SHAKWAK EXPLORATION COMPANY LTD.

Rogers Building
Suite 123 - 470 Granville St.
Vancouver, B.C.
V6C 1V5 (604) 684-2304

Suite 10
4078 4th Avenue
Whitehorse, Yukon
Y1A 4K8 (403) 668-2044

LISTED VANCOUVER STOCK EXCHANGE SHA

ASSESSMENT REPORT

091832

ROTARY PERCUSSION DRILLING
BEAR #13 MINERAL CLAIM (YA 77985)
Vesuvius Hill
NTS 105-D-6
Whitehorse Mining District

Latitude: 60°16' North
Longitude: 135°16' West

By
Graham S. Davidson, P.Geol.
Ronald C. R. Robertson, F.G.A.C.
June 1986

091832

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 $ 38,000.00 .

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

TABLE OF CONTENTS

List of Figures

List of Tables

List of Appendices

INTRODUCTION

In December 1985, a track-mounted rotary percussion drill was driven onto the north-facing slope of Vesuvius Hill to test targets outlined earlier in the season. This assessment report describes the drill program undertaken on the BEAR #13 claim.

Prior to rotary drilling, a four-wheel-drive tote road was constructed from the Mount Skukum mine haulage road to Vesuvius Hill. A D-7 Caterpillar bulldozer owned by Caron Diamond Drilling built this road over a two-week period in late November.

This report was prepared by G. Macdonald and Associates Limited on behalf of Shakwak Exploration Co. Ltd.

LOCATION AND ACCESS

The BEAR and CUB claims cover Vesuvius Hill, north of the Wheaton River, on NTS Map Sheets 105-D-3 and 105-D-6 in southwestern Yukon. Property location is shown on Figure 1.

The property is accessible from Whitehorse via the Alaska and Carcross Highways and the Wheaton River-Mount Skukum gravel road. A newly built four-wheel-drive road extends up the Summit Creek valley to the claims. The total road distance from Whtiehorse is approximately 85 km.

