at the time. The CAN claims were staked in early November 1982 to encompass the colour anomaly and geochemically anomalous stream drainages.

(iii) Summary of Work Completed

This report documents the following work:

- Reconnaissance and detailed geological mapping of the CAN 1-52 claims at a scale of 1:10,000.
- Collection and geochemical analysis of 67 rock samples from parts of CAN 6, 8, 10, 12, 14, 22 through 30, 32, 34, CAN 40 through 52.
- Collection and geochemical analysis of 31 soil (talus fine) samples at a spacing of 200 to 250 meters within the same areas as the rock samples.
- Collection and geochemical analysis of 6 stream sediment samples.

(iv) Claim Data

Claim Name	Tag Number	Date	Owner
CAN 1	YA 75333	Nov. 12/83	Homestake
CAN 2	YA 75334	"	"
CAN 3	YA 75335	"	"
CAN 4	YA 75336	"	"
CAN 5	YA 75337	"	"
CAN 6	YA 75338	"	"
CAN 7	YA 75339	"	"
CAN 8	YA 75340	"	"
CAN 9	YA 75341	"	"
CAN 10	YA 75342	"	"
CAN 11	YA 75343	"	"
CAN 12	YA 75344	"	"

(iv) Claim Data

Claim Name	Tag Number	Date	Owner
CAN 13	YA 75345	Nov. 12/83	Homestake
CAN 14	YA 75346	"	"
CAN 15	YA 75347	"	"
CAN 16	YA 75348	"	"
CAN 17	YA 75349	"	"
CAN 18	YA 75350	"	"
CAN 19	YA 75353	"	"
CAN 20	YA 75354	"	"
CAN 21	YA 75355	"	"
CAN 22	YA 75356	"	"
CAN 23	YA 75357	"	"
CAN 24	YA 75358	"	"
CAN 25	YA 75359	"	"
CAN 26	YA 75360	"	"
CAN 27	YA 75361	"	"
CAN 28	YA 75362	"	"
CAN 29	YA 75363	"	"
CAN 30	YA 75364	"	"
CAN 31	YA 75365	"	"
CAN 32	YA 75366	"	"
CAN 33	YA 75367	"	"
CAN 34	YA 75368	"	"
CAN 35	YA 75351	"	"
CAN 36	YA 75352	"	"
CAN 37	YA 75369	"	"
CAN 38	YA 75370	"	"
CAN 39	YA 75371	"	"
CAN 40	YA 75372	"	"
CAN 41	YA 75373	"	"
CAN 42	YA 75374	"	"
CAN 43	YA 75375	"	"
CAN 44	YA 75376	"	"
CAN 45	YA 75377	"	"
CAN 46	YA 75378	"	"

(iv) Claim Data

Claim Name	Tag Number	Date	Owner
CAN 47	YA75379	Nov. 12/83	Homestake
CAN 48	YA75380	"	"
CAN 49	YA75381	"	"
CAN 50	YA75382	"	"
CAN 51	YA75383	"	"
CAN 52	YA75384	"	"

B. REGIONAL GEOLOGICAL SETTING

The CAN claims are situated within the Wrangell volcanics of Miocene to Pliocene age at the north end of the St. Elias Mountain within the Wrangellia structural terrane. The property is bound on the east by the Slaggard-Tschawsahmon northwest trending transverse fault. The Wrangell volcanics underlie the entire claim group and are undifferentiated on recent GSC mapping (OF829). Outcrop of Oligocene Amphitheatre formation conglomerates and sandstones are present underlying the Wrangell volcanics directly to the east of the property area.

C. PROPERTY GEOLOGY (see Plate II)

(i) Lithologies

The entire claim group is underlain by Wrangell volcanics of Miocene to Pliocene age. These volcanics can be differentiated and correlated with the St. Clare geologic Province described by R.B. Campbell (see Table I). The rock units are described from youngest to oldest exposed on the property.

(i) Lithologies

The youngest unit present is the undivided surficial deposit represented in part by 'C' on Plate II and designated Qs by R. B. Campbell. These areas on the map include soil and vegetation covered talus slopes, glacial deposits and volcanic ash. These covered areas mask much of the area of geological interest on the CAN claims.

Unit Uvb

This unit correlates with Campbell's upper Miocene unit NWu. The upper portions may in part correlate with the Pliocene unit Pv. This unit UvB caps the circular-shaped line of peaks surrounding the Boulder Creek drainage and is a minimum of 200 meters thick. The unit dips 15^{o} to the northwest and consists of a distinctive red brown weathering, well-layered sequence of columnar basalts, agglomerates and massive to scoriceous andesites and basalts. This unit unconformably overlies and is unaffected by the alteration in the "lower" sequence of volcanics. A late unaltered northwest trending diabase dike crosscuts these altered volcanics and is probably a feeder dike for the flow basalts.

Unit Us

This discontinuous unit consists of sedimentary deposits of conglomerate, fanglomerate grit and greywacke filling small channels at the base of the volcanic member. The location of these paleochannels suggest the Late Miocene streams were in a similar location as the recent stream drainages. This unit can be correlated with unit NWu, and represents a period of erosion prior to deposition of the Pliocene volcanics.

(i) Lithologies

Unit Mvp

This unit consists of feldspar porphyritic intrusives and maroon coloured andesites and fragmentals. The unit can be correlated with the lower part of Campbell's unit NW_n or possibly the upper parts of unit NWpy. Some of the fine grain maroon coloured fragmentals contain large clasts of maroon coloured feldspar porphyry. No reliable attitudes were identified in this unit.

