| MAP NO. | | | |
|---|---|---|---|
| | ASSESSMENT REPORT | X | DOCUMENT NO.: 092082 |
| | PROSPECTUS | | MINING DISTRICT: DAWSON |
| | CONFIDENTIAL | X | TYPE OF WORK: Diamond Drilling |
| 115 O 11 | OPEN FILE | | |

REPORT FILED UNDER: Volcano Resources Corporation

DATE PERFORMED: September 10 - October 21, 1987 DATE FILED: January 29, 1988

LOCATION: LAT.: 63°40'N AREA: McKinnon Creek

LONG.: 139°07'W VALUE $: 71,300.00

CLAIM NAME & NO.:

| | | | |
|---|---|---|---|
| KEY 1-12 | YA87792-YA87803 | KEY 13Fr. | YA88703 |
| KEY 14, 16 | YA87804, YA87805 | KEY 15Fr. | YA88704 |
| KEY 17, 18 | YA87818, YA87819 | KEY 19-28 | YA87808-YA87817 |
| KEY 29-38 | YA87820-YA87829 | KEY 39Fr. | YA88705 |
| KEY 40-51 | YA88706-YA88717 | KEY 52-75 | YA88718-YA88741 |
| KEY 76-81 | YA88742-YA88747 | KEY 86-109 | YA88752-YA88775 |
| KEY 110-123 | YA88798-YA88811 | KEY 82-85 | YA88748-YA88751 |

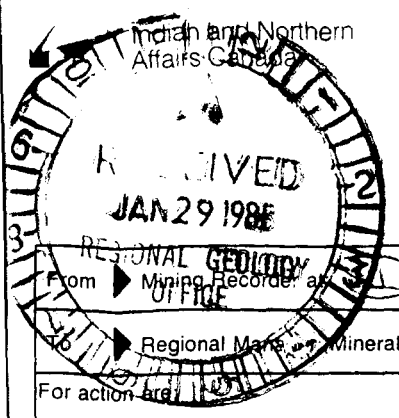
WORK DONE BY: D.H. Waugh

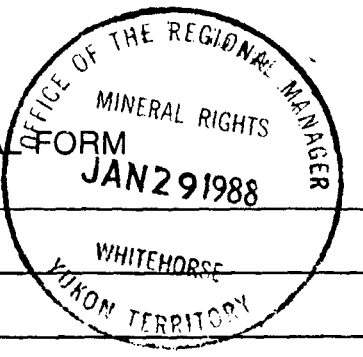
WORK DONE FOR: Volcano Resources Corporation

| DATE TO GOOD STANDING | REMARKS: #115 KEY |
|---|---|
| | |
| | |
| | |

Indian and Northern Affairs Canada

Affaires indiennes et du Nord Canada




# TRANSMITTAL FORM

M.R. file no. QUARTZ RENEWAL

R.M.M.R. file no.

Date forwarded 29 JAN 88

From ▶ Mining Recorder at DAWSON

To ▶ Regional Manager, Mineral Rights at Whitehorse, Y.T.

For action re:

| | | | |
|---|---|---|---|
| ☐ NEW APPLICATION FOR PLACER LEASE TO PROSPECT | Name | | |
| ☐ RENEWAL APPLICATION PLACER LEASE TO PROSPECT | Name | | Lease no. |
| ☐ AFFIDAVIT OF EXPENDITURE ON PLACER LEASE | Name | | Lease no. |
| ☐ SECURITY DEPOSIT | | | |
| ☐ FINANCIAL ABILITY | | | |
| ☐ ASSIGNMENT OF PLACER LEASE NO. | From | To | |
| ☐ GROUPING APPLICATION UNDER SEC. 52(2) PLACER MINING ACT. | Owner | | |
| ☐ DIAMOND DRILL LOGS | Claims | | Claim sheet no. |
| ☐ QUARTZ ASSESSMENT REPORT | Claims KEY (VARIOUS) | | Claim sheet no. 115011 |
| | Type of report DIAMOND DRILLING | Submitted by DAVID WALSH | |
| | Cls. work performed on VARIOUS | | $ req. for ren. application ~~70.00~~ 71.30 |

Signature

092082

REPLY ACTION

Date returned 16 Feb. 88

Renewal has been received

Signature

# A PRELIMINARY DIAMOND DRILLING REPORT

on the

## KEY 3 and 5 Quartz Claims

OFFICE OF THE REGIONAL MANAGER
MINERAL RIGHTS
JAN 29 1988
WHITEHORSE
YUKON TERRITORY

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

RECEIVED
JAN 27 1988
DAWSON, Y.T.

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

By:
D. H. WAUGH, Geologist

December 1987
Field work: September 10 - October 21, 1987

092082

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 $ 71 300.00 .