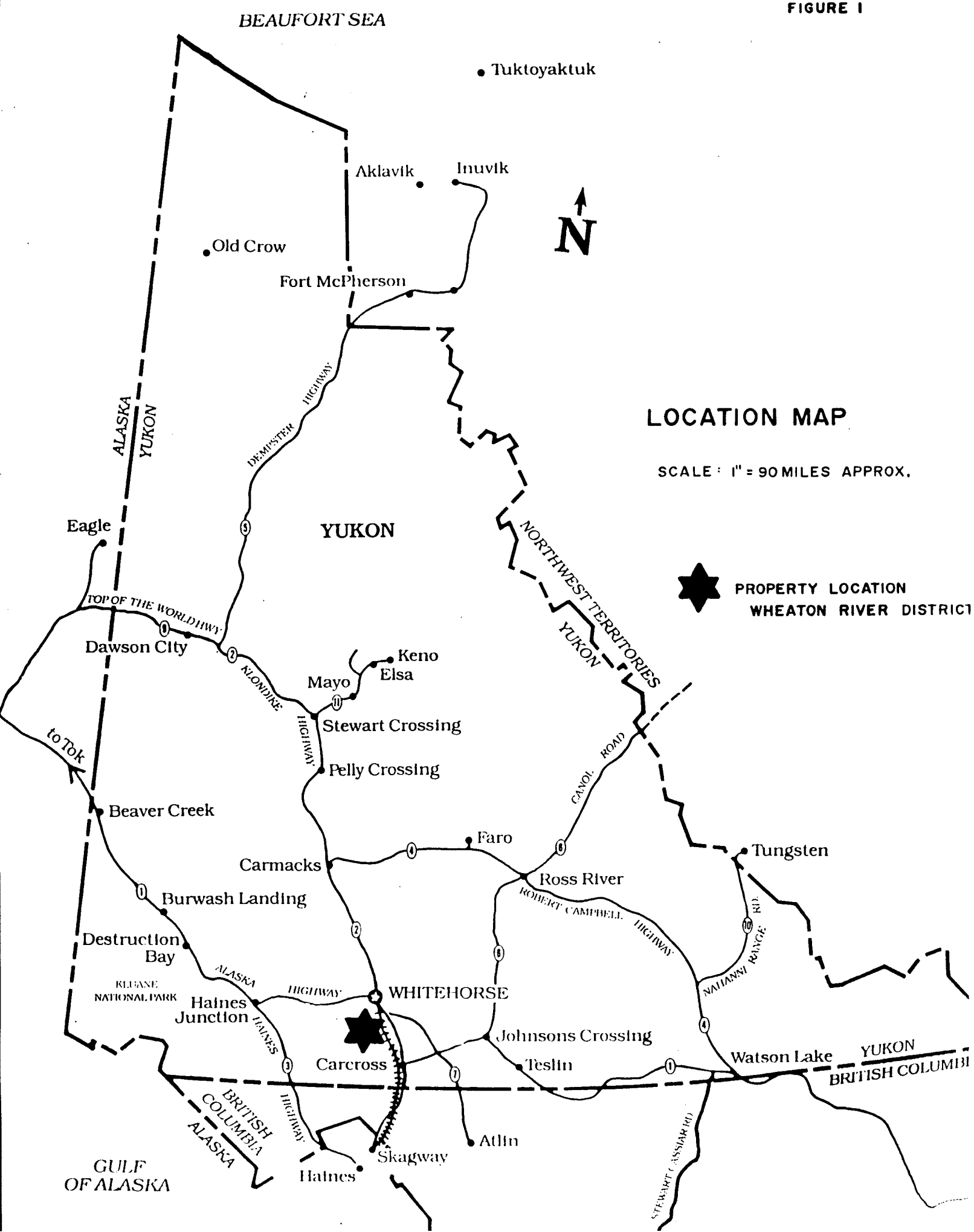
PROPERTY

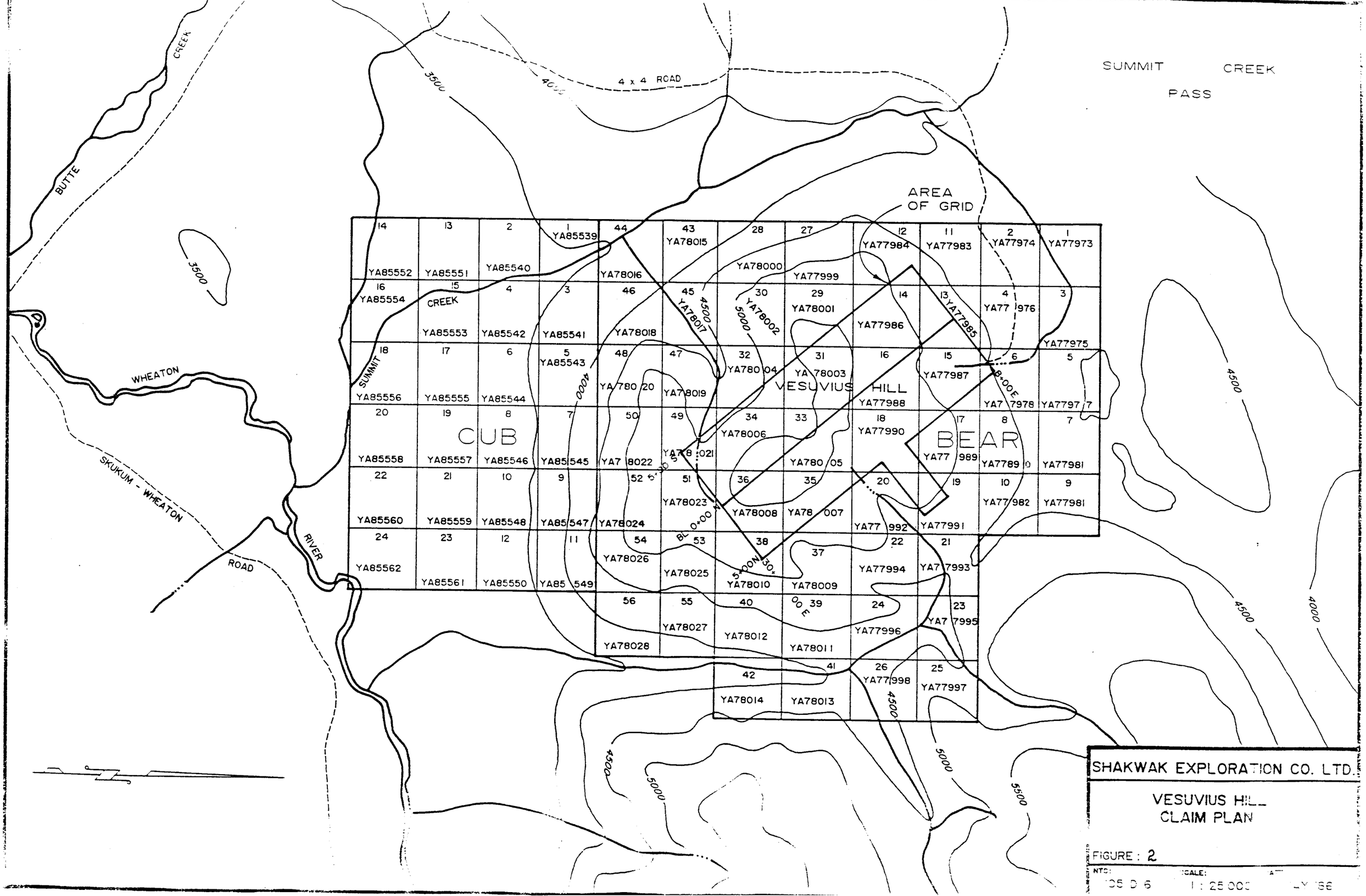
The BEAR 1-56 claims, owned by AGIP Canada, are under option to Shakwak Exploration Co. Ltd. The CUB 1-24 claims are recorded in the name of Shakwak Exploration Co. Ltd.

Claim Name	Grant Number	Record Date
BEAR 1-56	YA77973-78028	28 July
CUB 1-24	YA85539-85562	5 October

The location of the BEAR and CUB claims with respect to topography is shown on Figure 2.

FIGURE 1


BEAUFORT SEA
Tuktoyaktuk
Aklavik
Inuvik
N
Old Crow
Fort McPherson
ALASKA
YUKON
DEMPSTER HIGHWAY
LOCATION MAP
SCALE: 1" = 90 MILES APPROX.
Eagle
YUKON
NORTHWEST TERRITORIES
YUKON
PROPERTY LOCATION
WHEATON RIVER DISTRICT
TOP OF THE WORLD HWY.
Dawson City
KLONDIKE HIGHWAY
Keno
Elsa
Mayo
Stewart Crossing
to Tok
Pelly Crossing
CANOL ROAD
Beaver Creek
Faro
Tungsten
Carmacks
Ross River
Burwash Landing
ROBERT CAMPBELL HIGHWAY
NAHANNI RANGE RD.
Destruction Bay
KLUANE NATIONAL PARK
ALASKA HIGHWAY
WHITEHORSE
Haines Junction
HAINES
Johnsons Crossing
Carcross
Teslin
Watson Lake
YUKON
BRITISH COLUMBIA
BRITISH COLUMBIA
ALASKA
HIGHWAY
Atlin
Skagway
GULF OF ALASKA
Haines
STEWART CASSIAR RD.



SHAKWAK EXPLORATION CO. LTD.

VESUVIUS HILL
CLAIM PLAN

FIGURE : 2

NTS: 105 D 6 SCALE: 1 : 25 000 A... LY 86

PHYSIOGRAPHY, CLIMATE, VEGETATION

The BEAR and CUB claims cover a rectangular block of ground extending from the Wheaton River (elevation 900 m) at the south end for over 5 km across the summit area of Vesuvius Hill (1670 m) down to two small lakes between the Summit Creek and Thompson Creek drainage systems.

Local treeline is about 1200 m elevation; lower slopes are quite well vegetated with stands of conifers and poplar, with alder, spruce or willow underbrush. Above treeline, the slopes have grass or moss with some bushes and stunted trees; steeper slopes are talus-covered, with occasional rock outcrops.

