



SHAKWAK EXPLORATION COMPANY LTD.

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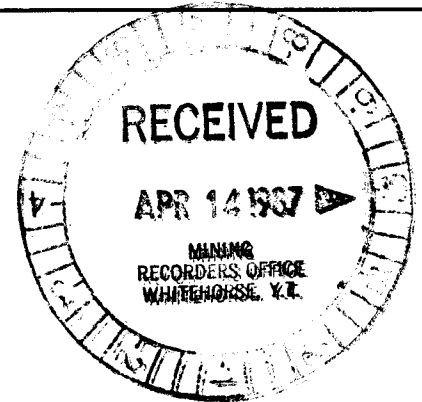
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ASSESSMENT REPORT

DIAMOND DRILLING
BEAR 15 MINERAL CLAIM (YA77987)
VESUVIUS HILL
NTS 105-D-6
Whitehorse Mining District
Latitude: 60°16' North
Longitude: 135°16' West



1st September 1986 to 6th November 1986

By:
RONALD C. R. ROBERTSON, F.G.A.C.
April 1987

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INTRODUCTION

During the period 1st September to 6th November 1986, Shakwak Exploration Company Limited carried out a diamond drilling program on the Vesuvius Hill property in the Wheaton River district of southern Yukon. The property consists of eighty (80) mineral claims [BEAR 1-56 (YA77978-YA78028) and CUB 1-24 (YA85539-YA85562)] held under the terms of an option agreement with Agip Canada Ltd. A total of 21 holes were completed for a total of 2087.12 meters (7341.5 feet), of which three holes (described in the present report) are being submitted as physical work for assessment credit. At the time of writing, core logging, splitting and assaying are in progress. All drill core is stored at the Bostock Core Library, Range Road, Whitehorse, Yukon.

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. Recent development at the Mt. Skukum project by Erickson Gold Mines has resulted in considerable improvements to the Wheaton River Road. As a result, all-weather transportation to the district is available. In 1985 a bulldozer trail was constructed from the Mount Skukum mill-site to the north side of the Vesuvius Hill property; this 7 kilometer trail would require upgrading before use by four-wheel-drive vehicles. Road distance from Whitehorse to the mill-site is approximately 80 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.

<u>Claim Name</u>	<u>Grant Number</u>	<u>Record Date</u>
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.

• Tuktoyaktuk

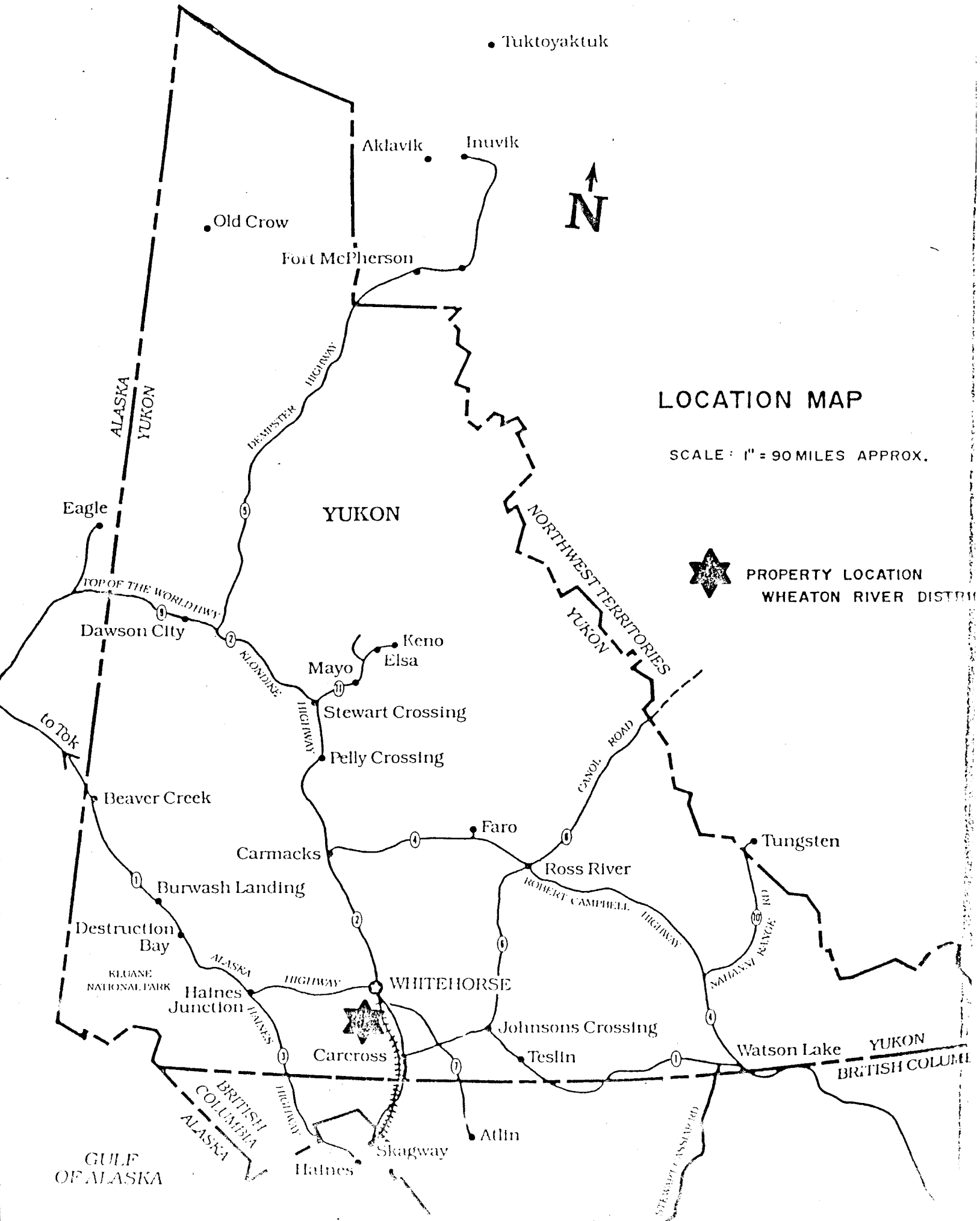


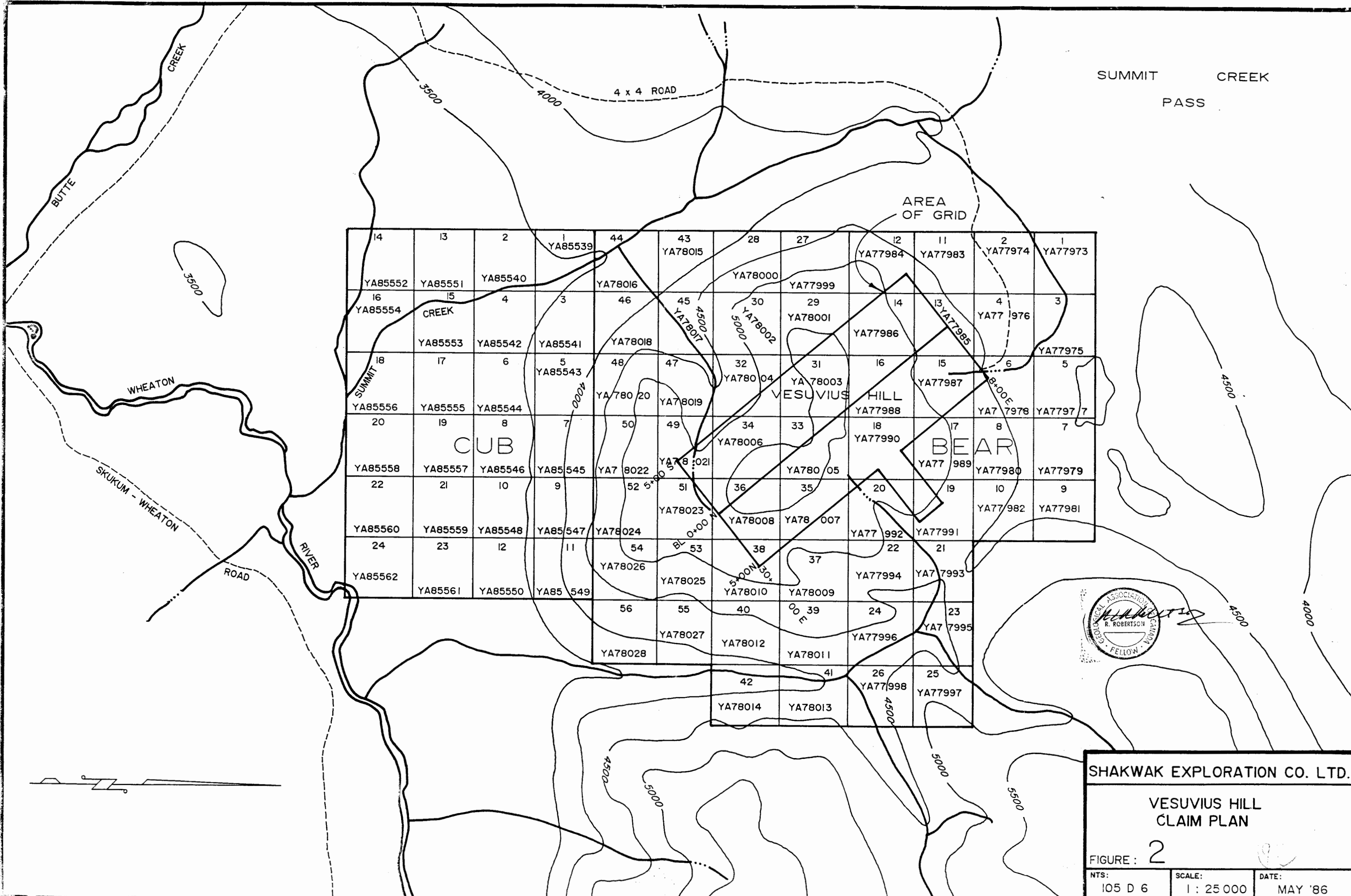
LOCATION MAP

SCALE: 1" = 90 MILES APPROX.