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

TABLE OF CONTENTS


| | Page |
|---|---|
| Figure 1: Location Plan (scale 1:7,603,200) | - |
| INTRODUCTION | 1 |
| PROPERTY AND OWNERSHIP | 1 |
| Figure 2: Claim Location Map (scale 1:250,000) | - |
| LOCATION AND ACCESS | 2 |
| TOPOGRAPHY AND CLIMATE | 2 |
| Figure 3: Claim Map (scale 1:31,680) | - |
| HISTORY | 3 |
| GEOLOGY | 3 |
| Figure 4: Geology Map (scale 1:25,000) | - |
| MINERALIZATION | 4 |
| 1987 DRILL PROGRAM | 5 |
| Figure 6: Plan Map - Diamond Drill Holes 87-1 thru 87-5 (scale 1:200) | - |
| Figure 7: Plan Map - Diamond Drill Holes 87-6, 87-7 (scale 1:200) | - |
| Figure 8: Plan Map - Diamond Drill Holes 87-8, 87-9 (scale 1:200) | - |
| STATEMENT OF QUALIFICATIONS | 7 |
| COST STATEMENT | 8 |


Appendices


| | |
|---|---|
| Appendix I: | Bibliography |
| Appendix II: | Drill Logs, Sample Descriptions |
| Appendix III: | Analytical Report, Assay Certificates |
| Appendix IV: | Vouchers |


**Map Pocket**


| | |
|---|---|
| Figure 5: | Detailed Plan (scale 1:2,000) |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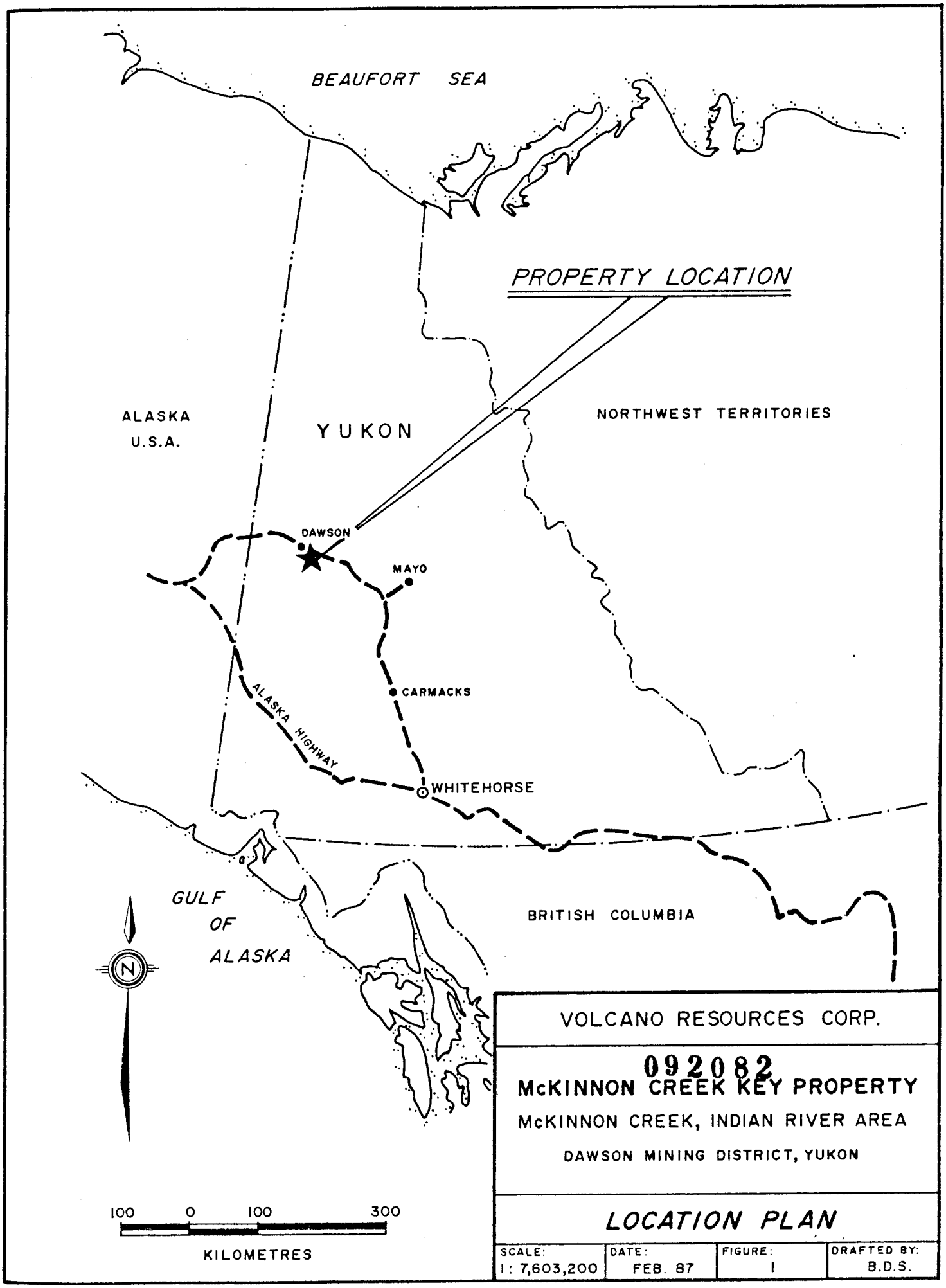



VOLCANO RESOURCES CORP.