Unit Lv

This unit underlies the central part of the claim group and hosts much of the hydrothermal alteration on the property. It is an acid to intermediate feldspar crystal tuff assemblage which forms the thickest and most prevalent unit on the property. It can be correlated with Campbell's unit NWpy.

Unit Ls

This unit is only exposed in the southeast corner of the property and consists of a variable sequence of conglomerate, greywacke, arkose and pyroclastic tuffs. It may in part correlate with Campbell's unit NW_1. However, the thicker basal fluvial conglomerates and coarse clastics are more likely to correlate with Campbell's unit Os (Amphitheatre formation).

Unit Tdi

This unit correlates with Campbell's unit IMf. However, on the CAN claims,where unaltered, it consists of a multiphase intrusion of pale grey to greenish grey diorite to diorite feldspar porphyry. No free quartz was observed in this intrusion or any of the volcanics on the property, suggesting an alkalic affiliation.

TABLE I

GEOLOGICAL LEGEND

GSC	HMDC	
Qs	(C)	undivided surficial deposits: incl. glacial deposits, alluvium, and colluvium. volcanic ash

TERTIARY AND (?) YOUNGER
NEOGENE AND (?) YOUNGER
PLIOCENE AND (?) PLEISTOCENE

GSC	HMDC	
Pv	(Uvb?)	reddish brown basaltic flows; minor interbedded basaltic tuff, agglomerate, and conglomerate (predomin.basaltic clasts.); loc. a basaltic neck;

MIOCENE TO PLIOCENE AND (?) YOUNGER

WRANGELL LAVA: (Nw] to Nw inclv.)
(subaerial)basic flows; minor acid pyroclastics, and non-marine volcani-clastics: 300 to 2000 m.)

ST. CLARE PROVINCE: (115F(E½)

	GSC	HMDC	
NW	NWu	(Uvb)	basalt, trachybasalt, andesite flows and pyroclastic rocks; minor volcanic conglomerate.
NW	NWm	(Uvb) (Us) (Mvp)	Porphyritic and non-porphyritic basaltic andesite flows (minor pillow lavas), intbd. with abundant felsic ash flows, acid tuff, coaly tuff, and volcanic sandstone and conglomerate: acid pyroclastics are (?) related to intra Wrangell (IMf) intrusive phase.
NW	NWcg		volcanic conglomerate - intra Wrangell; clasts all Wrangell derived. (not present on CAN claims)
NW	NWpy	(Lv)	acid tuff or ash flows - intra Wrangell: (?) related to IMf sub-volcanic intrusions.
NW	NWl	(Lv) (Ls)	thick, blocky, mainly non-porphyritic basaltic andesite flows, loc. intbd. with white to light grey clay and coaly siltstone; overlain by thin, closely stacked basaltic flows.

PALEOGENE
OLIGOCENE AND, (?) OLDER AND/OR YOUNGER

GSC	HMDC	
Os	(Ls)	AMPHITHEATRE FORMATION: yellow buff to grey buff sandstone, pebbly sandstone, polymictic conglomerate, siltstone, mudstone; minor brown grey carbonaceous shale and thin coal beds: (continental clastics; pred. fluvial deposits; loc. landslide, mass flow and lacustrine deposits: 0 to 1100 m): loc. may incl. intra Wrangell; or older.

"WRANGELL INTRUSIONS"

NWu		Diabase dikes
IMf	(Tdi)	"subvolcanic intrusives": white to creamy white hbde. and/or bio. rhyolite, rhyodacite, dacite, and trachyte; felsite: incl. domes, sills, dykes: in part or all intra Wrangell Lava; may incl. Of: C. meta. effects incl. varying degrees of bleaching, silicification, brecciations, and pyritization

After R. B. Campbell
GSC OF 829

(ii) Structure

The two dominant structural directions present on the property have a north south and northwest strike. The structural directions control the locus of recent (and Miocene) stream drainages. Neither of these fault sets show any dramatic evidence of movement, but are the controls for alteration and silicification. The late diabase dike parallels the northwest striking drainage and fault set. The most prominent quartz vein stockwork parallels the north south structures.

No structures were observed to crosscut the younger volcanics on the ridge tops, and the late diabase dike occupying the northwest striking feature suggests that this set is the younger of the two fault sets. The major transverse Slaggard-Tschawsahmon fault east of the property also parallels this later fault set.

The Miocene to Pliocene basic volcanics are only mildly deformed into gentle folds. They were observed to dip 15^{o} to the northwest. No reliable bedding attitudes were observed in the older Miocene acid volcanics. However, the underlying Paleogene Amphitheatre Formation clastics were observed to dip 10^{o} to 40^{o} to the west suggesting slightly stronger folding in the older "altered" volcanic package.

(iii) Alteration

Alteration varies from weak propylitic to strong sericitic alteration. Pervasive pyritization is associated with the strong propylitic and sericitic alteration. Mapping suggests that the alteration is controlled by the two major structural directions in 1.6 square kilometer elliptical area (2.1 x 0.75 km) straddling the main northwest trending drainage.

Smaller areas of silicification are contained within the sericitic alteration and varies from pervasive to multiphase vein stockworks.

D. MINERALIZATION

Only minor chalcopyrite and malachite have been noted associated with the quartz vein stockworks and altered intrusives. Chalcopyrite is disseminated with pyrite in quartz veinlets in a northsouth striking vein stockworks. To date, no other mineralization of significance has been observed. The maximum gold value in bedrock is only 240 ppb. Alteration and metal association suggest a low intensity alkalic copper porphyry system.