PROPERTY LOCATION
WHEATON RIVER DISTRICT





SHAKWAK EXPLORATION CO. LTD.

VESUVIUS HILL CLAIM PLAN

FIGURE: 2

NTS: 105 D 6	SCALE: 1 : 25 000	DATE: MAY '86
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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 volcanoclastic rocks of the Mount Skukum Complex; these are primarily felsic to intermediate flows and tuffs, locally brecciated. 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

PREVIOUS EXPLORATION

The earliest exploration work in the Wheaton River area pre-dates the Klondike Gold Rush by several years. 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. Many of the claims were further developed until the outbreak of World War I - with underground drifts driven on shear zones or veins on Gold Hill, Tally Ho Mountain, Mt. Stevens and Carbon Hill.

From the 1940's until the early 1980's, the Wheaton River district witnessed only sporadic exploration activity. 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 ore body 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. Mount Skukum Gold Mines Ltd. (a subsidiary of Total Erickson Resources) brought the deposit into production in March 1986 under the terms of a joint venture agreement with Agip.

There is no record of earlier claims having been staked in the area of the present BEAR and CUB claims and 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 by staff of Kerr-Addison Mines Ltd. in 1984, a number of rock samples collected from a prominent zone of orange, yellow and white alteration near the north end of the property showed anomalous mercury analyses up to 1900 ppb.

Exploration carried out by Shakwak Exploration Co. Ltd. in 1985 consisted of claim tagging, grid establishment, reconnaissance mapping, prospecting and silt sampling; also soil and rock sampling on the grid. VLF-EM and IP/resistivity geophysical surveys were carried out over sections of the grid. In December 1985 three rotary percussion drill holes (420.6 m/1380 feet) were completed on the BEAR 13 claim. These holes attempted to test resistivity targets which were interpreted as steep silicified zones flanked by zones of strong clay alteration. Drill results were inconclusive as frozen ground on steep slopes prevented drill site excavation in the preferred locations. Abundant pyrite and silicified rock identified in drill cuttings suggested that the geophysical target had been intersected although there were no anomalous precious metal values associated with this zone.

1986 DIAMOND DRILL PROGRAM

In the period 1st September to 6th November 1986, a crew from Kluane Drilling Ltd. of Whitehorse drilled 21 holes, recovering NQ size core, on the north side of the Vesuvius Hill property. This program was supervised by the writer on behalf of Shakwak Exploration Co. Ltd.

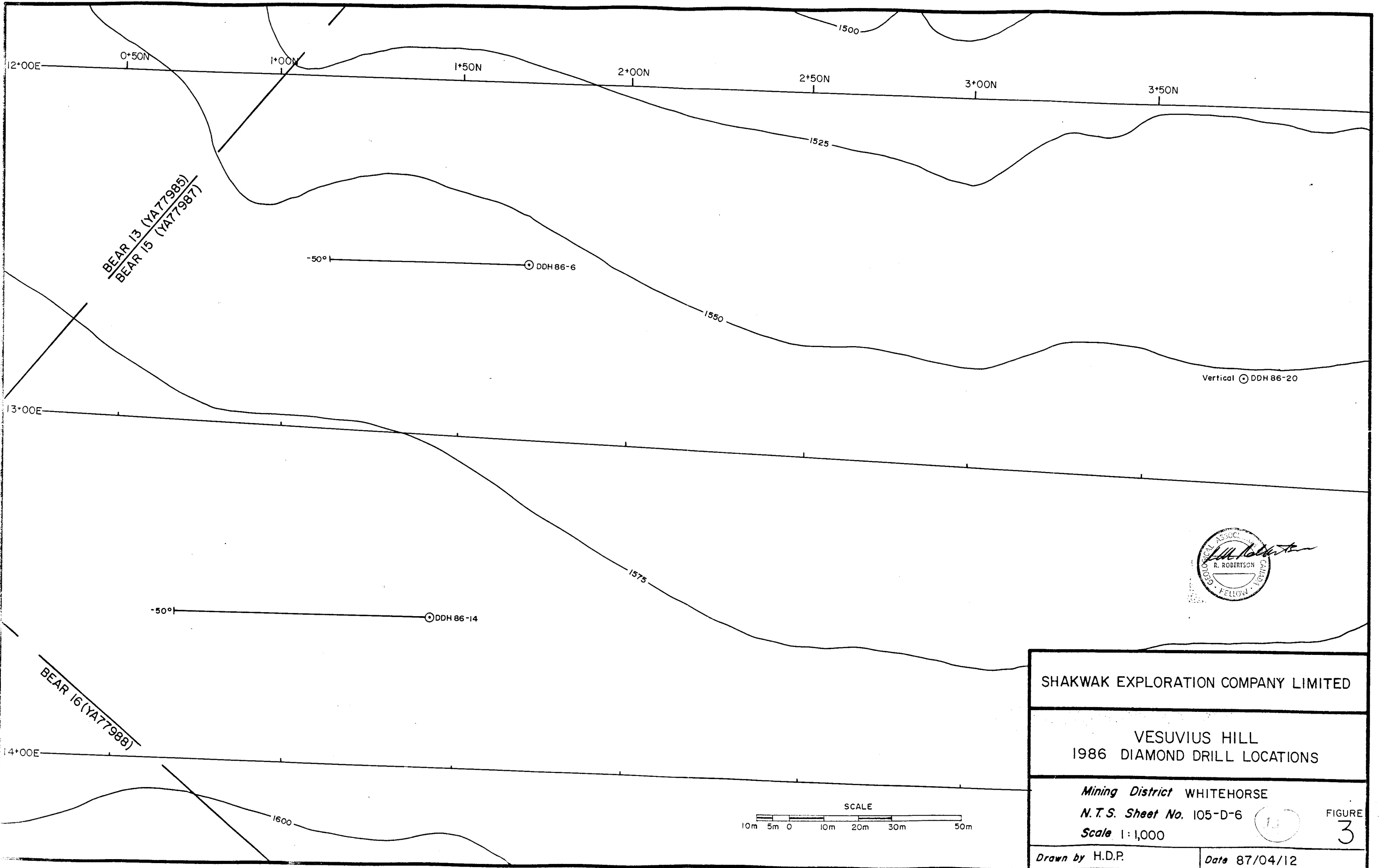
The crew was based at a tent camp leased from MBW Surveys Ltd. of Whitehorse, located on the Wheaton River Road near the junction of Butte Creek and the Wheaton River. The bulldozer trail constructed in 1985 was utilized to mobilize the drill, drill equipment and fuel to the work area. Crews were transported to the drill sites by a Hughes 500-D helicopter from Frontier Helicopters' seasonal base in the Wheaton River area. The exploration grid, drill collars and local topography were surveyed by Underhill and Underhill Ltd., Whitehorse. Drill co-ordinates are listed in Table 2. All drill core is stored at the Bostock Core Library, Range Road, Whitehorse.

Diamond drill holes DDH 86-6, 86-14 and 86-20 are submitted for assessment credit. All three holes are located within the BEAR 15 claim (grant number YA77987). Hole locations are shown on Figure 3. Holes were drilled to test a variety of geological, geochemical and geophysical targets within the area of gossan and clay alteration around the head of the gully draining the north side of Vesuvius Hill. All drill core was photographed. Drill logs and recovery are presented in Appendices I and II. Analytical methods and results are presented in Appendix III; core from DDH 86-6 was analyzed for trace metals of economic interest while a number of samples from holes 86-6 and 86-14 were analyzed for major, minor and trace elements. None of the core from DDH 86-20 has been submitted for assay.

Table 2
Drill Hole Co-ordinates

<u>Hole #</u>	<u>North</u>	<u>East</u>	<u>Elevation</u> (m)	<u>Azimuth</u>	<u>Dip</u>	<u>Depth</u> (m)
86-1	189.23	1059.73	1438.79	230°	-60°	155.45
86-2	124.03	1004.86	1466.31	230°	-50°	142.04
86-3*	189.00	1060.00	1438.80	140°	-50°	154.23
86-4	222.42	1127.08	1477.33	096°	-50°	152.40
86-5	169.05	1250.97	1552.38	260°	-50°	128.02
86-6	168.44	1251.70	1552.38	230°	-50°	91.44
86-7	226.18	1283.14	1553.44	050°	-50°	181.97
86-8	225.98	1283.08	1553.47	-	-90°	111.86
86-9	277.19	1284.05	1553.83	050°	-65°	138.53
86-10	318.23	1286.05	1555.25	050°	-50°	117.65
86-11	225.65	1282.78	1553.49	230°	-50°	83.21
86-12	249.77	1358.08	1574.50	050°	-50°	110.64
86-13	248.57	1357.59	1574.50	230°	-50°	91.14
86-14	141.24	1354.20	1588.26	230°	-50°	74.68
86-15	58.84	1253.03	1565.53	230°	-50°	70.10
86-16*	141.00	1354.00	1588.00	050°	-50°	74.98
86-17	251.05	1400.31	1585.11	050°	-50°	99.36
86-18	150.69	1279.40	1563.98	050°	-50°	61.26
86-19	375.94	1278.89	1550.67	050°	-50°	49.38
86-20	378.08	1278.73	1550.98	-	-90°	60.96
86-21	435.39	1130.38	1500.14	230°	-50°	90.22
T O T A L						2087.12 meters
						(7341.5 feet)

*Note: Co-ordinates are surveyed local co-ordinates (except holes 86-3 and 86-16).



SHAKWAK EXPLORATION COMPANY LIMITED	
VESUVIUS HILL 1986 DIAMOND DRILL LOCATIONS	
Mining District WHITEHORSE	
N.T.S. Sheet No. 105-D-6	
Scale 1:1,000	
Drawn by H.D.P.	Date 87/04/12

FIGURE
3

RECOMMENDATIONS

Detailed recommendations for further exploration of the Vesuvius Hill property must await complete results of logging and assaying the 1986 diamond drill core. A model of geology, alteration and mineralization should then be constructed. The Induced Polarization and resistivity results from 1985 should be reassessed in view of this subsurface data compilation. The new geological data base should be used to guide detailed surface exploration of the property before additional diamond drilling is carried out.