Climatic conditions are generally those of similar elevations in the Carcross area, characterized by a northern interior climate modified by a warmer, moist influence of the nearby Pacific Ocean. Average annual precipitation is approximately 40 cm. Winters in the area are long, with temperature extremes to -40°C but commonly in the -10°C to -20°C range. Summers are pleasant with temperatures up to 25°C and long hours of daylight during May, June and July. The area is generally snowfree from mid-May to late September.

REGIONAL GEOLOGY

The Wheaton River district straddles the boundary between folded Mesozoic and Paleozoic volcanic and sedimentary rocks of the Whitehorse Trough and the granitic intrusive rocks of the Cretaceous Coast Crystalline Complex to the west. All of these units are locally overlain by volcanic rocks of the late Cretaceous/early Tertiary Skukum Group and intruded by rhyolite and andesite dykes of the same age.

The region has been mapped twice by the Geological Survey of Canada and the results published as Memoir 31 (D. D. Cairnes, 1912) and Memoir 312 (J. O. Wheeler, 1961). A re-interpretation of the regional geology formed part of the metallogenic map published as Open File EGS 1979-6 of the Department of Indian Affairs and Northern Development (G. W. Morrison).

A preliminary geological map of the Mount Skukum Volcanic Complex by Monica Pride was published as an open file by the Exploration and Geological Services Division of Northern Affairs in 1985; this map includes the area of the BEAR and CUB claims.

Much of the property is underlain by a variety of volcanic and volcaniclastic rocks of the Mount Skukum Complex; these are primarily felsic to intermediate flows and tuffs, locally brecciated. At the north side of the BEAR claims, a prominant zone of orange gossan and pale weathering alteration is developed over a small dyke or plug of porphyritic rhyolite. Pride (1985) has interpreted this sequence as part of an inferred "Vesuvius Hill-Mount Kopje" caldera.

Table 1:
Table of Formations

QUATERNARY		Alluvium; glacial and fluvial deposits
QUATERNARY(?)	Miles Canyon volcanics	Basalt; minor pyroclastic rocks
TERTIARY	Skukum Group	Basalt, andesite, rhyolite flows, tuffs and breccias, dykes and sills
MID-CRETACEOUS	Coast Range intrusions	Medium-grained quartz-monzonite; granodiorite
JURASSIC	Tantalus Group	Mainly conglomerate
LOWER JURASSIC	Laberge Group	Greywacke, arkose, quartzite, siltstone, argillite and conglomerate
TRIASSIC	Lewes River Group	Andesite, basalt flows and pyroclastic equivalents; limestone; minor rhyolite flows
LOWER PALEOZOIC	"Yukon Group"	Metamorphic terrain; quartz-biotite schist; micaceous quartzite; minor gneissic units; marble

The general geology of the BEAR and CUB claims is shown in Figure 3.

PREVIOUS EXPLORATION

The earliest exploration work in the Wheaton River area pre-dates the Klondike Gold Rush by several years. The first recorded claims staked in the region were located by Frank Corwin and Thomas Rickman on Carbon Hill, Chieftain Hill and Mt. Anderson(?) during the summer of 1893. Additional prospecting in the Wheaton River District continued intermittently until 1906 when the discovery of gold and gold telluride bearing quartz veins on Gold Hill led to a staking rush which resulted in over 700 claims being located near the discovery and on Carbon Hill where Corwin and Rickman's original claims had been found. Many of the claims were further developed until the outbreak of WWI - with adit entry underground drifts driven on shear zones or veins on Gold Hill, Tally Ho Mountain, Mt. Stevens and Carbon Hill. After the termination of the war, additional exploration was conducted on several of the more promising occurrences and limited production arose from high grade zones at Tally Ho Mountain, Gold Hill and Mt. Stevens.

MILL SITE

BUTTE CREEK

4 x 4 ROAD

SUMMIT CREEK PASS

3500

4000

4500

5000

5500

6000

CREEK

VESUVIUS HILL

3000

Kgd

Kga

SUMMIT

SKUKUM

WHEATON

WHEATON

RIVER

ROAD

LEGEND

EARLY TERTIARY

Porphyritic Rhyolite

Felsic to Intermediate Dykes

FORMATION 4

Altered Felsic Volcanic Rocks

Felsic Flow Banded Lava Flows and Intrusions

Layered Felsic Volcanoclastic Rocks

FORMATION 3

Interlayered Epiclastic Rocks and Intermediate Lava Flows

CRETACEOUS - COAST INTRUSION

Kgd — Granodiorite

Geological Contact

Fault

0 500 1000 1500 2000

METRES

Geology after M.J. Pride (1985)

SHAKWAK EXPLORATION CO. LTD.

VESUVIUS HILL
GEOLOGY

FIGURE: 3

NTS: | SCALE: | DATE:

Most of the Wheaton River District then lay idle from the mid-1920's until the late 1940's as most exploration efforts during this period were directed to silver-lead veins in the Keno Hill area of central Yukon. From the 1940's until the early 1980's, the Wheaton River District witnessed only sporadic exploration activity as specific commodities were sought. During the 1970's, exploration reconnaissance programs were conducted in the region for porphyry copper deposits. With the increasing price for gold during the late 1970's, interest again revived for precious metal exploration in southern Yukon.

A regional exploration program conducted by Agip Canada Ltd. in 1980 led to discovery of gold-bearing vein structures at Mount Skukum in 1981. Subsequent diamond drill programs in 1982-1984 defined a commercial orebody consisting of 165,000 tons grading 0.73 oz gold and 0.63 oz silver per ton as finely disseminated gold hosted by quartz-calcite veining. Development work by Mount Skukum Gold Mines Ltd. (a subsidiary of Erickson Gold Mines Ltd. of Vancouver) proceeded during 1984-1985 under a joint venture agreement with Agip; production is scheduled to commence early in 1986.

The significance of this discovery was realized in 1983 and exploration activity in the Wheaton River district showed a dramatic increase during 1983-1985.

There is no record of earlier claims staked in the area of the present BEAR claims although it is believed that reconnaissance exploration for porphyry copper-molybdenum mineralization was carried out here in the late 1960's/early 1970's.