092082

# McKINNON CREEK KEY PROPERTY

McKINNON CREEK, INDIAN RIVER AREA

DAWSON MINING DISTRICT, YUKON

## LOCATION PLAN

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

## INTRODUCTION

This report is written as a follow-up to the 1987 diamond drilling program on the McKinnon Creek KEY 3 and KEY 5 claims and is a representation work requirement. Fieldwork was conducted during the periods of September 10 thru October 21, 1987 by D. H. Waugh Contract Geological Services for Volcano Resources Corp.

The diamond drilling was contracted to Kluane Drilling Ltd. of 14 MacDonald Road, Whitehorse, Yukon.

The purpose of the drill program was to test the economic potential of the property in the vicinity of some of the old shafts and adits where historic data indicated gold values of possible economic tenor from the McKinnon Creek conglomerates.

## PROPERTY AND OWNERSHIP

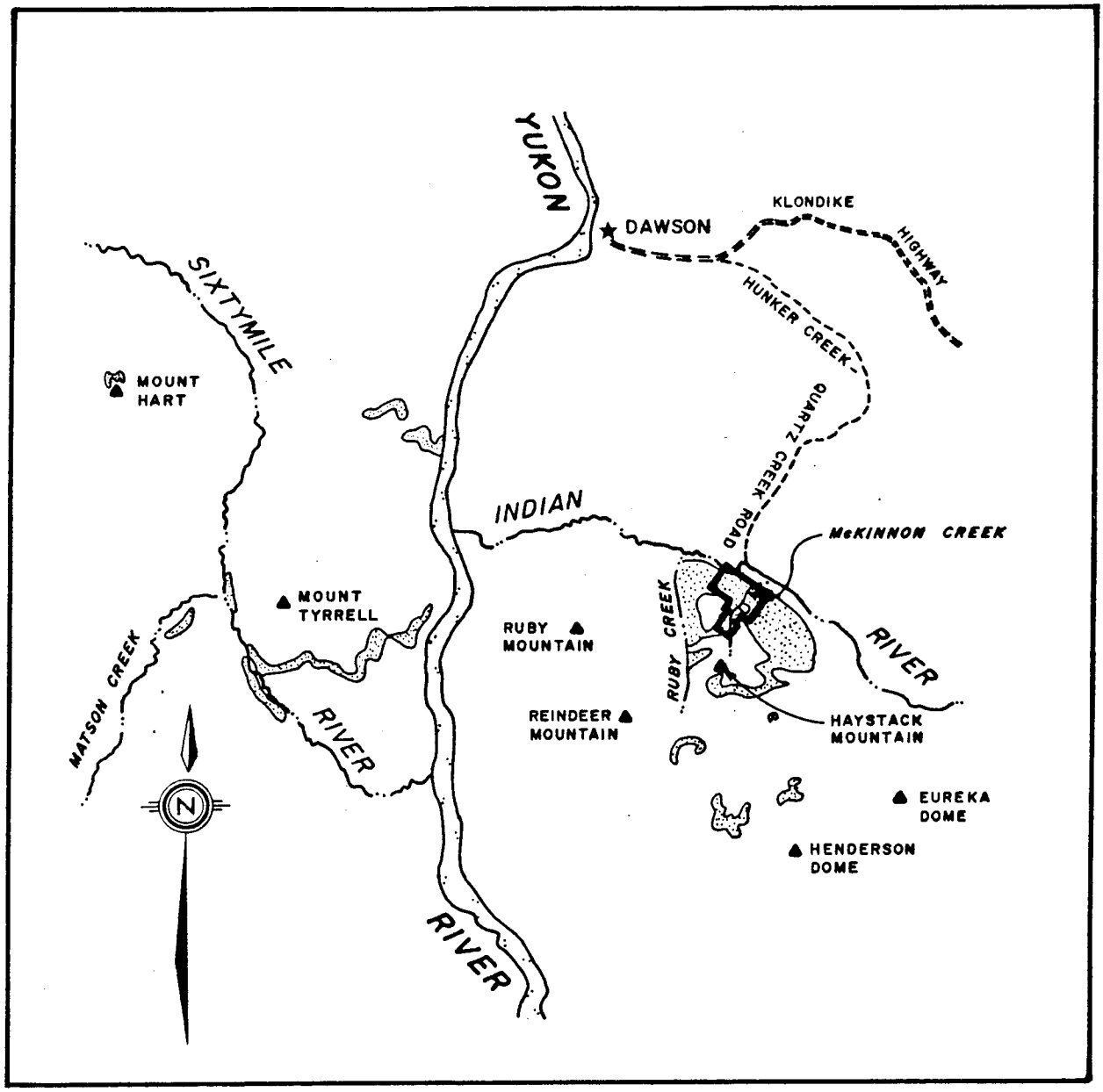
The property consisted of 123 contiguous quartz claims held by location at the time the drill program was conducted.