REFERENCES

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- PRIDE, M. J., 1985: Preliminary Geological Map of Mount Skukum Volcanic Complex. Exploration and Geological Services Division, Northern Affairs, Whitehorse.
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APPENDIX I: DIAMOND DRILL LOGS

DIAMOND DRILL LOG

Company: SHAKWAK EXPLORATION CO. LTD. Hole No: 86-6
 Drilling Co: KLUANE DRILLING Project: Vesuvius Hill
 Started: 23 September 1986 Code: 312
 Completed: 25 September 1986 Location: NTS 105-D-6
 Grid Co-ordinates: 168.44N/1251.70E
 Elevation: 1552.38 m Dip: -50°
 Azimuth: 230° Horizontal Advance: 58.80
 Depth: 91.44 m Vertical Depth: 70.04
 Core size: NO Acid Test: 47° @ 91.44 m
 Logged by: RR/CC

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
0.00-6.10		<u>Overburden; cased to 6.10; casing removed.</u>
6.10-26.52		<u>Grey Breccia; many large clasts (5-20 cm diameter), larger clasts often show incipient brecciation (narrow crosscutting zones of fine grained breccia) into smaller clasts. Larger clasts originally andesite?, medium to coarse porphyritic texture, tabular plagioclase phenocrysts altered to yellow or green clays. Large clasts separated by pale grey to dark grey breccia (colour varies with clay and pyrite content) with clasts in 1 cm or lower size range, matrix supported (locally clast-supported over short intervals). Clast alteration produces pale cream rims with dark cores in larger clasts (both areas siliceous), smaller clasts entirely cream, and second type of smaller clasts alter entirely to grey-green clay; wide variation in clast roundness and sphericity; matrix mostly rock flour with variable clay and silica content. Pyrite content locally heavy in matrix; also occurs disseminated in clasts and as fine rims around clasts and narrow veinlets cutting clasts. Locally, minor chalcedony in matrix.</u>
	6.10-9.80	<u>Type 2 Breccia: broken, low recovery. Strongly bleached by weathering down to approximately 9 m. Clasts in two distinct size ranges (0.25 mm - 1.5 cm and 3-5 cm). Dark grey to black pyritic matrix; pyrite content variable, always very fine grained. Occasional large clasts of porphyritic volcanic</u>

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
		rock; phenocrysts altered to yellow-green clay. Fractures at 15-20° to C.A. and 72° to C.A. at 9.10 m, 9.50 m with oxidized surfaces. Gradational, weakly banded contact at 9.80 m to Type 1 Breccia below.
	9.80-12.20	Type 1 Breccia: smaller clasts (2 cm or less) altered grey-green or cream colours in grey-green matrix. Low content of pyrite in matrix. Several short intervals of Type 3 Breccia (silica rich, difficult to distinguish clast edges from matrix, approx. 0.3% fine diss. pyrite). Occasional colour banding in Type 1 matrix - defined by changes in pyrite and silica content, generally 35-45° to C.A. Section is strongly fractured at 35-50° to C.A; most fracture surfaces oxidized or show clay gouge. Narrow pyrite rims on clasts at 10.40 (Type 3) and 11.40-12.20 (Type 1).
	12.20-15.20	Type 3 Breccia: sharp upper contact (colour and textural contrast). Mottled grey appearance overall, incipient brecciation with siliceous overprint(?), matrix and clasts have similar colour and composition. Pyrite more abundant than in Type 1 Breccia - clast rims, in hairline fractures (60-65° to C.A.) and veinlets, replacing phenocrysts. Minor colour zoning of clasts. Local minor patches of Type 1 Breccia infill between larger clasts. At 14.85 m, 5 cm clast of altered porphyritic andesite(?) - phenocrysts altered to yellow-brown clay. Well-fractured at 30-70° to C.A. Lower contact transitional to Type 1 Breccia (55° to C.A;) pyrite content 1-1.5%.
	15.20-19.40	Type 1 and Type 3 Breccias Interbanded: alternating short (20-30 cm true width) sections with contacts 45-55° to C.A. Type 1 sections relatively clay-rich with abundant small (less than 5 mm) cream or grey-green clasts in dark grey matrix; locally crudely banded or bedded. Type 3 sections pale, low clay content, higher silica and pyrite (0.5%) than Type 1, matrix-poor or overprinted by silicification but clasts more obvious and matrix generally more abundant than typical Type 3; more textural variety in clasts than usual.

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
	(15.20-15.60)	Type 1 Breccia with clasts locally to 5 cm.
	(15.60-16.30)	Type 3 Breccia: clasts distinct, varieties of porphyritic andesite (2-5 cm range, up to 20 cm). Patches of matrix look like fine-grained Type 1, often with abundant pyrite. Pyrite also as replacement of phenocrysts in andesite. Large clast broken by 5 mm veins of Type 1 breccia.
	(16.30-16.70)	Type 1 Breccia as 15.20-15.60 but fewer large clasts.
	(16.70-18.00)	Upper and lower contacts 90° to C.A. Type 3 breccia developed in pale pink lapilli tuff (down to 17.30 m), then short mixed section with large clasts and some Type 1 breccia; then (17.70-18.00) mostly in altered porphyritic andesite. At 16.90-17.07, large angular clasts of tuff brecciated by Type 1 material, then rebrecciated and open spaces filled by grey banded silica (banding and later cracking may indicate gel silica) and minor white chalcedony in vugs. Pale grey green softer clasts (pyrite cubes) introduced with Type 1 breccia or possibly with late silica.
	(18.00-19.40)	Type 1 Breccia at top and base but central section resembles Type 3 (banded 11° to C.A., Type 1 breccia with alteration overprint). Fractures near lower contact 30-45° to C.A., parallel to crude stratification defined by changes in clast size and in clast abundance.
	19.40-20.57	Type 2 Breccia - dark matrix with abundant very fine-grained pyrite encloses abundant strongly altered pale cream clasts of very varied sizes and shapes. Larger clasts (5 cm max. diam.) are angular, low sphericity, have altered pale rims, fresher cores; include flow banded rhyolite and porphyritic andesite. Distinct banding, defined by variations in pyrite, clay, silica content of matrix; bands curved, 1 mm to 2 cm, attitude from subparallel to 45° to C.A. Local white silica filling. Pyrite also as thin rims on clasts and occasional small blebs (clasts?) Specks of pale blue chalcedony in pyrite-rich bands.

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
	20.57-22.35	<p>Type 1 - Type 2 Breccia Transition: upper section dominantly Type 1 with narrow sections of Type 2. Core badly broken esp. in clay-rich zones near base of interval. Section 21.00' - 21.25 looks like Type 2 with "Type 3 overprint" (silicification). At 21.30 in 10 cm section of Type 1, fracture surface at 25° to C.A. has common pyrite cubes (parallel to banding and contact to Type 2 below). Similarly at 21.95, sharp, curved contact between Type 1/Type 2, sub-parallel to C.A.</p>
	22.35-24.90	<p>Cobble Breccia - unusual facies of clasts in 2-20 cm range, mostly altered porphyritic andesite (varied textures). Dominant matrix is pyrite-rich and virtually free of clasts; very fine grained, laminated pyrite and grey silica. Occasional matrix areas are similar to Type 2 but still pyrite-rich and clast-poor. Inferred slow precipitation in open spaces between large clasts. Some slump and offset features in pyrite-silica areas; sedimentation and gel features? Overall 60-70% clasts and 30-40% matrix; overall pyrite abundance 10-15%. At 22.50, large porphyritic andesite clast shows incipient brecciation (hydrofracturing?) with locally abundant pale blue chalcedony filling small open spaces. Elsewhere minor chalcedony occurs at blebs, clast rims associated with pyrite-silica areas. Facies is matrix-supported above becoming clast-supported at base. Note unidentified black mineral as rare thin laminae (0.5 mm or less) between clast and pyrite bands. Hydrofracturing(?) with pyrite-silica fracture filling at 24.75. Minor chrome-green clay on fracture surfaces at 24.85.</p>
	24.90-26.52	<p>Type 2 Breccia predominant - minor sections similar to Type 1 Breccia and short pieces of pumice/lithic tuff (at 25.70 ; as upper part of underlying unit). Type 2 has some clasts up to 5 cm and (25.45) rebrecciated volcanic clast (2nd event broke clast so alteration rim now seen on one side only). At 25.50 note sharp colour change (dark, pyritic above; pale below) 90° to C.A., cuts across clasts (secondary feature?)</p>

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
26.52-42.72		<p>Green Andesite Crystal Lithic Lapilli Tuff (and short intervals of grey breccia); tuff variable pale to medium green colour, general weak propylitic alteration (deuteric?) Always matrix-supported. Varied clast size and type. Yellow-green altered flattened pumice fragments common in top 1.5 m (generally 1-2 cm long). Lithic fragments all sizes up to 2-3 cm, varied lithologies/textures; mostly dacite-andesite volcanics, well-rounded (7-9), spherical (7-9), with narrow pale reaction rims. Matrix of ash and tiny rock fragments. Pyrite throughout from 0.01 to 0.5%; commoner and in larger grain size in zones of later alteration. Tuff always much fresher than breccia sections; occasional breccia clasts in tuff. Tuff shows crude stratification subparallel to C.A.</p>
	26.52-27.74	<p>Green Crystal Lithic Ash Tuff: yellow-green colour, dominantly coarse ash tuff with abundant fiamme, approximately 10% small lithic fragments (volcanics; under 5 mm) and occasional larger volcanic clasts (5 mm to 5 cm). Matrix of ash and glass shards, now devitrified or altered. Fiamme and other glassy material altered to yellow-brown clay (Mont Morillonite ?) Upper 15 cm looks like mixture of tuff with Type 1 breccia material.</p>
	27.74-32.53	<p>Dark Green Crystal Lithic Tuff - core deteriorates after drilling because of clay matrix. Occasional lithic fragments to 10 cm; most lithics under 2 cm down to less than 1 mm. Clasts dominantly well rounded, high sphericity. Minor alteration at rim of larger clasts (almost all identifiable as varieties of andesite-dacite volcanics); small clasts (under 5 mm) unidentifiable (cannot separate tiny rock and crystal fragments). Matrix of mixed ash and glass with variable moderate amounts of clay alteration causing colour changes from dark green to paler yellow-green shades. Strongest alteration from 31.30-32.00; sharp top and bottom contacts, latter has clay gouge on fracture at 70° to C.A. From 32.00-32.53, mostly fresher tuff as above but perhaps some mixing with grey breccia material; core becomes badly broken and ground towards base with core loss and clay zone at base.</p>