Only a limited amount of reconnaissance exploration was carried out by Agip Canada Ltd. prior to staking the BEAR claims in 1983. During a property examination in 1984, 12 rock samples were collected by staff of Kerr-Addison Mines Ltd. and analyzed for gold, silver, arsenic, antimony and mercury. Only the mercury analyses showed anomalous results: up to 1900 ppb. These samples were all collected from the gossan area near the north end of the BEAR claims.

EXPLORATION PROGRAM - July - October 1985

MBW Surveys Ltd. of Whitehorse were contracted to establish an exploration grid on the property. The baseline extends for 3 km at 140° from the northwest end of the gossan zone. Crosslines at 200 m intervals extend 500 m north and south of the baseline. A total of 15 line km of grid was set up; more detailed grids were laid out by the exploration crew in areas of interest, using the main grid for control.

Reconnaissance mapping and prospecting resulted in no additional zones of interest; the principal rock units are essentially as shown in Pride (1985). The shape of the rhyolite porphyry body in the gossan zone is uncertain; it is shown as a small stock in Pride (1985) but appears to have some narrow dyke-like extensions. There is considerable variation in the body, masked by extensive alteration, and perhaps two shear zones marked by fracturing and clay gouge.

Soil sampling was carried out on the grid on lines 100 m apart with a 50 m sample spacing. Some stations could not be sampled because of rock outcrops and extensive coarse talus. More detailed soil sampling was carried out on 50 m lines with a 25 m sample interval, particularly in the gossan area.

A total of 568 soil, 220 rock and 43 silt samples were collected and analyzed for gold and silver. All the rock samples and 265 soil samples were also analyzed for mercury. A strong mercury anomaly was outlined in soils and rocks over the gossanous area and the rhyolite porphyry plug on the north face of Vesuvius Hill. Peak mercury values of 2050 ppb and silver values up to 24.0 ppm were obtained in rocks from this zone. All gold values were of background or near-background levels except for an isolated value of 860 ppb gold at 2+00 N on Line 9+00 E.

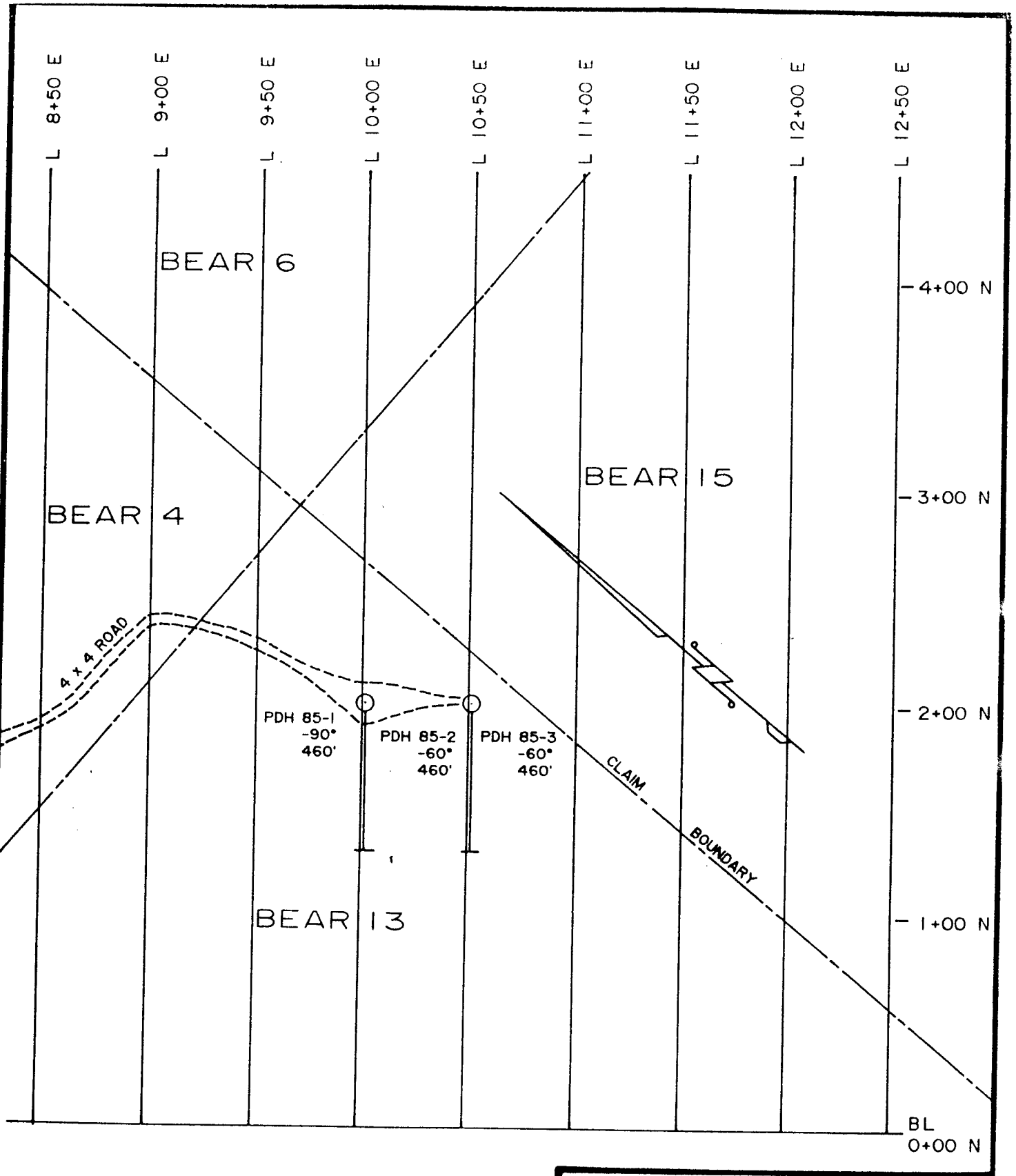
VLF-EM and I.P. geophysical surveys were conducted over sections of the grid. The VLF survey outlined a 1,000 m long northwesterly trending anomaly at the south end of Vesuvius Hill. The I.P. survey concentrated on the gossanous area on the north side of the property, covering 2.1 km of grid line. The I.P. survey identified several strong resistivity highs flanked by resistivity lows which were targeted in the rotary drilling program described in this report.