The claims are located on Claim Sheet 115-O-11 and are as listed below. (Expiry dates are subject to acceptance of the assessment work described in this report.)

| Claim Number | Record Number | Expiry Date |
|---|---|---|
| KEY 1-12 incl. | YA 87792 - YA 87803 incl. | 3 February 1992 |
| KEY 13 Fr. | YA 88703 | 3 February 1993 |
| KEY 14, 16 | YA 87804, YA 87805 | 3 February 1992 |
| KEY 15 Fr. | YA 88704 | 3 February 1993 |
| KEY 17, 18 | YA 87818, YA 87819 | 3 February 1992 |
| KEY 19-28 incl. | YA 87808 - YA 87817 incl. | 3 February 1992 |
| KEY 29-38 incl. | YA 87820 - YA 87829 incl. | 3 February 1992 |
| KEY 39 Fr. | YA 88705 | 3 February 1993 |
| KEY 40-51 incl. | YA 88706 - YA 88717 incl. | 3 February 1991 |
| KEY 52-75 incl. | YA 88718 - YA 88741 incl. | 3 February 1989 |
| KEY 76-81 incl. | YA 88742 - YA 88747 incl. | 3 February 1993 |
| KEY 86-109 incl. | YA 88752 - YA 88775 incl. | 3 February 1989 |
| KEY 110-123 incl. | YA 88798 - YA 88811 incl. | 10 February 1989 |
| KEY 82-85 incl. | YA 88748 - YA 88751 incl. | 3 February 1990 |

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

092082




DISTRIBUTION OF CLASTIC SEDIMENTARY ROCKS

FROM: G.W. LOWEY, 1984

VOLCANO RESOURCES CORP.

# McKINNON CREEK KEY PROPERTY

McKINNON CREEK, INDIAN RIVER AREA

DAWSON MINING DISTRICT, YUKON

## CLAIM LOCATION MAP

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

D.H. WAUGH, CONTRACT GEOLOGICAL SERVICES

## LOCATION AND ACCESS

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

The property is accessible by government-maintained gravel roads that lead from Dawson City via the Upper Bonanza Creek road or via the Hunker Creek road to the junction of the Quartz Creek road - a distance of about 29 kilometers and 34 kilometers respectively. The Quartz Creek road is periodically maintained and leads to the Indian River over a distance of approximately 11 kilometers. A bulldozer trail leads up the south bank of the Indian River, then up McKinnon Creek to the field camp - a distance of 6.5 kilometers from the ford at the Indian River crossing near the confluence of Quartz Creek. This section of road requires upgrading to provide year-round access by 4x4 vehicles. The last 0.5 kilometers to the camp was accessed by all-terrain-vehicles and partly by helicopter during mobilization.

Helicopter charter is available from Dawson City on a year-round basis.

## TOPOGRAPHY AND CLIMATE

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

Permafrost conditions occur as lenses in the creek valley, particularly along the west facing slopes of the east side where drilling was conducted.

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

Rainfall is usually light but the region experienced a wet summer and fall during 1987. Generally, though, summers and falls are historically dry and the climate can be classified as semi-arid.

092082

139°10'

139°05'

63°45'

139°00'

BLOCK "A"
(KEY 40-75)
KEY 40-43 Staked 1/28/87
KEY 44-51 Staked 1/29/87
KEY 52-63 Staked 1/30/87
KEY 64-75 Staked 1/31/87

35°

Baseline 10,000 E

KEY 13 Fr., 15 Fr., 39 Fr.
Staked 1/31/87

INDIAN RIVER

BLOCK "B"
(KEY 76-109)
KEY 76-85 Staked 1/31/87
KEY 86-109 Staked 2/1/87

BLOCK "C"
(KEY 110-123)
KEY 110-123 Staked 2/9/87

CREEK

McKINNON

215°

305°

125°

1000 0 1000 3000 5000 7000 9000
FEET

0 1 2
MILE

VOLCANO RESOURCES CORP.

# McKINNON CREEK KEY PROPERTY

McKINNON CREEK, INDIAN RIVER AREA

DAWSON MINING DISTRICT, YUKON

092082

## CLAIM MAP (10-1)

| SCALE: | DATE: | MAP SHEET: | FIGURE: | DRAFTED BY: |
|---|---|---|---|---|
| 1:31,680 | FEB. 87 | 115-0-11 | 3 | B.D.S. |

D.H. WAUGH, CONTRACT GEOLOGICAL SERVICES

## HISTORY

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

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

Yukon Revenue Mines reported assay results from grab samples taken in 1974 that ranged from trace to 0.07 ounces per ton. In 1975 three Becker drill holes (percussion) were put down on the KIN claims. No samples were taken for assay, thus leaving the results of this work inconclusive. Cyprus Anvil Mines drilled three NQ size holes on a coal permit that covered the KIN claims held by Yukon Revenue. This drilling intersected one four-foot coal seam and 34 meters of conglomerate. The coal was of poor quality and the conglomerate was not analyzed. The locations of the 1975 percussion holes and 1980 diamond drill holes are shown on Figures 4 and 5 of this report.