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
	32.53-33.56	<p>Grey Breccia - sharp but non-Parallel upper and lower contacts (upper 20° to C.A., lower 50° to C.A.) Immediate upper contact is 0.5 cm band of "welded" (glassy, clay-altered) breccia with rodding, slickensides on surface. Both contacts are 15 cm wide zones of grey breccia (like fine grained version of Type 2). Crude banding parallel to external contacts. Most clasts under 3 mm, rarely to 1 cm. Small pyrite blebs (clasts?) common. Central section is rather typical bleached-looking Type 3 with some large clasts (to 7 cm) showing incipient brecciation and large areas of smaller clasts masked by clay-silica overprint (?)</p> <p>Locally high pyrite content as narrow zones in matrix, often occurring around larger clasts.</p>
	33.56-37.10	<p>Altered Green Crystal Lithic Tuff - essentially as interval 27.74-32.53 with clay alteration as 31.30-32.00. Some variation in clast type and abundance not seen before (e.g. abundant smaller altered clasts between 34.50-35.10).</p> <p>Note: some mixing with Type 2 breccia material from 36.45 downwards, particularly 2 cm clast at 36.63 of very fine-grained banded pyritic breccia with one narrow pyrite-silica band showing lamination on 0.1 mm scale and "gel-desiccation cross-fracturing". Note: at 36.79-37.00, zone of black glassy (chilled?) tuff with most clasts under 2 mm (rare 1 cm clasts). Upper contact narrow, gradational, 15° to C.A. Lower contact in broken core, seems gradational with some "veining" (remnant area?) of black material in altered green tuff below.</p>
	37.10-37.67	<p>Type 2 Breccia - badly broken and sheared at 35° to C.A. Locally abundant pyrite in 1-2 mm veinlets, fracture fillings (pre-shear), and some 1-2 cm white quartz patches (vein broken by shear?) Lower 20 cm is single altered porphyritic andesite clast with narrow pyrite rim; lower contact is 45° to C.A. along clast edge. This interval may be a large breccia clast within the tuff.</p>
	37.67-39.80	<p>Green Crystal Lithic Ash Tuff - essentially a fine-grained version of 26.52-27.74 unit. Much core badly fractured, in part broken by deterioration after drilling. Note: Type 2</p>

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
		breccia material 38.90-39.10 apparently as piece of breccia with clasts to 4 cm incorporated by tuff. <u>Lost core:</u> 39.30-39.60.
	39.80-41.60	Grey Breccia - apparently Type 2 breccia with bleaching and/or moderate clay-silica overprint as Type 3. Sharp upper contact 20° to C.A. Large clasts predominant (0.5 - 5 cm) - single large clast (30 cm) shows incipient brecciation. Matrix of tiny rock fragments with variable pyrite-silica-clay. Sharp lower contact 55° to C.A. (with very broken core below).
	41.60-42.72	Green Crystal Lithic Tuff - similar to both 26.52-27.74 and 37.67-39.80 tuff units with range of clast sizes typical of both these units. Much of core is fractured, broken. Rubble and clay zone between fractures 50-60° to C.A. at 42.46-42.55.
42.72 - 58.22		Oxidized Breccia - strongly oxidized (white-pink-red-purple), often vuggy and leached, versions of Type 2 and 3 Breccias. Siliceous appearance from removal of much clay but little or no addition of silica. Degree of oxidation is variable and fracture-controlled; some sections still show dark grey pyrite-silica matrix, becoming gradually dominant from 54.10 downwards. Original textures obscured by hematite, limonite, leaching, clay removal. Top contact shows immediate sharp green-orange colour change in tuff but tuff-breccia contact is lost in next 20 cm of orange-buff-white gouge and rubble; <u>suspected fault</u> . Fracturing in upper 5 m primarily on surfaces between 25-50° to C.A. (sometimes two intersecting sets at 40-50° to C.A.) with fractures between 40-90° to C.A. becoming dominant below. <u>Note:</u> 5 cm clay gouge zone at 54.00 between fractures 60-70° to C.A. Several large (10-20 cm) pale green clay-altered volcanic clasts deteriorated rapidly after coking (e.g. at 55.45, 57.45). <u>Note:</u> 56.68-57.00 - unusual pale grey breccia with siliceous clasts in clay-rich matrix with fine-grained pyrite and some larger patches of white clay and dark brown-green clay. Veinlets in large clast immediately above look like

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
		ankerite.
		Section at base (57.65-58.22) is very broken clay-rich breccia with minor chrome-green clay.
58.22 - 60.34		<p>Porphyritic Andesite Flow - plagioclase phenocrysts moderately abundant (5%), tabular, zoned, size range 1-7 mm. Groundmass dull olive to pale yellow-grey, aphanitic. Mild propylitic alteration; variable from pale phenos. in dark matrix to dark green phenos. in grey matrix. Occasional pyritic veinlets at 25-50° to C.A. Ground core at upper and lower contacts; unit may be a large clast.</p>
60.34 - 91.44		<p>Coarse Grey Breccia (Type 2) - essentially a single unit to end of hole subdivided into 3 intervals based on oxidation changes. Unit is coarse blocky Type 2 breccia with many porphyritic andesite sections from 5 cm to 1 m (all interpreted as clasts).</p>
	60.34-69.00	<p>Grey Breccia: plagioclase phenos. in andesite clasts are yellow, clay-altered; clay areas in breccia matrix (including plag. crystals) are also yellow (bright brown-yellow to dull olive). Yellow colour acquired after drilling. Clast margins often show fracturing with pyrite-silica filling. Breccia matrix has variable amount of small clasts in silica-pyrite-clay mixture. Shear zone at 60.80-61.20 subparallel to C.A. in rubbly clay-rich breccia - small pyrite cubes on clay partings and minor green "chrome coloured" clay.</p>
		<p>Lost core: 64.46-64.55</p>
		65.50-65.70
		68.35-68.50
		69.60-69.80
	69.00-83.00	<p>Oxidized Breccia - as coarse grey Type 2 breccia above but quite strongly oxidized with abundant red-purple matrix hematite, limonite. Clasts generally pale, bleached cream or pale green. Core badly broken in areas of clay-rich clasts or matrix. This interval is much less siliceous</p>

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
		(less leaching) than upper oxidized interval of hole.
		71.45 - narrow clay gouge zone 50° to C.A.
		72.34-72.54 - zone of shearing with rubble and 10 cm sandy gouge; 45° to C.A.
		77.30 - narrow clay gouge zone.
		80.20-80.50 - badly broken core with sandy clay gouge; lower contact 30° to C.A.
		80;75-80.80 - fracturing 20° to C.A.
		81.45 - narrow clay gouge zone in broken core.
		Lower contact to less oxidized breccia below is gradual colour change in large andesite clast (80 cm) with hematitic breccia above and pyritic breccia below. Arbitrary contact at base of clast.
	83.00-91.44	Coarse Grey Breccia - similar to both units above; slightly more oxidized than 60.34-69.00 (matrix grey and pyritic but most andesite clasts are cream or pale green - somewhat oxidized). Unit also has distinctive pink siliceous clasts (0.5 - 5 cm) with plag. phenos. - similar to red silicified andesites in DDH 86-14. Shattering, fracturing and gouge zones become more abundant down-hole.
		Note: 83.42-83.52 - shattering and gouge in breccia at clast margin.
		84.30-84.35 - fracture at 45° to C.A. along clast margin with abundant clay in breccia below.
		84.40-84.55 - broken banded quartz veins at 30° to C.A.
		±89.40 to end of hole - strong clay alteration of some clasts (others highly siliceous) with similar alteration of clay and silica in matrix. Core badly broken in clay zones 90.90-91.15. Hole ends in 15 cm section of strongly clast-supported breccia.
91.44		END OF HOLE

DIAMOND DRILL LOG

Company: SHAKWAK EXPLORATION CO. LTD. Hole No: 86-14
 Drilling Co: KLUANE DRILLING Project: Vesuvius Hill
 Started: 20 October 1986 Code: 312
 Completed: 21 October 1986 Location: NTS 105-D-6
 Grid Co-ordinates: 1+41.24N/13+54.20E
 Elevation: 1588.26 m Dip: -50°
 Azimuth: 230° Horizontal Advance: 48.02 m
 Depth: 74.67 m Vertical Depth: 57.20 m
 Core size: NQ Acid Test: 36.60 m - 47°30'
 Logged by: RR/CC 71.60 m - 46°15'