E. GEOCHEMICAL RESULTS

Rock, soil and stream sediment samples locations are plotted on Plate I. Geochemical results and analytical techniques for these samples can also be consulted in Appendix II.

The anomalous gold values in stream sediments and soils are interpreted to represent surficial enrichment due to lack of encouragement in the rock sampling.

F. CONCLUSIONS

These claims are underlain by a low intensity alkalic copper porphyry system. Pyritization and hydrothermal alteration cover an area of approximately 1.6 square kilometers. Anomalous gold values in stream sediments have not been supported by encouragement in rock samples.

G. BIBLIOGRAPHY

Archer, Cathro & Associates Ltd.
Northern Cordillera Mineral Inventory

Campbell,R. B.
Geology, SW. Kluane Lake Map Area, Yukon Territory,
Geological Survey of Canada OF 829

APPENDIX I

Personnel, Statement of Qualifications

Statement of Qualifications

I, ROBERT T. BOYD, of 2466 West 3rd Avenue, #203, of Vancouver, British Columbia hereby certify that:

1. I am a graduate of the University of Western Ontario having obtained the degree of Bachelor of Science in Geology in 1975.

2. I have worked in the field of mineral exploration since 1974.

3. The work described in this report was done under my supervision.

ROBERT T. BOYD

November 30, 1983

Personnel

Michael Flanagan Exploration Geologist	BSc, Memorial 1979 MSc, McGill 1984	147 Westminster Ave.N. Montreal West,Quebec H4X 1Z3
Gregory H. Cameron Geologist	BSc, McGill 1983	26 Riverview Avenue Brockville, Ontario K6V 2Y6
Christiaan F. Staargaard Exploration Geologist	BS, Penn State 1977 MSc,Queens 1981	#705 - 1660 Barclay St. Vancouver, B.C. V6G 1K2

APPENDIX II

Geochemical Results and Analytical Techniques

Can claims
Canyon Mtn Area
115 F/3

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppm.
AU** ANALYSIS FROM 10 GRAM FA+AA. SAMPLE TYPE - ROCK CHIPS

DATE RECEIVED JULY 11 1983 DATE REPORTS MAILED July 15/83 ASSAYER D Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