## GEOLOGY

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

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

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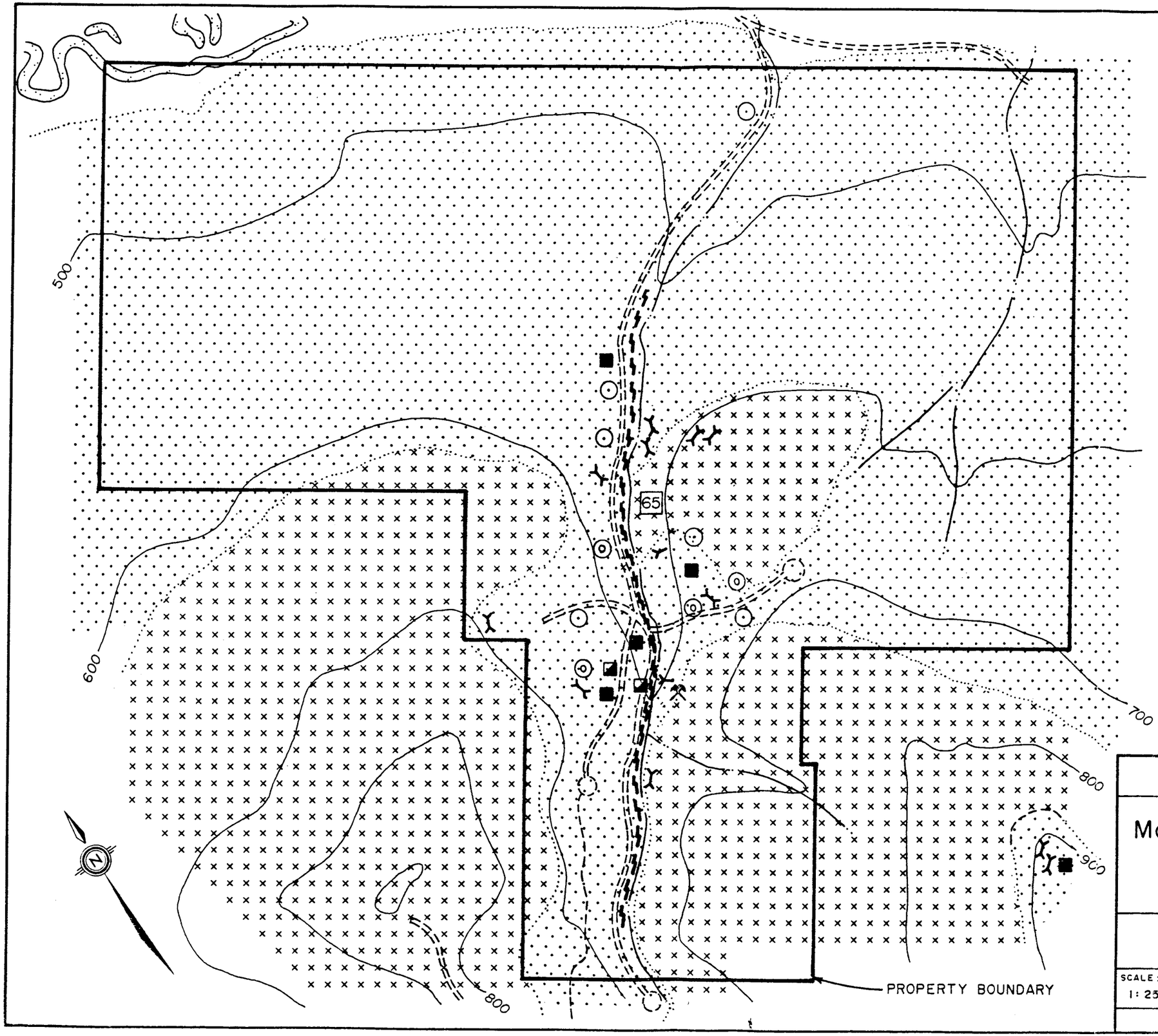



## LEGEND

RECENT

Unconsolidated alluvial deposits

PALEOCENE AND UPPER CRETACEOUS

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

LOWER CRETACEOUS

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

Geologic boundary (approximate, assumed)

Fault (assumed)

Mine (Gold Mine)

Diamond drill hole, Rotary drill hole

Shaft

Adit

Trench

Building

Trail (bulldozer, foot)

65 Radiometric age (millions of years)

500 0 750

METRES

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

VOLCANO RESOURCES CORP.

# McKINNON CREEK KEY PROPERTY

McKINNON CREEK, INDIAN RIVER AREA

DAWSON MINING DISTRICT, YUKON

092082

## GEOLOGY MAP

105

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

D.H. WAUGH, CONTRACT GEOLOGICAL SERVICES

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

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

Along McKinnon Creek, the conglomerates have been tested over the years by numerous pits and trenches and by at least three adits and four shafts. All but one adit on the old Britannia claim, now covered by KEY 3, are presently inaccessible. One shaft, the Winchester, also located on KEY 3, remained in volcanic rocks for its reported 50-foot length. Gold values were reported from three locations: the Britannia, the Arctic and the Andromeda workings.