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
		Cased to 2.44 m. Casing removed.
0 - 3.05 m		Overburden.
3.05/74.67 m		Massive porphyritic andesite: purple-red colour, hematite pervasive, silicification generally strong. Jasper locally in areas of brecciation. Tabular plagioclase phenocrysts (2-3 mm), average 3-5%; show alteration to soft green-white (clay or sericite), occasional tiny grains of epidote. Mafic phenocrysts, tiny, inconspicuous, altered to hematite.
	3.05/8.96	Strongly vesicular: some areas also have plag. phenos. Heavy Jasper with strong silica + hematite flooding particularly in vesicular areas and areas of primary(?) brecciation.
	10.45/11.06	Breccia zone: sharp upper contact 55° to C.A. Clasts 2 mm to 2 cm. (Variably bleached and silicified andesite.) Sphericity 3 to 5, roundness 5 to 7. Abundant Jasper. Main structure parallel to core axis.
	12.86/13.47	Grey-pink breccia. Upper and lower contacts narrow gouge zones approx. 90° to C.A. Narrow area of finer-grained vesicular andesite (only moderately silicified). Clast size 1-4 mm, rarely to 2 cm. Sphericity 3 to 7; roundness 3 to 7. Matrix siliceous grey in colour. Rare softer pale pink areas to 1 cm, seem moderately clay altered, with minor hematite.
	13.84/17.07	Brown porphyritic andesite with dark grey and dark purple areas of incipient brecciation (sharp contacts between areas of different colour - note plag. phenos. in dark areas.) Few thin

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
		(1 mm) late quartz-calcite-orange carbonate(?) veinlets. Breccia matrix quartz-hematite with minor clay.
	17.07/19.66	Blue-grey coarsely porphyritic andesite-plag. phenos. 5% of rock, up to 5 mm. Mafic phenos. originally larger and more abundant than normal (average 2 mm and 1% of rock) - now altered to clay and hematite. Plag. phenos. softened - pale yellow-orange colour. Matrix fine-grained, less siliceous than normal - mostly quartz-clay-hematite. Minor local brecciation. Top unit contact sharp - 50° to C.A: lower contact in broken rock - seems gradational.
	22.50/31.87	Grey-pink andesite - medium to strong silicification; several zones of strong brecciation and widespread incipient brecciation. Andesite grey to pink, moderately porphyritic, tabular plagioclase phenocrysts, 2 to 4 mm long, moderately altered. Mafic phenocrysts common (1 mm or less), altered to hematite. Breccia zones matrix - supported, small numbers of large clasts (5 mm to several cm) in dark matrix with tiny clasts and crystal fragments (e.g. at 22.80 to 23.76) - contacts 50° to C.A. - breccia becomes crowded, clast-supported towards base and in narrow spaces between larger clasts. Zones of incipient brecciation are narrow (less than 1 cm to few cm wide), ramifying. Abundant small clasts, clast-supported, hematitic. Strong zone of bleaching, hematite flooding, upper contact 50° to C.A., lower contact gradational (26.65 - 27.45). Occasional narrow soft pink veinlets (clay + hematite?), few mm wide, rim clasts or at 25° to C.A. clasts in breccias seem local, except that small, strongly altered or bleached clasts are not identifiable.
	34.00/34.05	Pale brown clay gouge zone at 90° to C.A., in broken andesite.
	34.05/40.55	Dark purple-red hematitic andesite, similar to 22.50 - 31.87, with breccias, incipient brecciation, stronger silica-jasper-hematite flooding. Strong breccia zones at 36.30 - 38.00 and 38.52 - 39.52. (Upper and lower contacts: 15-20° to C.A.)
	40.55/74.67	Dark purple-red hematitic andesite, moderately porphyritic throughout. True brecciation almost absent but crackling and incipient brecciation widespread. Common silica flooding, as patches filling voids (and vesicles?) and pervasive replacements; dark grey colour with tiny grains of specular hematite. In these areas plag. phenos. are soft, greenish. Gouge zones at: 42.75: 1 cm wide, 55° to C.A. 46.30: 2 cm wide, 55° to C.A.

DIAMOND DRILL LOG

Company: SHAKWAK EXPLORATION CO. LTD. Hole No: 86-20
 Drilling Co: KLUANE DRILLING Project: Vesuvius Hill
 Started: 1 November 1986 Code: 312
 Completed: 2 November 1986 Location: NTS 105-D-6
 Grid Co-ordinates: 378.08N/1278.73E
 Elevation: 1550.98 m Dip: Vertical
 Azimuth: _____ Horizontal Advance: _____
 Depth: 60.96 m Vertical Depth: 60.96 m
 Core size: NO Acid Test: 88°75' @ 60.96 m
 Logged by: RR/CC

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
0 - 9.75		OVERBURDEN: cased to 9.75 m, casing removed.
9.75 - 19.14		WEATHERED BRECCIA: strong clay alteration and oxidation, cream, yellow, orange colours. Clasts often siliceous, rounded, to 1.5 cm diameter. Occasional clasts with abundant pyrite (up to 5%). Core very badly broken.
	9.80-10.54	Siliceous Breccia: strongly oxidized. Small rounded siliceous clasts. Matrix-rich. Minor grey quartz veining. Trace pyrite.
	10.98-11.28	LOST
	11.28-11.90	Siliceous Breccia: rubbly broken core, clay-rich portions probably lost. Breccia fragments have siliceous clasts in darker grey siliceous matrix (matrix-poor).
	11.90-12.80	LOST
	12.80-13.52	Clay Breccia: broken and oxidized. Small siliceous clasts in clay matrix (matrix-rich). Occasional larger clasts to 3 cm. Trace pyrite.
	13.52-15.55	LOST
	15.55-15.98	Andesite: broken core, oxidized, low recovery. Weak to moderate porphyritic texture; subhedral plagioclase phenocrysts to 1.5 mm. Weak propylitic alteration with minor pyrite. Minor quartz and clay fracture fillings.
	15.98-17.37	LOST
	17.37-17.86	Clay Breccia: altered, oxidized, low recovery. Larger core fragments generally siliceous breccia with quartz-rich clasts.

PRINCIPAL UNIT	SUB-UNIT	DESCRIPTION/NOTES
		in clay matrix; trace pyrite:
	17.86-18.90	LOST
	18.90-19.14	Clay Breccia: as 17.37-17.86. Pyrite more abundant (to 5%).
19.14 - 60.96		ANDESITE: grey or grey-green colour, moderately porphyritic.
		Plagioclase phenocrysts 1-2 mm. Weak propylitic alteration throughout; stronger around zones of veining and silicification (particularly 36.70-54.34).
	20.62-20.74	Quartz-Pyrite Vein or Clast: 20% pyrite.
	21.34-21.64	LOST
	21.64-21.77	Fracture Zone: stronger clay alteration of andesite. White clay fills fractures. Fine disseminated pyrite to 5%.
	21.77-24.81	Andesite: moderate propylitic alteration. Pale grey-green colour. Clay alteration around fracture/vein zones: 15°, 30°, 40°, 60° to C.A. Clay vein fillings. Occasional calcite vein filling - generally patchy, sometimes with quartz. Pyrite generally up to 1-2% in areas of fracturing.
	24.81-24.99	LOST
	26.75-26.85	Fracture and Vein Zone: 20° to C.A. White clay, calcite, fine veinlets of grey quartz, fine pyrite to 1%.
	27.13-27.20	Fracture and Vein Zone: 5-10° to C.A. Stronger alteration of andesite, abundant pyrite to 10%. White clay associated with pyrite.
	28.35-28.51	SAND
	28.88-28.96	Fracture/Vein Zone: 45-55° to C.A. White clay, silica, minor pyrite.
	30.55-30.67	Fracture/Vein Zone: 45° to C.A. Pale grey quartz with pyrite, patchy calcite.
	36.36-39.15	Brecciated Andesite: local brecciation, little movement. Slightly oxidized-looking andesite clasts in silicified andesite matrix. Extensive quartz-calcite veining, rarely over 0.5 cm wide, 30-60° to C.A., calcite often patchy. Some associated fine pyrite.
	39.67-39.77	Fracture/Vein Zone: 25° to C.A. Minor brecciation of andesite, calcite-quartz filling.
	41.76-42.30	Fracture/Vein Zone: 30-50° to C.A. Quartz-calcite vein fillings - rarely exceed 1 cm width. Andesite locally silicified.
	43.50-43.90	Brecciated Andesite: little movement of clasts. Oxidized clasts and matrix (same composition). Some clasts and matrix silicified. Zone approx. 50° to C.A. Cross-cut by

APPENDIX II: RECOVERY AND RQD LOGS

RQD - Rock Quality Designation

expressed as % of core recovered as complete
pieces over 10 cm in length

CORE RECOVERY - ROD RECORD

Company: Shakwak Expl'n Co. Ltd. Hole No: 86-6
 Drilling Company: Kluane Drilling Project: Vesuvius Hill
 Started: 23 Sept. 1986 Code: 312
 Completed: 24 Sept. 1986 Location: NTS 105-D-6
 Grid Co-ordinates: 168.44N/1251.70E
 Elevation: 1552.38 m
 Azimuth: 230° Dip: -50°
 Depth: 91.44 m Horizontal Advance: 58.80 m
 Core Size: NQ Vertical Depth: 70.04 m
 Logged by: RR/CC Acid test: 47:00° @ 91.44 m

Box No.	Metres/Box	Run (m)	Interval (m)	% Core Recovery	% RQD *
1	6.10 - 11.25	6.10 - 7.01	.91	29	-
		7.01 - 7.92	.91	53	-
		7.92 - 8.84	.92	67	-
		8.84 - 10.97	2.13	59	-
		10.97 - 14.02	3.05	92	11
2	11.25 - 16.51	14.02 - 17.07	3.05	97	7
3	16.51 - 21.28	17.07 - 20.12	3.05	87	-
		20.12 - 21.03	.91	100%	-
		21.03 - 21.79	.76	79	-
4	21.28 - 26.52	21.79 - 24.08	2.29	90%	23
		24.08 - 25.30	1.22	100%	8
		25.30 - 26.52	1.22	90	-
5	26.52 - 32.23	26.52 - 27.74	1.22	93	-
		27.74 - 29.26	1.52	76	-
		29.26 - 32.31	3.05	98	-