ROTARY PERCUSSION DRILLING

In December 1985 three rotary percussion drill holes were drilled from two sites on the north side of Vesuvius Hill, utilizing a track-mounted Schramm T6A rotary drill machine. Holes 1 and 3 were drilled with the boom at -60° while Hole 2 was drilled as a vertical hole from the same site as Hole 1. Figure 4 shows the locations of the drill sites and the charts on the following pages contain the drill logs and geochemical values.

Analysis of sections of drill cuttings from the three holes produced background and near-background gold and silver values. Mercury analytical results were more responsive with peak values of 750 ppm in Hole 2 (110-115') and 700 ppm in Hole 3 (430-435'). A thick unit of quartz-rich volcaniclastic rock containing up to 5% pyrite was intersected in the drilling. Several zones containing quartz-carbonate fragments and rhyolite porphyry fragments are noted in the drill logs.

The abundance of pyrite and silicified rock in the drill cuttings indicates that the I.P. target has been intersected; however, no precious metals were associated with this anomaly. Future drilling should test anomalous geochemical and geophysical zones south and west of the 1985 drill sites.



SHAKWAK EXPLORATION CO. LTD.

VESUVIUS HILL
DRILL PLAN

FIGURE: 4

NTS:	SCALE:	DATE:
105 D 6	1 : 2500	MAY '86

Table 2: Rotary Drill Hole Logs

VESUVIUS HILL

Hole #1

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au	Ag	Hg	SAMPLE WEIGHT	SAMPLE DESCRIPTION
		PPB	PPM	PPM	LBS	
	0 - 5	5	0.2	25	5	0-50: oxidized felsic volcaniclastic rock,
	5 - 10	<5	<0.2	30	26	quartz fragments and minor rhyolite,
	10 - 15	↑	↑	35	29	abundant pyrite (up to 2%), rusty
	15 - 20			70	34	fragments
	20 - 25			55	8	
	25 - 30			70	10	
	30 - 35		↓	35	31	
	35 - 40		<0.2	40	44	
	40 - 45		0.2	40	39	
	45 - 50		<0.2	30	61	
	50 - 55		<0.2	30	60	50-240: quartz-rich volcaniclastic rock,
	55 - 60		0.2	20	41	contains up to 5% pyrite, some felsic
	60 - 65		<0.2	20	18	porphyry fragments(?) Light grey-
	65 - 70		0.2	25	35	green in colour, pyrite is fine to
	70 - 75		<0.2	20	28	medium grained, cubic
	75 - 80	↓	↑	20	48	
	80 - 85	<5		25	32	
	85 - 90	25		20	46	
	90 - 95	<5		20	48	
	95 - 100	↑		10	60	
	100 - 105			30	70	
	105 - 110			30	70	
	110 - 115			30	68	
	115 - 120			30	91	
	120 - 125			25	60	
	125 - 130			30	77	
	130 - 135		↓	65	83	
	135 - 140		<0.2	50	73	
	140 - 145	↓	0.2	30	63	
	145 - 150	<5	<0.2	55	60	

NOTES : Drill casing to 20'

VESUVIUS HILL

Hole #1

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au	Ag	Hg	SAMPLE WEIGHT	SAMPLE DESCRIPTION
		PPB	PPM	PPM	LBS	
	150 - 155	5	0.2	75	80	
	155 - 160	<5	<0.2	100	92	
	160 - 165	↑	↑	55	56	
	165 - 170	↓		70	63	
	170 - 175	<5		50	63	Some quartz-carbonate fragments
	175 - 180	5		120	60	
	180 - 185	<5		90	63	
	185 - 190	↑		80	60	
	190 - 195			145	69	
	195 - 200		↓	40	52	
	200 - 205		<0.2	50	53	
	205 - 210		0.2	115	65	
	210 - 215		<0.2	70	53	
	215 - 220		<0.2	80	54	
	220 - 225		0.2	70	53	
	225 - 230		<0.2	95	61	
	230 - 235		↑	115	53	
	235 - 240		↓	120	51	
	240 - 245		<0.2	55	56	240-290: quartz-rich volcanic rock con-
	245 - 250		0.2	75	50	taining up to 5% pyrite, up to
	250 - 255		0.2	100	66	50% light grey rhyolite porphyry
	255 - 260		<0.2	100	47	fragments
	260 - 265		↑	100	56	
	265 - 270			90	57	
	270 - 275			100	26	
	275 - 280			165	48	
	280 - 285			195	49	
	285 - 290			120	47	
	290 - 295	↓	↓	70	57	290-370: light grey rhyolite porphyry
	295 - 300	<5	<0.2	65	40	

NOTES :

VESUVIUS HILL

Hole #1

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au	Ag	Hg	SAMPLE WEIGHT	SAMPLE DESCRIPTION
		PPB	PPM	PPM	LBS	
	300 - 305	<5	<0.2	110	41	quartz- rich volcanic rock, up to 5%
	305 - 310	<5	↑↓	60	41	pyrite; some yellow to rusty
	310 - 315	10	↓	85	36	rhyolitic fragments
	315 - 320	<5	<0.2	60	42	
	320 - 325	↑	0.2	100	42	
	325 - 330	|	0.2	70	73	
	330 - 335	|	0.2	60	40	
	335 - 340	|	<0.2	75	52	
	340 - 345	|	↑↓	40	70	
	345 - 350	↓	↓	55	51	
	350 - 355	<5	<0.2	60	37	
	355 - 360	65	0.2	65	33	
	360 - 365	5	<0.2	60	41	
	365 - 370	<5	↑	245	38	
	370 - 375	<5	|	200	28	370-460: quartz-rich fine-grained volcanic
	375 - 380	10	|	85	34	rock, some feldspar, up to 5%
	380 - 385	<5	|	40	26	pyrite, some rhyolite and yellowish
	385 - 390	5	↓	80	28	quartz fragments
	390 - 395	<5	<0.2	70	58	
	395 - 400	↑	0.2	90	30	
	400 - 405	|	0.2	65	37	
	405 - 410	|	<0.2	70	20	
	410 - 415	|	↑↓	50	26	
	415 - 420	|	↓	50	45	
	420 - 425	|	<0.2	60	35	
	425 - 430	|	0.2	120	19	
	430 - 435	|	<0.2	110	63	
	435 - 440	↓	↑	125	26	
	440 - 445	<5	↓	95	35	
	445 - 450	10	<0.2	75	72	