Seven widely-spaced diamond drill holes and three percussion holes were drilled on the property in the mid-seventies and in 1980 by Dome Exploration, Yukon Revenue and Cyprus Anvil (coal exploration). The four Dome holes failed to intersect gold in economic concentrations; the three Yukon Revenue holes (percussion) were panned but not assayed, and the three Cyprus Anvil holes were logged and tested for coal only. See Figure 4 and Figure 5 for drill hole locations.

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

## MINERALIZATION

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

092082

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

It was thought that the concentration of shaft and tunnel work near the McKinnon Creek valley might indicate that gold concentrations, as reportedly found in the Britannia shaft, might also be located adjacent to the McKinnon Creek (fault) lineament and that gold may have been preferentially precipitated in the carbonaceous-rich McKinnon Conglomerate Bed or "Black Conglomerate" since finely disseminated or "invisible" type gold deposits are known to be associated with carbonaceous rock formations. It was also postulated that gold might have been introduced by intrusive fluid action (magnetic origin) or remobilized from the sedimentary units (detrital origin) and precipitated in favourable horizons of the same sedimentary rock sequence.

## 1987 DRILL PROGRAM

During the period September 5 - October 21, 1987, the drill program on the McKinnon Creek KEY claims was planned, mobilized and completed by Volcano Resources Corp. (under the supervision and management of D. H. Waugh). A total of 1521 feet or 464 meters of NQ core size drilling was completed on nine holes. Five holes were drilled on the KEY 3 claim adjacent to the Britannia shaft and adit; two holes, on the KEY 5 claim, were located in the black conglomerate zone where two old pits are located, and the last two holes were situated in the vicinity of the Andromeda adit on the KEY 5 claim. All nine holes are situated along the east side of and near to McKinnon Creek in permafrozen ground. See figures 5,6, 7 and 8.

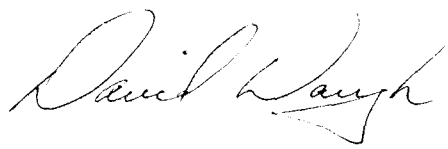
The holes were drilled with a Longyear 38 wireline diamond drill using NQ size equipment. The drilling was contracted to Kluane Drilling Ltd. and was supported by a D7E Cat bulldozer supplied by H. Coyne and Sons of Whitehorse. Mobilization of personnel, some drill equipment and supplies was partly supported by helicopter from Dawson City. In view of the excessively wet and very mild fall weather, mobilization to the first drill site was slow, arduous and expensive. Mobilization from Whitehorse began September 10 and the first drill hole, 87-1, was finally collared on September 22, twelve days later. After many days of having the bulldozer and trucks stuck in the thawed sections of the McKinnon Creek 4x4 trail, extensive upgrading and rerouting of this access road was necessitated before the drill could be moved onto site.

On completion of nine holes, drilling was halted and equipment placed on standby, awaiting assay results. No economic gold or silver values were encountered in the 90 samples assayed by Min-En Laboratories Ltd., 705 West 15th Street, North Vancouver, and the decision to suspend further drilling at the time was made by Volcano Resources Corp; demobilization was subsequently completed on October 21.

092082

Included in this report are four plan maps - three at scales of 1:200 and one at 1:2,000. They show the location of drill holes, geological features, old workings, camp, core storage, topographic features, claim locations, bulldozed trails and grid lines. The 1:200 scale detail maps (figures 6, 7 and 8) include drill hole directions, dips and ultimate depths and the distance and bearings to the nearest claim posts. Drill core is stored at the campsite by McKinnon Creek, in wooden core boxes on well constructed core racks and in the core shack. See the detail plan map, Figure 5, for both camp and core storage locations.

Drill logs, sample descriptions, analytical reports and assay certificates are included in the Appendix to this report.





092082

10+500 E

10+525 E

ROAD TO INDIAN RIVER 6.5 Km

135 metres @ 097° from DDH 87-1 to Claim Post 1, Key 5 & 6

035

GRID NORTH

WHITE CONG.

WHITE CONG.

30.1 m U.D.

HAND TRENCH

DDH 87-1 (-90°) 45.1 m U.D.

125°

DDH 87-2 (-70°)

20°

DDH 87-3 (-55°)

DDH 87-5 (-70°)

RUSTY WHITE CONG.

46 m U.D.

GRID LINE 9+700 N

CONG.

BRITANNIA SHAFT

DDH 87-4 (-70°)

285°

VOLC.

91.1 m U.D.

195°

WHITE CONG. (RUSTY)

PORTAL

ADIT

CONG.

61.3 m U.D.

VOLCANO RESOURCES CORP.