CORE RECOVERY - RQD RECORD

DDH 86-6

Box No.	Metres/Box	Run (m)	Interval (m)	% Core Recovery	% RQD
6	32.23 - 37.64	32.31 - 33.99	1.68	88	27
		33.99 - 36.58	2.59	95	-
		36.58 - 38.10	1.52	86	-
7	37.64 - 43.41	38.10 - 38.71	.61	82	-
		38.71 - 41.45	2.74	86	17
		41.45 - 43.28	1.83	79	-
		43.28 - 45.11	1.83	96	-
8	43.41 - 48.51	45.11 - 45.42	.31	90	-
		45.42 - 45.72	.30	93	-
		45.72 - 46.94	1.22	86	-
		46.94 - 49.07	2.13	93%	-
9	48.51 - 53.90	49.07 - 50.29	1.22	89	-
		50.29 - 53.34	3.05	92	-
		53.34 - 55.17	1.83	88	-
10	53.90 - 59.23	55.17 - 58.22	3.05	95	-
		58.22 - 61.26	3.04	90	26
11	59.23 - 64.86	61.26 - 64.31	3.05	94	12
		64.31 - 67.36	3.05	61	-
12	64.86 - 71.15	67.36 - 69.80	2.44	93	22
		69.80 - 72.24	2.44	100%	-
13	71.15 - 76.63	72.24 - 74.98	2.74	92	-
		74.98 - 78.03	3.05	96	-
14	76.63 - 81.89	78.03 - 80.47	2.44	90	-

CORE RECOVERY - RQD RECORDCompany: SHAKWAK EXPLORATION CO. LTD.Hole No: 86-14Drilling Company: KLUANE DRILLINGProject: Vesuvius HillStarted: 20 October 1986Code: 312Completed: 21 October 1986Location: NTS 105-D-6Grid Co-ordinates: 1+41.24N/13+54.20EElevation: 1588.26 mDip: -50°Azimuth: 230°Depth: 74.67 mHorizontal Advance: 48.02 mCore Size: NQVertical Depth: 57.20 m

Box No.	Metres/Box	Run (m)	Interval (m)	% Core Recovery	% RQD*
1	2.94 - 8.94	2.94 - 3.35	0.41	100	-
		3.35 - 3.96	0.61	72	-
		3.96 - 4.88	0.92	59	-
		4.88 - 5.33	0.45	100	-
		5.33 - 6.40	1.07	75	38
		6.40 - 7.92	1.52	100	48
2	8.94 - 14.03	7.97 - 9.14	1.17	100	21
		9.14 - 10.36	1.22	98	26
		10.36 - 10.82	0.46	100	89
		10.82 - 12.34	1.52	100	23
		12.34 - 13.41	1.07	98	-
3	14.03 - 19.34	13.41 - 14.63	1.22	90	18
		14.63 - 16.15	1.52	99	21
		16.15 - 17.68	1.53	93	9
		17.68 - 18.29	0.61	100	-
4	19.34 - 24.52	18.29 - 19.81	1.52	87	23
		19.81 - 21.34	1.53	84	-
		21.34 - 22.86	1.52	96	19
5	24.52 - 29.91	22.86 - 24.38	1.52	99	59
		24.38 - 25.91	1.53	98	-
		25.91 - 27.43	1.52	95	28
		27.43 - 28.95	1.52	95	28

CORE RECOVERY - RQD RECORD

Box No.	Metres/Box	Run (m)	Interval (m)	% Core Recovery	% RQD
		28.96 - 30.48	1.52	92	33
6	29.91 - 35.50	30.48 - 32.00	1.52	100	9
		32.00 - 33.53	1.53	97	17
		33.53 - 35.05	1.52	91	-
		35.05 - 36.58	1.53	92	8
7	35.50 - 40.96	36.58 - 38.10	1.52	100	18
		38.10 - 39.62	1.52	93	16
		39.62 - 41.15	1.53	97	32
8	40.96 - 46.55	41.15 - 42.67	1.52	88	16
		42.67 - 44.20	1.53	88	16
		44.20 - 45.72	1.52	99	33
		45.72 - 47.24	1.52	100	-
9	46.55 - 52.14	47.24 - 48.77	1.53	85	14
		48.77 - 50.29	1.53	84	-
		50.29 - 51.82	1.53	84	-
		51.82 - 53.34	1.52	97	-
10	52.14 - 57.71	53.34 - 54.86	1.52	97	-
		54.86 - 56.39	1.53	100	-
		56.39 - 57.91	1.52	82	-
11	57.71 - 63.04	57.91 - 59.44	1.53	75	-
		59.44 - 60.96	1.52	76	-
		60.96 - 62.48	1.52	95	-
		62.48 - 64.00	1.52	87	-
12	63.04 - 68.58	64.00 - 65.53	1.53	100	-
		65.53 - 67.06	1.53	95	18
		62.06 - 68.58	1.52	98	-
13	68.58 - 74.25	68.58 - 70.10	1.52	96	-
		70.10 - 71.62	1.52	94	-
		71.62 - 73.15	1.53	89	12
		73.15 - 74.67	1.52	95	-
14	74.25 - 74.67				
	E.O.H.				

CORE RECOVERY - RQD RECORD

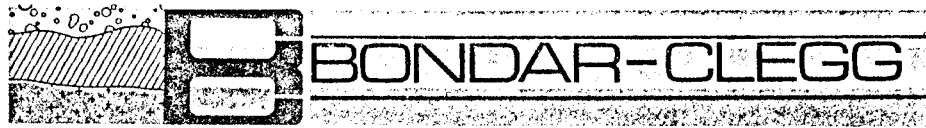
Company: Shakwak Exploration Hole No: DDH 86-20
 Drilling Company: Kluane Drilling Project: Vesuvius Hill
 Started: November 1, 1986 Code: 312
 Completed: November 2, 1986 Location: NTS 105-D-6
 Grid Co-ordinates: _____
 Elevation: _____
 Azimuth: _____ Dip: -88°75' @ 60.95 m
 Depth: 60.96 m Horizontal Advance: _____
 Core Size: NQ Vertical Depth: 60.96 m

Box No.	Metres/Box	Run (m)	Interval (m)	% Core Recovery	% RQD *
1	9.15 - 22.18	9.15 - 9.75	0.61	40	-
		9.75 - 11.28	1.52	60	-
		11.28 - 12.80	1.52	38	-
		12.80 - 15.55	2.74	22	-
		15.55 - 17.37	1.83	19	-
		17.37 - 18.90	1.52	20	-
		18.90 - 20.42	1.52	26	-
2	22.18 - 27.40	20.42 - 21.64	1.22	62	-
		21.64 - 23.17	1.52	100	24
		23.17 - 24.99	1.83	99	22
		24.99 - 26.52	1.52	100	15
		26.52 - 27.13	0.61	100	-
3	27.40 - 31.70	27.13 - 28.35	1.22	100	-
		28.35 - 28.96	0.61	100	-
		28.96 - 30.18	1.22	100	-
		30.18 - 30.48	0.30	100	-
		30.48 - 32.00	1.52	100	7.9
4	31.70 - 36.00	32.00 - 33.22	1.22	100	-
		33.22 - 34.14	0.91	100	-
		34.14 - 34.75	0.61	100	-
		34.75 - 35.36	0.61	100	-

APPENDIX III: ANALYTICAL METHODS AND RESULTS

Note:

Sample descriptions are summarized from
petrographic reports by Vancouver Petrographics Ltd.



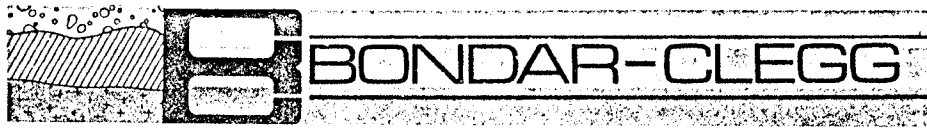
DDH 86-6

REPORT: 127-0976

PROJECT: 312

PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Ag PPM	As PPM	Hg PPB	Au PPB	INTERVAL (meters)
D2 10001		4	15	<0.2	<2	480	10	6.10 - 7.01
D2 10002		2	11	<0.2	<2	750	<5	7.01 - 7.92
D2 10003		2	16	<0.2	<2	480	5	7.92 - 8.84
D2 10004		2	20	<0.2	2	550	<5	8.84 - 9.80
D2 10005		4	17	<0.2	2	400	<5	9.80 - 10.97
D2 10006		4	20	<0.2	3	385	<5	10.97 - 12.20
D2 10007		3	17	<0.2	<2	495	<5	12.20 - 13.20
D2 10008		3	19	<0.2	<2	510	<5	13.20 - 14.20
D2 10009		3	17	<0.2	2	480	<5	14.20 - 15.20
D2 10010		3	18	<0.2	2	450	<5	15.20 - 16.30
D2 10011		4	16	<0.2	4	700	<5	16.30 - 16.70
D2 10012		3	15	<0.2	3	455	<5	16.70 - 18.00
D2 10013		5	20	<0.2	4	1000	<5	18.00 - 19.40
D2 10014		4	22	<0.2	7	700	<5	19.40 - 20.57
D2 10015		4	17	<0.2	3	510	<5	20.57 - 21.79
D2 10016		3	17	<0.2	4	700	<5	21.79 - 22.20
D2 10017		4	17	<0.2	5	1400	<5	22.20 - 23.00
D2 10018		3	18	<0.2	6	1350	<5	23.00 - 24.08
D2 10019		4	19	<0.2	6	1000	<5	24.08 - 24.90
D2 10020		3	19	<0.2	6	800	<5	24.90 - 25.70
D2 10021		6	19	<0.2	3	700	<5	25.70 - 26.52
D2 10022		3	19	<0.2	<2	750	<5	32.53 - 33.56
D2 10023		3	19	<0.2	<2	245	<5	33.56 - 34.50
D2 10024		4	21	<0.2	<2	210	<5	34.50 - 35.50
D2 10025		4	17	<0.2	<2	360	<5	35.50 - 36.32
D2 10026		4	18	<0.2	3	395	<5	36.32 - 37.67
D2 10027		3	18	<0.2	<2	230	<5	39.80 - 40.74
D2 10028		3	18	<0.2	<2	170	<5	40.74 - 41.60
D2 10029		12	4	<0.2	<2	3000	<5	42.72 - 44.00
D2 10030		<1	<2	<0.2	<2	>5000	<5	44.00 - 45.11
D2 10031		<1	<2	<0.2	<2	>5000	<5	45.11 - 46.00
D2 10032		<1	2	<0.2	<2	3000	<5	46.00 - 47.00
D2 10033		2	2	<0.2	3	750	<5	47.00 - 48.00
D2 10034		2	<2	<0.2	<2	1100	<5	48.00 - 49.00
D2 10035		2	<2	<0.2	2	650	<5	49.00 - 50.00
D2 10036		2	<2	<0.2	<2	1000	<5	50.00 - 51.00
D2 10037		2	2	<0.2	5	>5000	<5	51.00 - 52.00
D2 10038		2	3	<0.2	<2	>5000	<5	52.00 - 53.00
D2 10039		<1	3	<0.2	<2	4500	<5	53.00 - 54.00
D2 10040		2	2	<0.2	<2	1300	<5	54.00 - 55.00