HOMESTAKE MINERAL FILE # 83-1145 R Boyd Flanagan. PAGE # 1

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** ppb
1001	3	32	9	59	.2	35	7	197	3.05	5	8	ND	2	10	1	2	2	44	.14	.09	9	58	1.87	70	.01	20	2.04	.05	.10	2	16
1011	5	11	10	23	.3	8	3	74	2.33	7	4	ND	2	17	1	2	2	25	.02	.06	8	19	1.29	70	.01	16	1.50	.08	.18	2	52
1021	1	42	7	53	.1	51	22	644	4.46	9	2	ND	2	149	1	2	2	124	1.62	.08	7	65	2.18	24	.38	22	2.58	.42	.03	2	1
1031	1	26	9	54	.1	14	8	147	3.44	4	2	ND	3	72	1	2	2	45	.72	.06	19	9	.48	102	.20	29	2.74	.12	.08	2	1
1041	1	40	4	78	.1	12	16	876	5.54	7	2	ND	2	46	1	2	2	114	1.39	.20	24	9	.33	42	.15	28	.55	.12	.07	2	1
1051	1	21	2	23	.1	12	6	147	2.49	3	2	ND	2	37	1	2	2	44	.57	.09	13	6	.22	47	.14	28	.90	.16	.07	2	1
1061	1	39	2	39	.1	11	7	160	2.80	2	2	ND	2	34	1	2	2	94	.61	.12	14	10	.30	37	.11	28	.67	.15	.06	2	1
1071	1	27	5	47	.1	9	11	531	4.60	4	2	ND	3	34	1	2	2	86	1.07	.21	24	10	.36	208	.12	30	.92	.12	.17	2	1
1081	1	47	9	65	.1	102	25	877	5.36	6	4	ND	2	578	1	2	2	99	2.49	.07	18	36	3.40	65	.22	23	3.68	.12	.10	2	1
1091	1	46	8	64	.1	31	23	706	4.94	2	2	ND	3	37	1	2	2	73	.89	.10	19	16	.96	243	.12	25	2.70	.05	.14	2	1
1101	4	15	8	54	.2	8	5	694	2.11	3	2	ND	2	48	1	2	2	17	1.38	.07	23	8	.54	239	.01	23	1.00	.05	.22	2	1
1111	1	115	383	275	.7	70	26	2698	3.50	5	2	ND	2	192	4	2	2	89	4.87	.14	12	166	2.35	216	.02	25	3.07	.21	.04	2	2
1121	5	93	15	44	.4	12	17	720	1.96	11	2	ND	2	29	1	2	2	13	1.75	.02	5	7	.68	976	.01	23	.39	.03	.11	2	160
1131	17	115	34	103	1.3	12	3	185	2.92	7	2	ND	2	11	1	2	5	17	.06	.04	7	18	.42	435	.01	20	.94	.03	.30	2	150
1141	19	23	8	5	1.2	2	1	44	.53	8	2	ND	2	8	1	2	2	4	.02	.01	5	3	.03	249	.01	21	.31	.04	.14	2	77
1161	2	19	7	55	.1	19	9	491	2.17	2	3	ND	2	65	1	2	2	34	2.61	.06	15	14	.67	490	.01	20	.54	.04	.20	2	4
1171	1	7	7	34	.1	32	10	237	3.80	3	8	ND	2	10	1	2	2	24	.21	.06	6	43	1.31	68	.01	22	1.44	.05	.14	2	5
1181	2	371	13	85	.6	32	7	965	3.60	7	2	ND	2	53	1	2	2	30	1.97	.05	4	16	1.04	62	.01	21	.55	.05	.20	2	150
1191	1	143	3	15	.2	9	2	97	2.92	2	6	ND	2	16	1	2	2	40	.47	.12	16	7	1.12	131	.01	24	1.42	.06	.12	2	23
1211	1	56	12	87	.3	39	12	620	2.19	7	2	ND	2	20	1	2	2	33	.47	.05	7	55	1.15	81	.01	19	1.55	.07	.07	2	41
1231	1	38	5	44	.1	10	10	295	2.90	5	2	ND	2	298	1	2	2	104	1.79	.12	13	6	.39	96	.10	25	2.43	.46	.09	2	1
1251	1	48	15	90	.2	10	6	958	2.29	8	3	ND	2	117	1	2	2	31	2.50	.07	15	11	.92	632	.01	18	1.39	.04	.18	2	6
1261	1	32	22	166	.1	21	7	645	4.84	53	4	ND	2	12	1	2	2	50	.37	.10	6	35	1.15	116	.01	22	1.34	.03	.15	2	115
1271	1	14	3	32	.1	17	8	442	2.26	2	2	ND	2	42	1	2	2	36	1.38	.06	12	22	.97	126	.01	20	1.17	.06	.10	2	1
1281	2	199	18	187	.3	78	18	1773	6.14	19	2	ND	2	65	1	2	2	70	1.80	.16	3	104	2.60	101	.01	24	.89	.04	.08	2	89
1291	1	31	9	80	.5	20	12	1128	2.59	4	2	ND	2	32	1	2	2	21	1.93	.06	11	6	.85	111	.01	21	.45	.03	.26	2	66
1301	27	6	6	4	1.2	7	8	39	2.89	2	4	ND	2	7	1	2	2	7	.06	.01	2	3	.04	53	.01	19	.40	.01	.28	2	150
1311	3	89	10	58	.9	14	7	341	3.05	16	2	ND	3	14	1	2	2	16	.73	.06	11	11	.49	57	.01	20	.75	.03	.28	2	240
1321	1	6	3	67	.1	16	5	514	2.11	2	2	ND	2	76	1	2	2	34	2.18	.06	13	18	.96	564	.01	20	1.31	.05	.18	2	3
1341	10	593	5	61	.8	16	10	200	1.51	2	2	ND	3	32	1	2	2	20	.93	.05	3	14	.90	273	.01	23	1.15	.06	.15	2	72
1351	2	36	3	21	.1	25	11	332	2.62	16	4	ND	2	34	1	2	2	40	.97	.07	4	25	.86	58	.02	23	.93	.08	.13	2	12
1361	4	68	7	56	.2	19	7	543	1.81	2	2	ND	3	41	1	2	2	31	1.02	.04	5	23	.51	102	.03	26	.58	.08	.12	2	15
1371	1	10	5	20	.1	22	8	246	2.93	5	2	ND	2	65	1	2	2	100	1.10	.11	5	32	.84	95	.11	26	1.33	.20	.34	2	7
1381	2	7	4	20	.1	9	7	196	3.08	2	2	ND	2	62	1	2	2	61	.94	.11	5	8	1.23	135	.09	27	1.82	.18	.69	2	41
1501	1	27	10	4	.1	5	3	22	2.05	2	5	ND	2	200	1	2	2	15	.13	.05	4	7	.13	149	.01	9	1.31	.11	.22	2	1
1511	1	52	9	26	.1	22	9	277	3.06	3	3	ND	2	83	1	2	2	59	.71	.17	6	19	.96	99	.01	17	2.02	.13	.08	2	4
1521	1	23	8	34	.1	18	7	117	2.19	4	3	ND	2	201	1	2	2	36	.37	.06	6	23	1.27	93	.06	19	2.02	.09	.05	2	1
STD A-1/FA-AU	1	30	40	187	.3	35	13	1030	2.86	9	2	ND	2	37	1	2	2	60	.60	.10	8	74	.74	296	.08	7	2.04	.02	.22	2	52