# McKINNON CREEK KEY PROPERTY

McKINNON CREEK INDIAN RIVER AREA
DAWSON MINING DISTRICT, YUKON

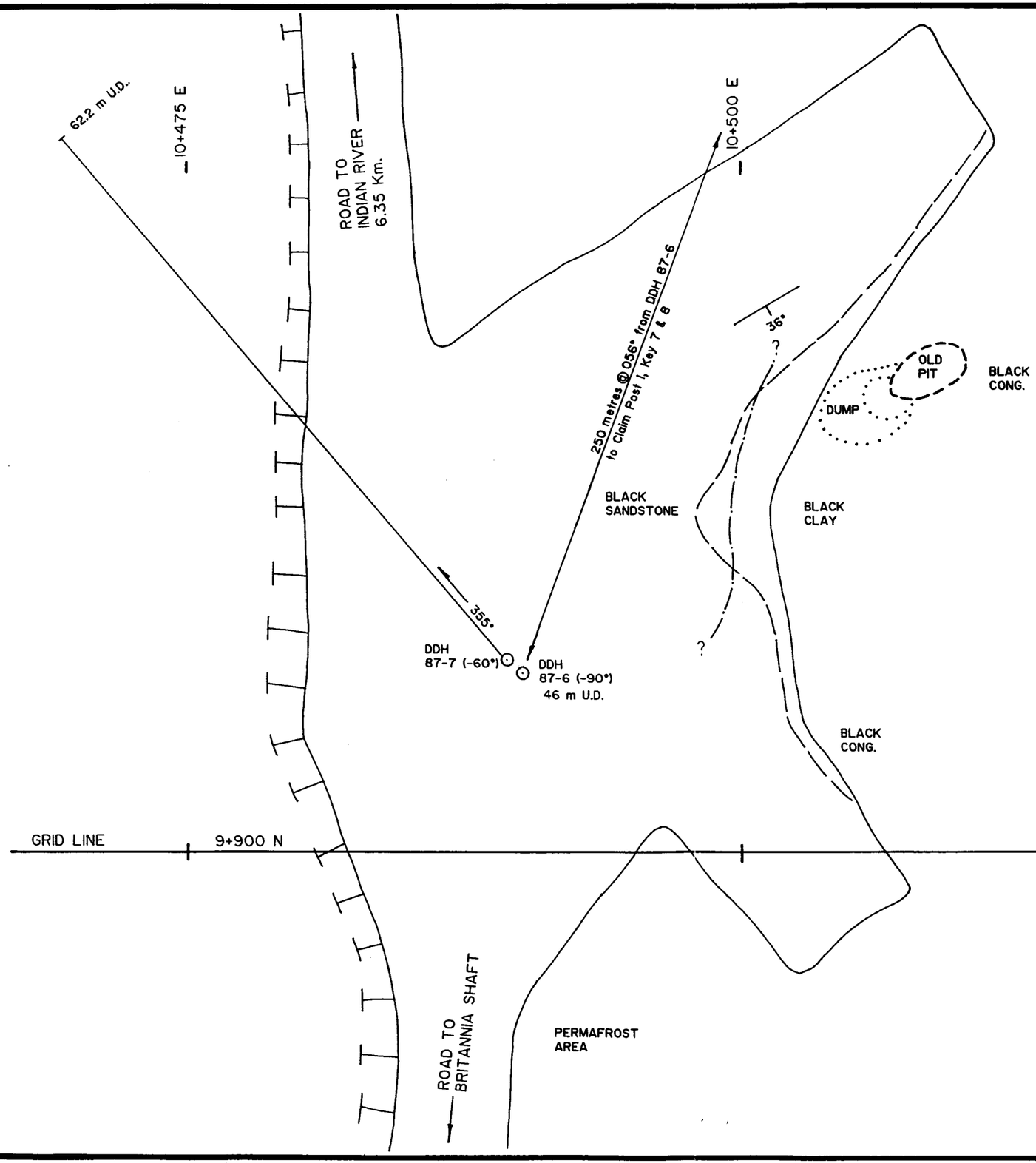
22032

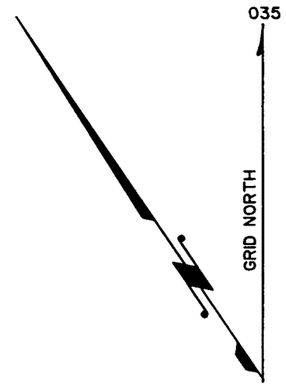
## PLAN MAP

DIAMOND DRILL HOLES 87-1 THRU 87-5

| SCALE : | DATE : | MAP SHEET: | FIGURE: | DRAWN BY: |
|---|---|---|---|---|
| 1 : 200 | DEC., '87 | 115-0-11 | 6 | INTEGRAPHICS LTD. |

D. H. WAUGH CONTRACT GEOLOGICAL SERVICES




VOLCANO RESOURCES CORP.