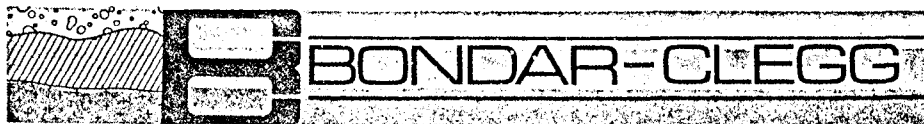
DDH 86-6

REPORT: 127-0976

PROJECT: 312

PAGE 2

SAMPLE NUMBER	ELEMENT UNITS	Cu PPM	Pb PPM	Ag PPM	As PPM	Hg PPB	Au PPB	INTERVAL (meters)
D2 10041		3	4	<0.2	5	750	<5	55.00 - 56.00
D2 10042		2	9	<0.2	<2	500	5	56.00 - 57.00
D2 10043		2	10	<0.2	3	460	<5	57.00 - 58.22
D2 10044		3	12	<0.2	2	505	<5	60.34 - 61.26
D2 10045		2	17	<0.2	<2	340	5	61.26 - 62.50
D2 10046		1	21	<0.2	3	430	<5	62.50 - 63.27
D2 10047		1	22	<0.2	<2	350	<5	63.27 - 64.31
D2 10048		4	18	<0.2	2	440	<5	64.31 - 65.00 0.10 lost
D2 10049		2	27	<0.2	4	560	5	65.00 - 66.00 0.20 lost
D2 10050		2	30	<0.2	3	850	<5	66.00 - 67.26
D2 10051		3	19	<0.2	<2	350	<5	68.20 - 69.00 0.15 lost
D2 10052		1	23	<0.2	<2	175	<5	69.00 - 70.00 0.20 lost
D2 10053		1	26	<0.2	<2	275	<5	70.00 - 71.00
D2 10054		1	21	<0.2	<2	145	<5	71.00 - 72.00
D2 10055		2	18	<0.2	<2	130	<5	72.00 - 73.00
D2 10056		2	18	<0.2	2	200	<5	73.00 - 74.00
D2 10057		1	25	<0.2	<2	160	<5	74.00 - 75.00
D2 10058		2	21	<0.2	2	180	<5	75.00 - 76.00
D2 10059		1	12	<0.2	3	160	<5	76.00 - 77.00
D2 10060		1	18	<0.2	5	160	5	77.00 - 78.00
D2 10061		1	11	<0.2	<2	110	<5	78.00 - 79.00
D2 10062		2	17	<0.2	4	275	<5	79.00 - 80.00
D2 10063		1	16	<0.2	<2	150	<5	80.00 - 81.00
D2 10064		1	12	<0.2	<2	140	<5	81.00 - 82.20
D2 10065		2	15	<0.2	<2	230	<5	82.20 - 83.00
D2 10066		3	24	<0.2	<2	350	5	83.00 - 83.52
D2 10067		2	13	<0.2	<2	150	<5	83.52 - 84.39
D2 10068		3	20	<0.2	<2	460	<5	84.39 - 84.85
D2 10069		2	25	<0.2	<2	330	<5	84.85 - 85.56
D2 10070		1	13	<0.2	<2	325	<5	85.56 - 86.56
D2 10071		1	15	<0.2	<2	280	<5	86.56 - 87.56
D2 10072		2	16	<0.2	<2	425	<5	87.56 - 88.56
D2 10073		2	15	<0.2	<2	430	<5	88.56 - 89.61
D2 10074		1	15	<0.2	<2	330	<5	89.61 - 90.50
D2 10075		2	22	<0.2	<2	430	<5	90.50 - 91.44



DDH 86-6

REPORT: 127-0976 (COMPLETE)

REFERENCE INFO: SHAKWAK SHEET #462

CLIENT: G. MACDONALD & ASSOCIATES
 PROJECT: 312

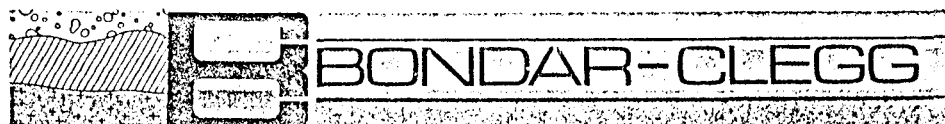
SUBMITTED BY: ROBERTSON
 DATE PRINTED: 17-MAR-87

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Cu Copper	75	1 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
2	Pb Lead	75	2 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
3	Ag Silver	75	0.2 PPM	HNO3-HCL HOT EXTR	Atomic Absorption
4	As Arsenic	75	2 PPM	NITRIC PERCHLOR DIG	Colourimetric
5	Hg Mercury	75	5 PPB	HNO3-HCL HOT EXTR	Cold Vapour AA
6	Au Gold - Fire Assay	75	5 PPB	FIRE-ASSAY	Fire Assay AA

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
D DRILL CORE	75	2 -150	75	CRUSH, PULVERIZE -150	75

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DDH 86-6

REPORT: 127-0984

PROJECT: 312

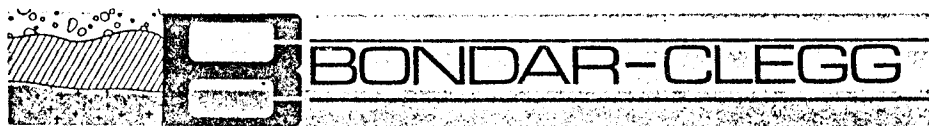
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SAMPLE NUMBER	ELEMENT UNITS	Al2O3 PCT	CaO PCT	Fe2O3 PCT	FeO PCT	K2O PCT	LOI PCT	MgO PCT	MnO PCT	Na2O PCT	P2O5 PCT	SiO2 PCT
D2 20301		14.29	0.27	3.68	0.19	4.05	3.90	0.45	0.02	3.21	0.13	67.36
D2 20310		12.59	2.49	1.85	3.97	3.23	4.80	1.27	0.21	1.72	0.23	66.02
D2 20311		14.14	1.15	3.65	0.19	5.53	3.80	0.32	0.04	1.98	0.13	66.26
D2 20312		15.08	0.46	4.39	0.38	5.70	5.00	0.42	0.02	1.42	0.16	64.80
D2 20315		14.62	0.19	2.33	2.95	4.42	3.50	0.35	0.03	0.04	0.09	69.36

SAMPLE NUMBER	ELEMENT UNITS	TiO2 PCT	Totals PCT	CO2 PCT	S PCT	V PPM	Rb PPM	Sr PPM	Zr PPM	Y PPM
D2 20301		0.35	97.89	<0.02	2.40	15	120	125	250	17
D2 20310		0.57	98.94	1.54	0.05	46	91	105	155	8
D2 20311		0.37	97.57	0.53	2.33	17	140	76	250	20
D2 20312		0.39	98.21	0.05	2.88	16	155	84	265	29
D2 20315		0.39	98.27	<0.02	0.11	17	180	39	280	31

DDH 86-6

Sample #	Interval (m)	Description
20301	12.55 - 12.65	Fine-grained potassic volcanic with incipient to distinct brecciation, cemented by similar, non-potassic material. Alteration to sericite-clay and diffused cherty silica. Pyrite 1%.
20310	@ 31.40	Medium-grained tuff with fragments of andesite tuff and amygdaloidal glassy flow material.
20311	@ 33.20	"Type 3 breccia"
20312	@ 33.50	"Type 2 breccia"
20315	@ 59.70	Sparsely porphyritic fine-grained volcanic; pervasively altered without textural destruction. Small plagioclase phenocrysts altered to green sericite; glassy matrix permeated by cherty quartz.