NOTES :

VESUVIUS HILL

Hole #1

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au	Ag	Hg	SAMPLE WEIGHT	SAMPLE DESCRIPTION
		PPB	PPM	PPM	LBS	
	450 - 455	<5	<0.2	50	40	
	455 - 460	<5	<0.2	35	57	

NOTES :

VESUVIUS HILL

Hole #2

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au PPB	Ag PPM	Hg PPM	SAMPLE WEIGHT LBS	SAMPLE DESCRIPTION
	0 - 5	<5	0.2	<5	9	0-80: oxidized quartz-rich volcani-
	5 - 10	↑	<0.2	20	35	* clastic rock and rhyolite porphyry
	10 - 15		0.2	35	35	(*where observed): quartz-rich
	15 - 20		↑	35	44	* volcanic rock contains up to 5%
	20 - 25			35	4	pyrite, orange weathering
	25 - 30			40	23	*
	30 - 35			30	11	
	35 - 40			40	52	
	40 - 45			40	12	*
	45 - 50			45	15	*
	50 - 55			20	28	
	55 - 60		↓	10	74	
	60 - 65		0.2	10	46	
	65 - 70		0.3	20	80	
	70 - 75		0.3	20	87	
	75 - 80		0.2	20	72	*
	80 - 85		0.4	20	62	80-460: quartz-rich volcaniclastic rock
	85 - 90		0.4	35	54	containing up to 5% pyrite, grey
	90 - 95		0.2	10	46	coloured; some quartz-carbonate
	95 - 100		0.2	10	58	fragments where noted. Minor
	100 - 105		0.3	10	52	biotite in volcaniclastic rock.
	105 - 110		0.3	150	64	
	110 - 115		0.4	750	48	
	115 - 120		0.4	145	72	
	120 - 125		0.4	145	60	
	125 - 130		0.3	20	52	
	130 - 135		0.3	30	30	
	135 - 140		0.3	25	21	
	140 - 145	↓	0.3	180	54	
	145 - 150	<5	0.2	180	79	Qtz-carb. fragments

NOTES : Drill casing to 20'

VESUVIUS HILL

Hole #2

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au	Ag	Hg	SAMPLE WEIGHT	SAMPLE DESCRIPTION
		PPB	PPM	PPM	LBS	
	150 - 155	<5	0.3	170	84	
	155 - 160		0.4	30	83	
	160 - 165		0.4	35	75	
	165 - 170		0.2	40	65	
	170 - 175		0.2	20	70	
	175 - 180		0.3	20	60	
	180 - 185		0.4	30	60	
	185 - 190		0.2	40	72	
	190 - 195		0.4	75	56	
	195 - 200		0.4	50	55	
	200 - 205		0.3	30	60	
	205 - 210		0.2	30	56	
	210 - 215		0.2	95	70	
	215 - 220		<0.2	40	70	
	220 - 225		0.2	170	58	Qtz-carb. fragments
	225 - 230		0.2	245	73	
	230 - 235		0.2	145	57	Qtz-carb. fragments
	235 - 240		0.2	20	72	Qtz-carb. fragments
	240 - 245		0.4	30	63	
	245 - 250	<5	0.4	30	65	
	250 - 255	10	0.4	40	74	
	255 - 260	5	0.2	40	64	
	260 - 265	<5	0.3	20	53	
	265 - 270	<5	0.3	10	51	
	270 - 275	<5	0.3	20	41	
	275 - 280	5	0.3	20	40	
	280 - 285	<5	0.4	30	62	
	285 - 290	<5	0.3	10	55	
	290 - 295	<5	0.4	15	42	
	295 - 300	<5	0.4	15	47	

NOTES :

VESUVIUS HILL

Hole #2

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au	Ag	Hg	SAMPLE WEIGHT	SAMPLE DESCRIPTION
		PPB	PPM	PPM	LBS	
	300 - 305	5	0.3	20	63	
	305 - 310	<5	0.3	35	66	
	310 - 315	↑	0.2	15	61	
	315 - 320		0.3	30	70	
	320 - 325	↓	0.2	20	60	
	325 - 330	<5	0.4	60	52	
	330 - 335	5	0.2	40	35	
	335 - 340	5	0.3	40	26	
	340 - 345	<5	<0.2	15	42	
	345 - 350	<5	<0.2	10	61	
	350 - 355	10	<0.2	10	41	
	355 - 360	<5	0.3	10	51	
	360 - 365	10	<0.2	80	50	
	365 - 370	<5	0.2	15	45	
	370 - 375	10	↑	50	32	
	375 - 380	<5		15	27	
	380 - 385	↑		120	24	
	385 - 390		↓	40	16	Qtz-carb. fragments
	390 - 395		0.2	35	12	Qtz-carb. fragments
	395 - 400		<0.2	15	10	Qtz-carb. fragments
	400 - 405		<0.2	30	33	
	405 - 410		0.2	70	28	
	410 - 415		0.2	30	9	Qtz-carb. fragments
	415 - 420		<0.2	5	23	415-460: Quartz-rich volcaniclastic rock
	420 - 425		<0.2	10	27	and rhyolite porphyry
	425 - 430		0.2	<5	47	
	430 - 436		0.3	20	55	
	435 - 440		0.3	35	40	
	440 - 445	↓	0.4	15	42	
	445 - 450	<5	0.2	10	40	

NOTES :

VESUVIUS HILL

Hole #2

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au	Ag	Hg	SAMPLE WEIGHT	SAMPLE DESCRIPTION
		PPB	PPM	PPM	LBS	
	450 - 455	<5	0.2	70	44	
	455 - 460	5	0.2	30	42	

NOTES :