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SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** ppb
153I	1	6	4	69	.2	14	5	359	1.23	5	7	ND	2	52	1	2	2	19	2.94	.03	7	16	.62	50	.01	9	.91	.04	.11	2	1
154I	1	53	5	48	.1	29	15	487	3.22	5	8	ND	2	98	1	2	2	65	.81	.12	11	22	1.83	36	.14	18	2.24	.10	.02	2	1
155I	2	48	11	17	.1	22	11	331	4.60	7	7	ND	2	138	1	2	2	45	.45	.10	6	12	1.36	61	.01	15	1.79	.06	.07	2	2
156I	2	12	5	12	.3	4	2	151	2.83	5	5	ND	2	79	1	2	2	27	.14	.10	5	9	.95	159	.01	12	1.24	.05	.14	2	1
157I	1	24	4	52	.2	17	8	348	1.64	7	2	ND	2	42	1	2	2	27	1.31	.07	9	13	.82	378	.01	15	.95	.05	.11	2	10
158I	1	80	5	95	.2	59	14	833	2.55	7	9	ND	2	53	1	2	2	52	1.36	.09	3	78	2.25	330	.05	14	1.87	.06	.03	2	14
165I	1	12	6	233	.4	68	20	1623	3.02	4	4	ND	2	45	1	2	2	41	2.07	.07	8	90	2.07	123	.01	15	2.12	.03	.08	2	10
181I	4	225	12	60	.8	13	5	498	1.11	3	2	ND	2	25	1	2	2	17	1.60	.08	15	11	.60	220	.01	13	.78	.04	.12	2	45
182I	15	81	39	75	1.0	3	1	42	1.36	38	6	ND	2	31	1	5	2	6	.07	.03	6	2	.03	235	.01	16	.18	.09	.10	2	15
186I	3	15	19	90	.4	35	12	890	3.09	15	9	ND	2	10	1	2	2	40	.20	.10	11	53	1.17	56	.01	15	1.38	.04	.09	2	9
187I	3	48	5	90	.4	27	8	621	1.87	11	2	ND	2	30	1	2	2	25	.87	.06	12	25	.91	225	.01	16	1.08	.05	.11	2	2
188I	1	49	4	100	.3	40	15	824	2.95	8	6	ND	2	74	1	2	2	57	2.15	.10	8	44	1.81	40	.01	16	1.84	.08	.05	2	3
189I	1	32	3	67	.2	31	20	828	2.89	4	10	ND	2	172	1	2	2	79	2.72	.11	4	55	1.96	56	.04	16	2.71	.21	.02	2	1
190I	1	15	12	93	.3	9	7	429	2.03	25	5	ND	2	103	1	2	2	6	2.22	.05	6	1	.27	50	.01	13	.36	.04	.12	2	5
191I	1	8	9	69	.7	88	19	506	3.61	14	2	ND	2	68	1	2	2	64	1.39	.09	5	92	2.21	50	.01	21	1.61	.09	.10	2	17
192I	4	106	1	48	.2	16	6	308	1.56	3	9	ND	2	13	1	2	2	18	.32	.07	14	14	.48	306	.01	17	.73	.05	.10	2	11
193I	7	76	3	27	.3	14	7	227	1.86	6	4	ND	3	30	1	2	2	37	.46	.06	11	17	.87	167	.08	23	1.06	.10	.52	2	1
194I	31	248	2	37	.3	9	7	258	1.93	2	6	ND	3	26	1	2	2	50	.59	.07	10	15	.85	126	.10	11	.96	.08	.53	2	10
195I	120	760	2	55	1.4	23	8	503	1.82	5	3	ND	2	23	1	2	2	31	.81	.04	8	36	.72	176	.04	11	.78	.04	.26	2	16
196I	128	404	1	43	.6	30	9	245	2.18	3	5	ND	2	24	1	2	2	41	.39	.05	7	57	.99	160	.10	11	1.21	.10	.59	2	7
197I	14	5082	20	88	16.5	14	7	402	2.02	22	4	ND	2	9	1	9	2	16	1.01	.02	3	9	.22	83	.01	19	.28	.02	.06	2	80
198I	4	109	3	35	.5	11	6	405	1.57	12	2	ND	3	13	1	2	2	20	.38	.04	8	11	.42	109	.01	11	.49	.05	.07	2	6
199I	24	604	5	118	1.0	58	12	659	2.36	11	3	ND	2	54	1	2	2	54	.96	.12	8	78	1.17	229	.11	11	1.19	.09	.52	2	10
200I	1	26	6	47	.3	29	8	409	1.40	6	3	ND	2	55	1	2	2	24	1.53	.05	5	30	.94	42	.01	16	1.05	.05	.08	2	3
201I	1	21	3	44	.2	21	12	539	2.90	3	4	ND	2	58	1	2	2	61	1.38	.09	10	34	1.61	43	.04	11	1.43	.09	.02	2	1
202I	1	4	6	44	.2	79	15	502	2.32	5	10	ND	2	41	1	2	2	43	1.62	.08	7	86	2.48	54	.05	8	1.91	.04	.02	2	1
STD A-1/FA-AU	1	30	40	187	.3	35	13	1031	2.86	10	2	ND	3	37	1	2	2	60	.60	.10	8	74	.74	287	.08	7	2.05	.02	.22	2	55

SAMPLE #	MO ppm	CU ppm	PB ppm	ZN ppm	AG ppm	NI ppm	MN ppm	AG ppm	CD ppm	SB ppm	Au** ppb	Hg* ppb
115I	11	167	205	453	3.5	39	1753	3.5	3	2	140	20
120I	5	82	17	78	.4	33	838	.4	1	2	38	50
122I	6	82	91	372	.7	44	1928	.7	2	2	32	10
124I	17	219	20	115	.3	54	1014	.3	1	2	11	10
133I	14	193	26	177	.5	44	1003	.5	1	2	240	10
139I	5	126	71	287	.8	21	1347	.8	1	2	70	5
140I	8	99	44	193	1.0	24	419	1.0	1	2	40	30
141I	3	63	30	188	1.0	28	723	1.0	1	2	40	40
142I	2	66	17	120	.7	29	516	.7	1	2	14	30
143I	2	35	15	83	.2	22	413	.2	1	2	180	20
144I	3	70	16	96	.3	26	551	.3	1	2	50	5
145I	8	136	15	83	.2	17	176	.2	1	2	60	20
146I	3	66	15	114	.2	20	501	.2	1	2	32	30
147I	3	52	14	74	.1	29	854	.1	1	2	40	20
148I	4	85	19	79	.3	25	523	.3	1	2	80	20
149I	2	59	23	61	.2	27	510	.2	1	2	12	20
159I	2	34	12	59	.1	21	155	.1	1	2	185	30
160I	1	34	13	69	.1	19	214	.1	1	2	8	170
161I	1	45	13	97	.3	29	1413	.3	1	2	10	40
162I	1	24	8	64	.1	22	507	.1	1	2	8	20
163I	1	41	7	49	.1	22	966	.1	1	2	3	40
164I	1	23	3	45	.1	27	203	.1	1	2	2	10
166I	7	140	19	132	.3	28	612	.3	1	2	25	10
167I	2	41	12	73	.3	22	273	.3	1	3	20	20
168I	1	58	8	56	.2	22	320	.2	1	2	6	50
169I	2	53	10	84	.1	27	433	.1	1	2	9	10
170I	2	39	10	55	.2	21	271	.2	1	2	11	10
171I	8	117	10	65	.6	24	235	.6	1	2	40	30
172I	11	98	9	91	.1	29	464	.1	1	2	165	30
173I	12	129	19	51	.3	20	220	.3	1	2	970	40
174I	13	194	31	101	.1	23	430	.1	1	3	65	30
175I	1	34	11	65	.3	24	302	.3	1	2	6	30
176I	1	36	12	73	.2	21	254	.2	1	2	5	60
177I	2	40	18	121	.3	32	990	.3	1	2	18	50
178I	1	34	7	58	.1	34	384	.1	1	2	5	20
179I	1	9	2	18	.1	7	169	.1	1	2	2	5
180I	1	25	7	50	.1	37	706	.1	1	2	1	5
STD A-1/FA-AU	1	30	40	187	.3	36	1059	.3	1	2	50	50