DDH 86-6

REPORT: 127-0984 (COMPLETE)

REFERENCE INFO: SHAKWAK

CLIENT: G. MACDONALD & ASSOCIATES
 PROJECT: 312

SUBMITTED BY: ROBERTSON
 DATE PRINTED: 17-MAR-87

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Al2O3 Alumina (Al2O3)	5	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
2	CaO Calcium (CaO)	5	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
3	Fe2O3 Ferric Iron	5	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
4	FeO Ferrous Iron	5	0.01 PCT	HF-H2SO4-HCL	Titrametric
5	K2O Potassium (K2O)	5	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
6	LOI Loss On Ignition	5	0.01 PCT		Gravimetric
7	MgO Magnesium (MgO)	5	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
8	MnO Manganese (MnO)	5	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
9	Na2O Sodium (Na2O)	5	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
10	P2O5 Phosphorous (P2O5)	5	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
11	SiO2 Silica	5	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
12	TiO2 Titanium (TiO2)	5	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
13	Totals Whole Rock Totals	5	0.01 PCT		
14	CO2 Carbon Dioxide	5	0.01 PCT		Leco
15	S Sulphur	5	0.01 PCT		Leco
16	V Vanadium	5	2 PPM	MULT ACID TOT DIG	Atomic Absorption
17	Rb Rubidium	5	5 PPM		X-RAY Fluorescence
18	Sr Strontium	5	5 PPM		X-RAY Fluorescence
19	Zr Zirconium	5	5 PPM		X-RAY Fluorescence
20	Y Yttrium	5	5 PPM		X-RAY Fluorescence

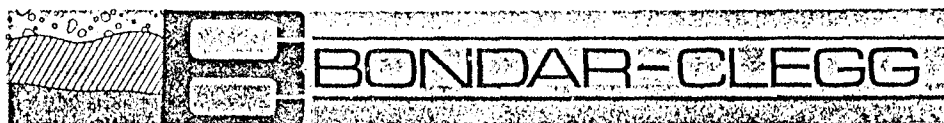
SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
D DRILL CORE	5	2 -150	5	CRUSH,PULVERIZE -150	5

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DDH 86-14

<u>Sample #</u>	<u>Interval (m)</u>	<u>Description</u>
20260	5.75 - 5.85	Fine-grained porphyritic volcanic rock (andesite?) with 10% plagioclase phenocrysts and 1% grey Fe-Ti oxides (ilmenite-hematite intergrowths). Diffuse lenticular zones of microgranular quartz.
20261	7.20 - 7.40	Breccia of potassic (latite) porphyry cemented by limonitic or hematitic oxides.
20262	8.52 - 8.62	Fine-grained porphyritic feldspathic volcanic with 10% plagioclase phenocrysts and plagioclase-rich matrix. Pervasive groundmass carbonate alteration and elongate zones of microgranular quartz.
20263	18.36 - 18.46	Sparsely porphyritic volcanic with plagioclase phenocrysts and cryptocrystalline matrix.
20264	22.86 - 23.09	Brecciated sparsely porphyritic potassic volcanic rock with patchy carbonate and microgranular quartz in clasts. Matrix is similar volcanic material (but non-potassic).
20265	25.53 - 25.63	Porphyritic feldspathic volcanic showing weak ferruginization and silicification along sub-reticulate networks (micro-brecciation structure?)
20266	26.65 - 26.75	Contact between incipiently brecciated porphyry (as 20265) and a fragmental breccia unit.
20267	31.66 - 31.80	Breccia (as part of 20266) of fragments (as 20265) and matrix of similar material very finely granulated.



DDH 86-14

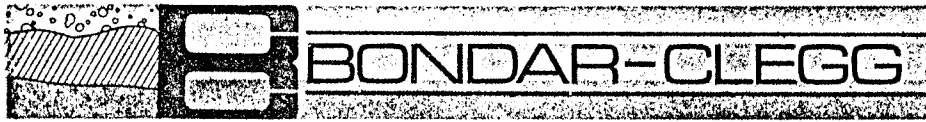
REPORT: 127-0721

PROJECT: 312

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SAMPLE NUMBER	ELEMENT UNITS	Al2O3 PCT	CaO PCT	Fe2O3 PCT	FeO PCT	K2O PCT	LOI PCT	MgO PCT	MnO PCT	Na2O PCT	P2O5 PCT	SiO2 PCT
D2 20260		14.49	1.74	3.49	0.25	4.53	2.60	0.42	0.09	4.03	0.17	66.73
D2 20261		16.02	1.84	3.33	0.40	4.97	2.90	0.37	0.07	4.15	0.11	65.66
D2 20262		14.70	2.51	1.89	1.05	3.68	3.70	0.42	0.10	5.01	0.15	67.29
D2 20263		15.64	2.26	2.69	0.20	4.14	3.50	0.41	0.05	4.16	0.14	66.86
D2 20264		13.68	2.45	3.18	0.25	3.74	3.50	0.24	0.05	3.92	0.10	67.96
D2 20265		15.27	3.02	3.33	0.20	3.19	3.80	0.28	0.05	4.54	0.15	65.24
D2 20266		15.27	2.28	2.83	0.20	3.49	3.70	0.33	0.08	3.95	0.16	66.96
D2 20267		15.42	1.46	3.16	0.26	4.60	2.80	0.45	0.03	3.82	0.13	67.63

SAMPLE NUMBER	ELEMENT UNITS	TiO2 PCT	Totals PCT	CO2 PCT	S PCT	V PPM	Rb PPM	Sr PPM	Zr PPM	Y PPM
D2 20260		0.38	98.93	1.08	0.02	7	120	175	240	18
D2 20261		0.41	100.21	1.08	<0.02	13	125	215	245	29
D2 20262		0.40	100.90	2.19	<0.02	9	93	230	250	18
D2 20263		0.41	100.46	1.46	0.04	10	112	145	275	18
D2 20264		0.37	99.44	1.74	0.02	13	88	150	245	19
D2 20265		0.41	99.48	2.02	0.02	19	105	150	270	23
D2 20266		0.42	99.68	1.39	0.02	15	100	130	275	27
D2 20267		0.44	100.21	0.76	<0.02	16	140	140	275	26



DDH 86-14

REPORT: 127-0721 (PRELIMINARY)

REFERENCE INFO: SHAKWAK SHEET #408

CLIENT: G. MACDONALD & ASSOCIATES
 PROJECT: 312

SUBMITTED BY: ROBERTSON
 DATE PRINTED: 6-MAR-87

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Al ₂ O ₃ Alumina (Al ₂ O ₃)	14	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
2	CaO Calcium (CaO)	14	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
3	Fe ₂ O ₃ Ferric Iron	14	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
4	FeO Ferrous Iron	14	0.01 PCT	HF-H ₂ SO ₄ -HCL	Titrametric
5	K ₂ O Potassium (K ₂ O)	14	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
6	LOI Loss On Ignition	14	0.01 PCT		Gravimetric
7	MgO Magnesium (MgO)	14	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
8	MnO Manganese (MnO)	14	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
9	Na ₂ O Sodium (Na ₂ O)	14	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
10	P ₂ O ₅ Phosphorous (P ₂ O ₅)	14	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
11	SiO ₂ Silica	14	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
12	TiO ₂ Titanium (TiO ₂)	14	0.01 PCT	MULT ACID TOT DIG	D.C. Plasma
13	Totals Whole Rock Totals	14	0.01 PCT		
14	CO ₂ Carbon Dioxide	14	0.01 PCT		Leco
15	S Sulphur	14	0.01 PCT		Leco
16	V Vanadium	14	2 PPM	MULT ACID TOT DIG	Atomic Absorption
17	Rb Rubidium	14	5 PPM		X-RAY Fluorescence
18	Sr Strontium	14	5 PPM		X-RAY Fluorescence
19	Zr Zirconium	14	5 PPM		X-RAY Fluorescence
20	Y Yttrium	14	5 PPM		X-RAY Fluorescence

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	6	2 -150	14	CRUSH,PULVERIZE -150	14
D DRILL CORE	8				

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APPENDIX IV: STATEMENT OF EXPENDITURES

DDH 86-06

Started: 23 September 1986

Completed: 25 September 1986

<u>Moving</u>		
22 manhours @ \$29.50/hour	\$	649.00
<u>Overburden</u>		
0-20 = 20' @ \$22.50/foot		450.00
<u>Core Drilling</u>		
20-300' = 280' @ \$22.50/foot		6,300.00
<u>Testing</u>		
3 manhours @ \$29.50/hour		88.50
1.5 machine hours @ \$15.00/hour		22.50
<u>Standby</u>		
5 manhours @ \$25.00/hour		125.00
<u>Water Supply</u>		
2 man hours @ \$29.50/hour		59.00
<u>Mud and Additives</u>		135.79
<u>Core Boxes and Lids</u>		
16 @ \$11.50 each		184.00
<u>D-6 Bulldozer Charges</u>	<u>1,488.68</u>	<u>\$9,502.47</u>

DDH 86-14

Started: 19 October 1986

Completed: 21 October 1986

<u>Moving</u>		
19 manhours @ \$29.50/hour	\$	560.50
<u>Overburden</u>		
0-8 = 8' @ \$22.50/foot		180.00
<u>Core Drilling</u>		
8-245 = 237' @ \$22.50/foot		5,332.50
<u>Reaming Cave</u>		
2 manhours @ \$29.50/hour		59.00
1 machine hour @ \$15.00/hour		15.00
<u>Testing</u>		
3 manhours @ \$29.50/hour		88.50
1.5 machine hours @ \$15.00/hour		22.50
<u>Water Supply</u>		
16manhours @ \$29.50/hour		472.00
(Subtotal, c/f)	<u>\$6,730.00</u>	

(subtotal, b/f)	\$6,730.00	\$9,502.47
<u>Standby</u>		
11 manhours @ \$25.00/hour	275.00	
<u>Mud and Additives</u>	194.23	
<u>Core Boxes and Lids</u>		
14 @ \$11.50 each	161.00	
<u>D6 Bulldozer Charges</u>	<u>1,230.55</u>	8,590.78

DDH 86-20

Started: 1 November 1986

Completed: 2 November 1986

<u>Moving</u>		
4 manhours @ \$29.50/hour	\$ 118.00	
<u>Overburden</u>		
0-30 = 30' @ \$22.50/foot	675.00	
<u>Core Drilling</u>		
30-200 = 170' @ \$22.50/foot	3,825.00	
<u>Testing</u>		
2 manhours @ \$29.50/hour	59.00	
1 machine hour @ \$15.00/hour	15.00	
<u>Water Supply</u>		
14 manhours @ \$29.50/hour	413.00	
<u>Mud and Additives</u>	158.56	
<u>Core Boxes and Lids</u>		
9 @ \$11.50 each	103.50	
<u>D-6 Bulldozer Charges</u>	<u>1,004.53</u>	6,371.59

T O T A L**\$24,464.84**

APPENDIX V: STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

I, **RONALD C. R. ROBERTSON**, of the City of Whitehorse in the Yukon Territory, HEREBY CERTIFY:

THAT I am a self-employed consulting geologist and that I was employed by Shakwak Exploration Company Limited to supervise the diamond drilling program 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 seventeen (17) years, of which nine (9) 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, the Prospectors and Developers Association, and the Yukon Chamber of Mines.

DATED at Whitehorse, Yukon Territory, this 14th day of April, 1987.



Ronald C. R. Robertson.