VESUVIUS HILL

Hole #3

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au PPB	Ag PPM	Hg PPM	SAMPLE WEIGHT LBS	SAMPLE DESCRIPTION
	0 - 5	5	<0.2	250	1	0-50: oxidized rusty weathered quartz
	5 - 10	10		160	75	rich volcaniclastic rock con-
	10 - 15	10		85	60	taining up to 5% pyrite and minor
	15 - 20	<5		140	65	biotite. Quartz-carbonate frag-
	20 - 25	5		60	21	ments where noted.
	25 - 30	5		70	28	
	30 - 35	<5		15	22	
	35 - 40	<5		65	68	Qtz-carb. fragments
	40 - 45	5		25	20	
	45 - 50	5		30	40	Qtz-carb. fragments
	50 - 55	15		20	37	50-460: Quartz-rich volcaniclastic rock
	55 - 60	<5	<0.2	20	73	containing up to 5% pyrite and
	60 - 65	<5	0.2	90	30	minor biotite, qtz-carbonate
	65 - 70	15	<0.2	85	40	fragments where noted. Some
	70 - 75	<5	↑	20	50	rhyolite porphyry.
	75 - 80	10	↓	50	30	
	80 - 85	<5	<0.2	45	50	
	85 - 90					
	90 - 95	<5	0.2	35	47	
	95 - 100	15	<0.2	20	45	
	100 - 105	15	0.2	30	50	
	105 - 110	<5	<0.2	45	35	Qtz-carb. fragments
	110 - 115	5		35	45	Qtz-carb. fragments
	115 - 120	<5		44	67	Qtz-carb. fragments
	120 - 125	10		40	21	
	125 - 130	<5		35	51	
	130 - 135	↑		40	70	
	135 - 140			20	76	
	140 - 145	↓		40	33	
	145 - 150	<5	<0.2	40	26	

NOTES : Drill casing to 20'

VESUVIUS HILL

Hole #3

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au	Ag	Hg	SAMPLE WEIGHT	SAMPLE DESCRIPTION
		PPB	PPM	PPM	LBS	
	150 - 155	<5	<0.2	30	16	
	155 - 160	10	↑	30	33	
	160 - 165	5	|	30	43	
	165 - 170	10	|	50	85	
	170 - 175	<5	|	55	60	
	175 - 180	5	|	55	76	
	180 - 185	5	|	55	76	
	185 - 190	<5	↓	45	71	
	190 - 195	↑	<0.2	60	32	
	195 - 200	↓	0.2	60	38	
	200 - 205	<5	0.3	50	41	
	205 - 210	5	0.2	60	66	
	210 - 215	<5	<0.2	50	78	
	215 - 220	<5	0.4	55	74	
	220 - 225	20	<0.2	80	81	Qtz-carb. fragments
	225 - 230	<5	0.3	90	77	Qtz-carb. fragments
	230 - 235	<5	0.2	350	80	Qtz-carb. fragments
	235 - 240	<5	0.3	100	66	
	240 - 245	20	<0.2	75	72	
	245 - 250	15	↑	150	83	
	250 - 255	<5	|	175	83	Qtz-carb. fragments
	255 - 260	5	↓	175	85	
	260 - 265	<5	<0.2	20	32	
	265 - 270	<5	0.2	110	35	
	270 - 275	15	<0.2	100	65	
	275 - 280	<5	0.2	80	45	Qtz-carb. fragments
	280 - 285	↑	0.3	95	36	Qtz-carb. fragments
	285 - 290	|	<0.2	80	39	
	290 - 295	↓	0.2	100	36	
	295 - 300	<5	0.2	195	48	

NOTES :

VESUVIUS HILL

Hole #3

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au	Ag	Hg	SAMPLE WEIGHT	SAMPLE DESCRIPTION
		PPB	PPM	PPM	LBS	
	300 - 305	<5	0.3	180	37	Qtz-carb. fragments
	305 - 310	↑	0.2	100	54	
	310 - 315		0.2	100	33	
	315 - 320		<0.2	90	39	
	320 - 325		0.2	110	15	
	325 - 330	↓	0.3	120	84	
	330 - 335	<5	0.2	200	69	
	335 - 340	10	0.4	150	28	Qtz-carb. fragments
	340 - 345	<5	<0.2	100	21	Qtz-carb. fragments
	345 - 350	↑	0.2	190	36	Qtz-carb. fragments
	350 - 355		0.3	190	27	
	355 - 360		0.2	120	30	
	360 - 365		0.2	50	20	
	365 - 370		<0.2	60	19	Qtz-carb. fragments
	370 - 375	↓	0.2	100	49	Qtz-carb. fragments
	375 - 380	<5	0.3	100	33	Qtz-carb. fragments
	380 - 385	5	<0.2	100	51	Qtz-carb. fragments
	385 - 390	<5	<0.2	50	61	Qtz-carb. fragments
	390 - 395	↑	0.3	45	45	Qtz-carb. fragments
	395 - 400	↓	0.2	45	65	Qtz-carb. fragments
	400 - 405	<5	<0.2	65	60	Qtz-carb. fragments
	405 - 410	5	0.2	55	47	
	410 - 415	<5	0.3	150	54	
	415 - 420	↑	0.3	40	43	
	420 - 425	↓	<0.2	55	40	
	425 - 430	<5	0.3	70	51	
	430 - 435	15	0.2	700	46	
	435 - 440	<5	0.2	90	51	
	440 - 445	10	0.2	60	44	
	445 - 450	<5	0.2	50	59	

NOTES :

VESUVIUS HILL

Hole #3

SAMPLE NUMBER	INTERVAL Ft.	ELEMENTS Au	Ag	Hg	SAMPLE WEIGHT	SAMPLE DESCRIPTION
		PPB	PPM	PPM	LBS	
	450 - 455	15	0.3	50	39	Qtz-carb. fragments
	455 - 460	<5	<0.2	70	54	Qtz-carb. fragments

NOTES :

REFERENCES

CAIRNES, D. D., 1912: Wheaton District, Yukon Territory. Canada, Department of Mines, Geological Survey Branch, Memoir 31 (153 pp).

MORRISON, G. W., 1979: Metallogenic Map, Whitehorse, Yukon. Open File EGS 1979-6, Northern Affairs, Whitehorse, Yukon.

PRIDE, M. J., 1985: Preliminary Geological Map of Mount Skukum Volcanic Complex. Exploration and Geological Services Division, Northern Affairs, Whitehorse.