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS, VANCOUVER B.C. PH:253-3158 TELEX:04-53124

ICP GEOCHEMICAL ANALYSIS

A .500 GRAM SAMPLE IS DIGESTED WITH 3 ML OF 3:1:3 HCL TO HNO3 TO H2O AT 90 DEG.C. FOR 1 HOUR. THE SAMPLE IS DILUTED TO 10 MLS WITH WATER.
THIS LEACH IS PARTIAL FOR: Ca,P,Mg,Al,Ti,La,Na,K,W,Ba,Si,Sr,Cr AND B. Au DETECTION 3 ppm.
AU** ANALYSIS FROM 10 GRAM FA+AA. HG* ANALYSIS BY FLAMELESS AA FROM .500 GRAM SAMPLE. SAMPLE TYPE - P1 ROCK

DATE RECEIVED SEPT 16 1983 DATE REPORTS MAILED Sept 23/83 ASSAYER D Toye DEAN TOYE, CERTIFIED B.C. ASSAYER

HOMESTAKE MINERAL FILE # 83-2172A PAGE # 1

SAMPLE #	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au** ppb	Hg* ppb
4341	37	716	3	49	.8	53	9	440	2.36	3	2	ND	2	34	1	2	2	51	.53	.08	11	54	.66	117	.08	3	.97	.07	.35	2	38	30
4351	129	12694	246	671	26.1	77	14	601	4.37	85	2	ND	2	8	5	18	3	13	.52	.02	2	4	.04	63	.01	3	.13	.01	.04	2	210	70
4361	5	18858	28	170	34.2	76	7	1375	7.84	105	2	ND	2	54	4	24	3	78	1.68	.31	5	120	2.37	17	.01	3	.62	.03	.01	2	110	80
4371	2	146	17	163	1.8	40	15	959	6.46	7	2	ND	2	45	1	2	2	37	1.73	.07	2	11	1.13	61	.01	5	.40	.03	.13	2	115	10
STD A-1/AU/HG	1	30	39	184	.3	36	12	1020	2.80	9	2	ND	2	36	1	2	2	60	.59	.09	8	73	.74	278	.08	10	1.98	.02	.20	2	55	50

APPENDIX III

Statement of Costs

LABOUR (Field)

FLANAGAN:	June 23 to July 7: August 31 to Sept. 6 21 days @ $100/day	$2,100.00
CAMERON:	June 23 to July 7 15 days @ $80/day	$1,200.00
STAARGAARD:	August 31 to Sept. 6 6 days @ $110/day	$ 660.00

LABOUR (Office)

FLANAGAN:	2 days @ $100/day	$ 200.00
BOYD:	3 days @ $160/day	$ 480.00
Drafting & Typing:		$ 200.00

Total Labour	$4,840.00

TRANSPORTATION

Helicopter:	June 23th	2.8 hours	
	July 7th	2.0 hours	
		4.8 hours @ 558	$2,678.40
	Sept. 2nd	1.9 hours	
	Sept. 3rd	0.9 hours	
	Sept. 5th	1.1 hours	
		3.9 hours @ 521	$2,031.90
Truck:	3 weeks @ 1,000/month		$ 750.00
	fuel and maintenance		150.00

TRAVEL

Travel Expense, Groceries, Accommodation, Meals 21 days @ $50/day	$1,050.00
General Supplies	$ 100.00

ANALYTICAL

67	Rock Sample prep. @$2.50	$ 167.50	
37	Soil & Stream sample prep. @ $.50	18.50	
67	ICP Analyses @ $5.50	368.50	
37	10 Element ICP Analyses @ $4.00	148.00	
104	Geochem Au by FA+AA @ $5.25	546.00	
37	Geochem Hg Assays @ $3.00	111.00	
Total Analytical			$1,359.50

SAMPLE SHIPPING

CP Air & Bus	$ 101.00
Expediting (A. Andronik)	$ 50.00
GRAND TOTAL	$13,110.80

APPENDIX II

Rock Sample Descriptions

ROCK SAMPLE DESCRIPTIONS

100I	grab -	jarosite-goethite stained and phyllically altered (unit Lv) abundant disseminated pyrite.
101I	grab -	as above - more itnense alteration (unit Lv)
102I	grab -	very dark grey unaltered columnar plagioclase porphyritic basalt (unit Uvb)
103I	grab -	conglomerate layer within basalt (unit Us)
104I	grab -	dark grey unaltered plagioclase porphyritic andesite (unit Uvb)
105I	grab -	blocky weathering slightly oxidized andesite (unit Uvb)
106I	grab -	similar to 105I with epidote (unit Uvb)
107I	grab -	vesicular red brown weathering basalt with possible zeolites (unit Uvb)
108I	grab -	grean weathering fluvial grit (unit Us)
109I	grab -	red brown weathering basic agglomerate overlying conglomerate lens (unit Uvb)
110I	grab -	hypabyssal feldspar porphyry (intrudes unit Mvp)
111I	grab -	epidose altered maroon volcanics at contact with 110I (unit Mvp)
112I	grab -	1 centimeter quartz vein with pyrite from vein stockwork altering unit Lv.
113I	grab -	jarosite-goethite stained and phyllically altered feldspar porphyry (unit Tdi) - minor pyrite
114I	grab -	(representative grab) - white weathering silicified unit Tdi with abundant multistage sulphidic quartz veinlets.
116I	grab -	propylitically altered feldspar porphyry dike (unit Tdi) - minor pyrite
117I	grab -	jarosite stained pyritic propylitically altered feldspar crystal tuff (unit Lv)
118I	grab -	goethite stained pyritic unit Lv
119I	grab -	goethite stained pyritic feldspar crystal tuff unit Lv
121I	grab -	light grey diorite propylitically altered (unit Tdi)

ROCK SAMPLE DESCRIPTION

123I grab - andesite dike crosscutting alteration 30 - 40 feet thick (unit Uvb)

125I grab - volcanic porphyry - phyllically altered minor disseminated pyrite (unit Lv)

126I grab - Jarosite goethite stained volcanic porphyry - strong propylitic alteration (unit Lv)

127I grab - fine grain diorite - strong propylitic alteration (unit Tdi)

128I grab - jarosite stained Tdi - strong propylitic to phyllic alteration pyrite throughout.

129I grab - similar to 128I

130I grab - similar to 128I, 129I - stronger alteration and pyritization.

131I grab - jarosite goethite stained Tdi - strong alteration partially silicified, mnr. quartz veinlets

132I grab - mild propylitically altered Tdi

134I grab - pervasively silicified and strongly propylitically altered Tdi pyrite throughout

135I grab - propylically altered Tdi - pyrite throughout

136I grab - possibly silicified and propylically altered Tdi

137I grab - Tdi - mild propylitic alteration

138I grab - Tdi - mild propylitic alteration

150I grab - jarosite goethite stained and phyllically altered feld. crystal tuff. - minor pyrite (unit Lv)

151I grab - propylitically altered feld. crystal tuff (unit Lv)

152I grab - strong propylitically altered feld. crystal tuff (unit Lv)

153I grab - prop. alt. diorite (unit Lv)

154I grab - fresh feld. crystal tuff (unit Lv)

155I grab - similar to 154I - more propylitic alteration

156I grab - similar to 154I, 155I - strong alteration with jarosite goethite staining - pyrite throughout