WALLIS, J. E., P.Eng., 1985: Preliminary Evaluation Report on the BEAR and CUB Claims - Vesuvius Hill Project. Unpublished report for Shakwak Exploration Company Limited.

ROBERTSON, R. C. R., F.G.A.C., 1986: Assessment Report - Geochemical Sampling on BEAR and CUB Claims. Unpublished report for Shakwak Exploration Company Limited.

ROTARY PERCUSSION DRILLING
REVERSE CIRCULATION METHOD

Reverse circulation drilling is also referred to as:

- rotary continuous sample
- double wall drilling pipe drilling systems
- dual wall drilling
- reverse circulation rotary drilling

Reverse circulation utilizes dual wall drill pipe, top drive rotation and side inlet swivel for injecting the circulation medium to be employed. Reverse circulation drilling normally utilizes air as the transfer medium for the cuttings, but water, mud or foam may also be used.

Reverse circulation means that the sample is recovered up the centre section of the drill pipe. The air or other fluid is injected in the side inlet swivel and down between the two walls of the dual wall pipe to the drill bit. The cuttings and the fluid are directed to the centre of the bit and transported to the surface at very high velocity rates through the inner annulus of the dual wall pipe. Note that the sample is in the form of cuttings or chips.

This discharge material is directed through a discharge hose to the sampling cyclone where velocity is dampened and the sample is collected in a suitable container.

Reverse circulation drilling employs dual wall pipe and a range of drill bits including down-hole hammer, tri-cone bits or open-faced bits.

Common drill pipe diameters:

- 3.5" O.D. x 1.732" I.D.
- 4.5" O.D. x 2.469" I.D.
- 5.5" O.D. x 3.250" I.D.

The I.D. of the inner pipe dictates the size and volume of the sample and is critical in the success of the system. The majority of reverse circulation drillings employs approximately 2½" I.D. pipe. The outer pipe is designed to withstand the torque and shock loads associated with rotary drilling. The inner pipe is under relatively no stress. The bit size is normally a nominal size larger than the drill pipe; therefore, the hole is cut with minimum clearance.

Since the outer drill pipe supports the hole much in the same way as a stabilizer, the circulation can continue internally and surface casing is eliminated. This accounts for one of the main features of the reverse circulation system: the ability to maintain circulation even while drilling in caving, broken or unconsolidated formations as well as low pressure zones, voids, joints, fractures and abandoned mines with open adits or worked-out slopes.

Using standard drilling techniques with the reverse circulation system, proper drilling and sampling will provide little danger of contamination by wall

erosion and, therefore, the sample comes only from the bit face, providing a representative, virtually uncontaminated sample.

Sample Collection

The cuttings travel up the inner pipe and are discharged through the top of the rotary top drive into a discharge hose. The discharge hose connects to a sample cyclone or tube. The sample can be collected under the cyclone discharge in any specified container; it can also be split utilizing several methods, including a rotary splitter, mini-cyclone or a three-time sample splitter.

APPENDIX II

ANALYTICAL METHODS

All soil and rock samples were prepared and analyzed by Bondar-Clegg and Co. Ltd. at laboratories in Whitehorse and North Vancouver. Soil samples are sieved and a split of the minus 80 mesh fraction is analyzed. Rock samples are crushed and pulverized to approximately 100 or 150 mesh.

Gold analyses are by fire assay techniques, using a 10 g sample weight for soils and a 30 g sample weight for rocks. After preparation of the dore bead, the bead is dissolved in acid and the gold content of the solution determined by atomic absorption spectrophotometry.

Silver analyses are by standard atomic absorption techniques after digestion in nitric and hydrochloric acids.

Mercury analyses are by flameless atomic absorption spectrophotometry after sample digestion.

APPENDIX III

STATEMENT OF COSTS

Period: 1st November to 15th December 1985:

Caron Diamond Drilling Ltd:
3 rotary percussion drill holes - 1380' total drilling

Drill invoice, including casing, mobilization and bulldozer operation	$42,306.34

G. MACDONALD AND ASSOCIATES LIMITED
Consulting Professional Geologists
#10, 4078 Fourth Avenue, Whitehorse, Yukon.
Y1A 4K8
Phone: (403) 668-2044

APPENDIX IV

STATEMENT OF QUALIFICATIONS

I, **RONALD CHARLES RAMSAY ROBERTSON**, of the City of Whitehorse in the Yukon Territory, HEREBY CERTIFY:

THAT I am a Geologist employed by G. Macdonald and Associates Ltd. AND THAT I caused to be performed, and supervised, the work described in this report;

THAT I obtained a Bachelor of Science degree with First Class Honours in Geology from the University of Aberdeen, Scotland, in 1970 and subsequently carried out graduate studies at McMaster University, Hamilton, Ontario, and at Queen's University, Kingston, Ontario;

THAT I have been engaged in mineral exploration on a full-time and part-time basis for sixteen years, of which eight have been on mineral exploration programs in the Yukon Territory, British Columbia and Alaska;

THAT I am a Fellow of the Geological Association of Canada (number F4858) and a member of the Canadian Institute of Mining and Metallurgy and the Prospectors and Developers Association.

DATED at Whitehorse, Yukon Territory, this 11th day of June 1986.

Ronald C. R. Robertson, F.G.A.C.

G. MACDONALD AND ASSOCIATES LIMITED

CONSULTING PROFESSIONAL GEOLOGISTS
Suite 10, 4078 Fourth Avenue, Whitehorse, Yukon. Y1A 4K8
(403) 668-2044

APPENDIX IV

STATEMENT OF QUALIFICATIONS

I, **GRAHAM DAVIDSON**, of the City of Whitehorse in the Yukon Territory, HEREBY CERTIFY:

THAT I am a geologist employed by G. Macdonald and Associates Limited AND THAT I participated in the work described in this report;

THAT I am a graduate of the University of Western Ontario (H.B.Sc., Geology, 1981);

THAT I am registered as a Professional Geologist by the Association of Professional Engineers, Geologists and Geophysicists of Alberta (No.42308);

THAT I have been engaged in mineral exploration on a full-time and part-time basis for seven years, of which five have been in the Yukon and Northwest Territories.

SIGNED at Whitehorse, Yukon Territory, this 12th day of June, 1986.

G.S. Davidson, P.Geol.