ROCK SAMPLE DESCRIPTION

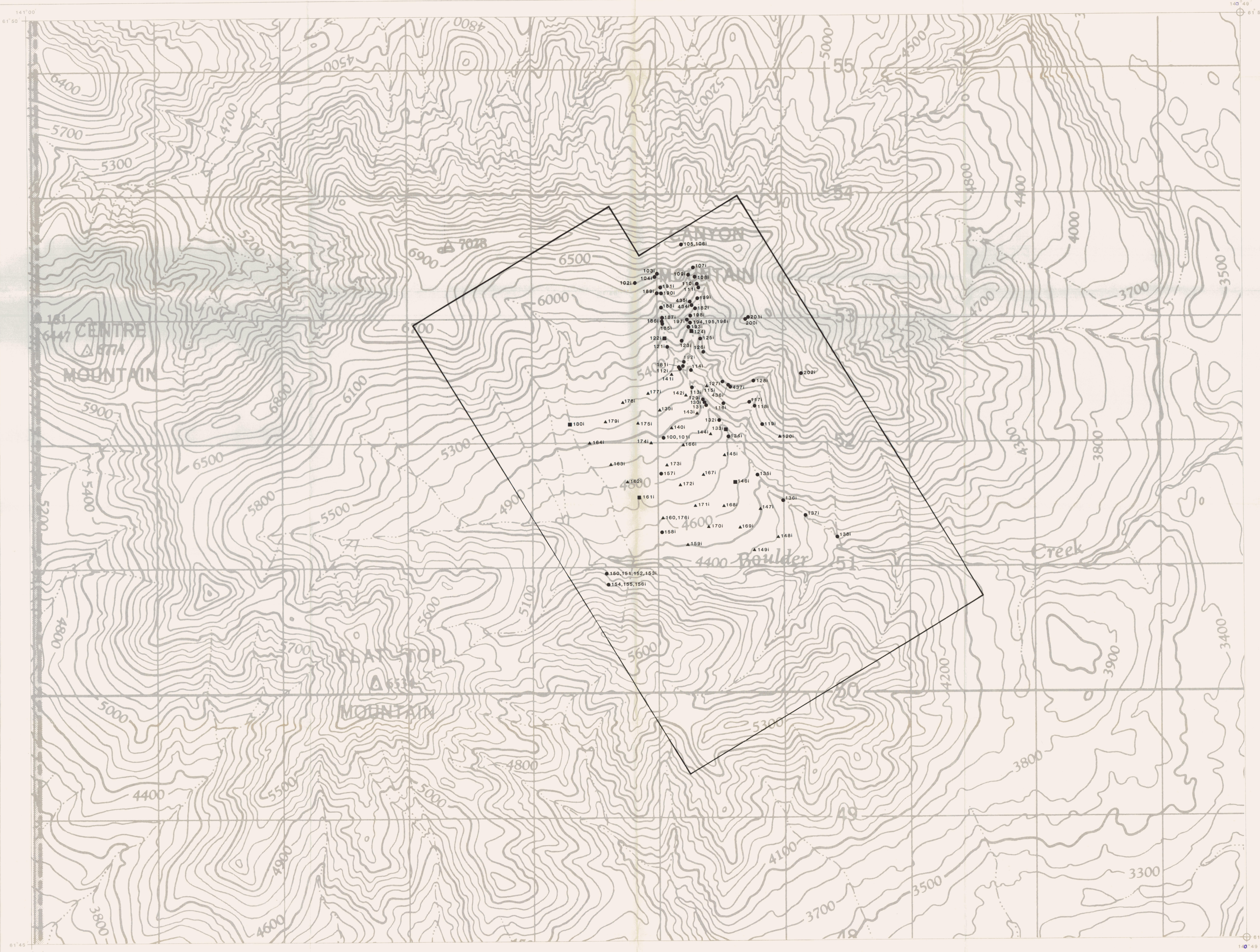
157I	grab	-	weakly prop. altered (unit Lv.)
158I	grab	-	green agglomerate with diorite fragments (unit Lv)
165I	grab	-	propylitically altered fragmental (unit Mvp)
181I	grab	-	silicified unit Lv - strong propylitic alteration - quartz veinlets throughout
182I	grab	-	jarosite stained silicified unit Lv - strong prop. to phyllic alteration
186I	grab	-	fragmental basic volcanic (unit Mvp)
187I	grab	-	hornblende porphyry - possible dike (unit Uvb)
188I	grab	-	pyritic crystal tuff (unit Mvp)
189I	grab	-	pyritized crystal tuff - weak prop. alt. (unit Mvp)
190I	grab	-	pyritized and sericitized(unit Mvp)
191I	grab	-	silicified and pyritized(unit Mvp)
192I	grab	-	partially silicified and quartz veined and altered(unit Lv)
193I	grab	-	prop. alt. feld. crystal tuff (unit Lv)
194I	grab	-	weakly silicified feld. crystal tuff with sericitic alteration and quartz veinlet (unit Lv)
195I	grab	-	(representative grab) - very silicified and quartz veined unit Lv vein stockwork.
196I	grab	-	high-grade sulphidic quartz veinlet with cpy and poss. MoS_2 in silicified unit Lv
197I	grab	-	white quartz veinlet with poss. cpy
198I	grab	-	coarser gr. volcanic - silicified and quartz veined
199I	grab	-	quartz vein stockwork in unit Mvp
200I	grab	-	grey to maroon coloured coarse pyroclastic (unit Mvp)
201I	grab	-	grey feldspar porphyritic intrusive or flow (unit Mvp)
202I	grab	-	green grey coloured feldspar crystal tuff (unit Lv)
434I	grab	-	(composite grab) - quartz stock work

ROCK SAMPLE DESCRIPTION

435I grab - high-grade 6 centimeter multiphase sulphidic quartz vein

436I grab - malachite stained - carbonate altered Tdi - pyrite throughout

437I grab - coarse pyrite bearing sericitically altered Tdi.



0 500 1000m
Scale

Contour Interval: 500 ft.

Record Number: YA75333 - YA75384
Claim Names: CAN 1 - 52

LEGEND

- ● Rock
- ▲ Soil
- ■ Stream

HOMESTAKE
MINERAL DEVELOPMENT COMPANY

RABBIT-CANYON MOUNTAIN

Sample Location Map

DRAWN	DATE	FILE CODE	
	Sept. 1983	091499	Plate 1
REVISED			

TABLE OF FORMATIONS

Uvb – mainly olivine basalts; columnar and scoriaceous flows; minor pyroclastics.

Us – coarse conglomerate or fanglomerate, grit, and graywacke; channel fill.

Tdi – fine to medium-grain diorite to plagioclase porphyry.

Mvp – maroon coloured, intermediate pyroclastic volcanic rock.

Lv – variable sequence of basic to intermediate volcanic flows and pyroclastic rocks.

Ls – variable sequence of conglomerate, graywacke, arkose; in part volcanoclastic with pyroclastic tuffs.

LEGEND

- Bedding
- Quartz Veins
- Late Diabase Dike
- x Mineral Occurrence
- Cp Chalcopyrite
- Geological Contact (approximate, assumed)
- Zone of Silicification
- Zone of Sericitization–Pyritization (approximate, assumed)
- Limit of Soil and Vegetation Cover (outcrop and talus exposure ≥ 65 to 70% of areas outside soil and vegetation cover)
- Stream
- C Covered Areas

0 500 1000m
Scale

Contour Interval: 500ft.

Record Number: YA75333 – YA75384
Claim Names: CAN 1 – 52

Geological Investigations:
June 27 to July 6, 1983
August 31 to September 5, 1983

HOMESTAKE
MINERAL DEVELOPMENT COMPANY

RABBIT–CANYON MOUNTAIN

Geology Map

DRAWN	DATE	FILE CODE	
	Sept. 1983	091499	Plate 2
REVISED			