# McKINNON CREEK KEY PROPERTY

McKINNON CREEK INDIAN RIVER AREA
DAWSON MINING DISTRICT, YUKON

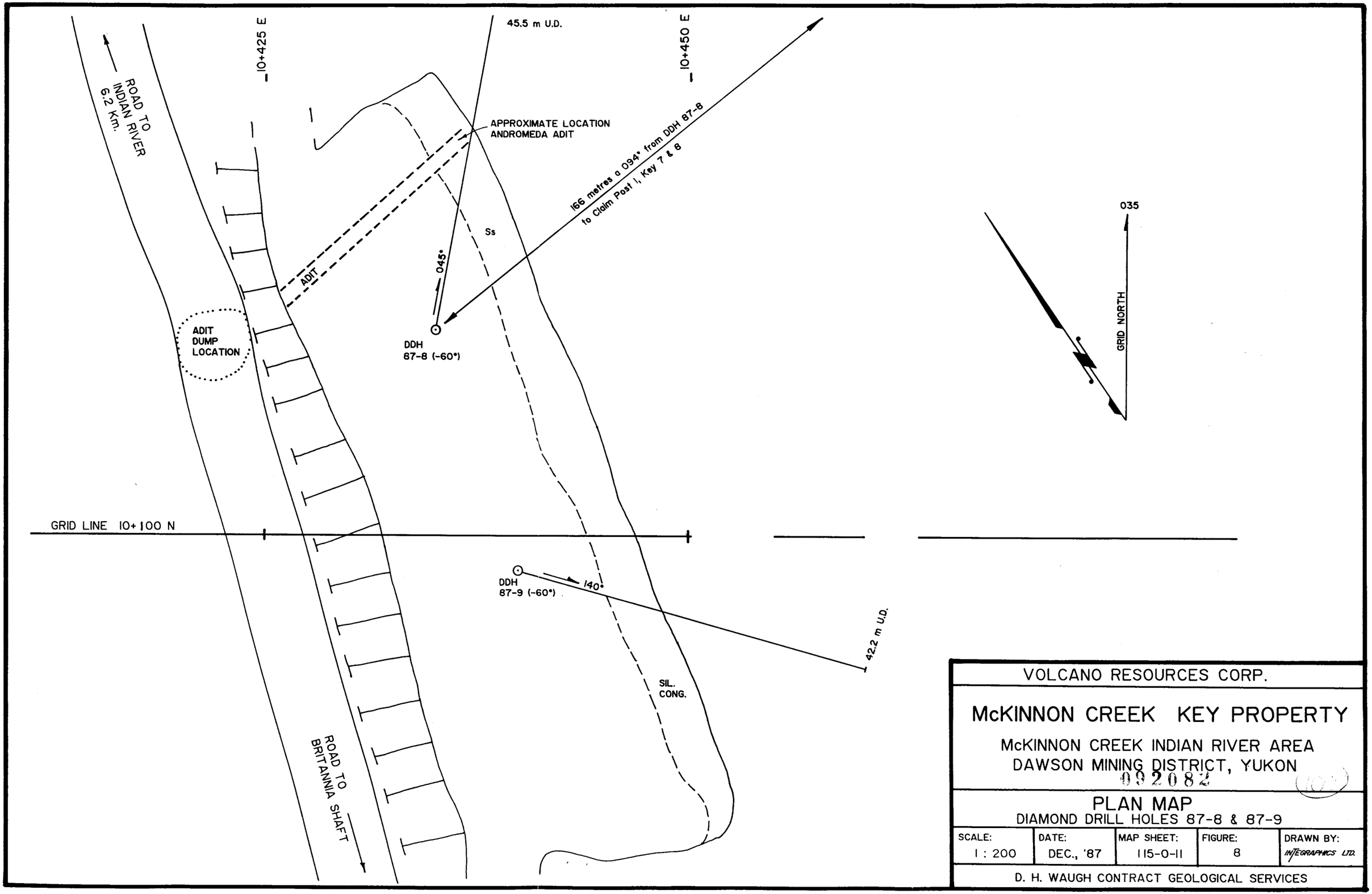
092082

## PLAN MAP

DIAMOND DRILL HOLES 87-6 & 87-7

| SCALE: | DATE: | MAP SHEET: | FIGURE: | DRAWN BY: |
|---|---|---|---|---|
| 1 : 200 | DEC., '87 | 115-0-11 | 7 | INTEGRAPHICS LTD. |

D. H. WAUGH CONTRACT GEOLOGICAL SERVICES




VOLCANO RESOURCES CORP.

# McKINNON CREEK KEY PROPERTY

McKINNON CREEK INDIAN RIVER AREA
DAWSON MINING DISTRICT, YUKON

092082

## PLAN MAP

DIAMOND DRILL HOLES 87-8 & 87-9

| SCALE: | DATE: | MAP SHEET: | FIGURE: | DRAWN BY: |
|---|---|---|---|---|
| 1 : 200 | DEC., '87 | 115-0-11 | 8 | INTEGRAPHICS LTD. |

D. H. WAUGH CONTRACT GEOLOGICAL SERVICES

## STATEMENT OF QUALIFICATIONS

I, **DAVID H. WAUGH**, of 118 Alsek Road, Whitehorse in the Yukon Territory, HEREBY STATE that:

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

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

3. I personally supervised and managed the diamond drilling and related work on the KEY 3 and 5 quartz claims during September and October, 1987, which property is held under option by Volcano Resources Corp.

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

DATED at Whitehorse, Yukon, this 13th day of December, 1987.

David H. Waugh



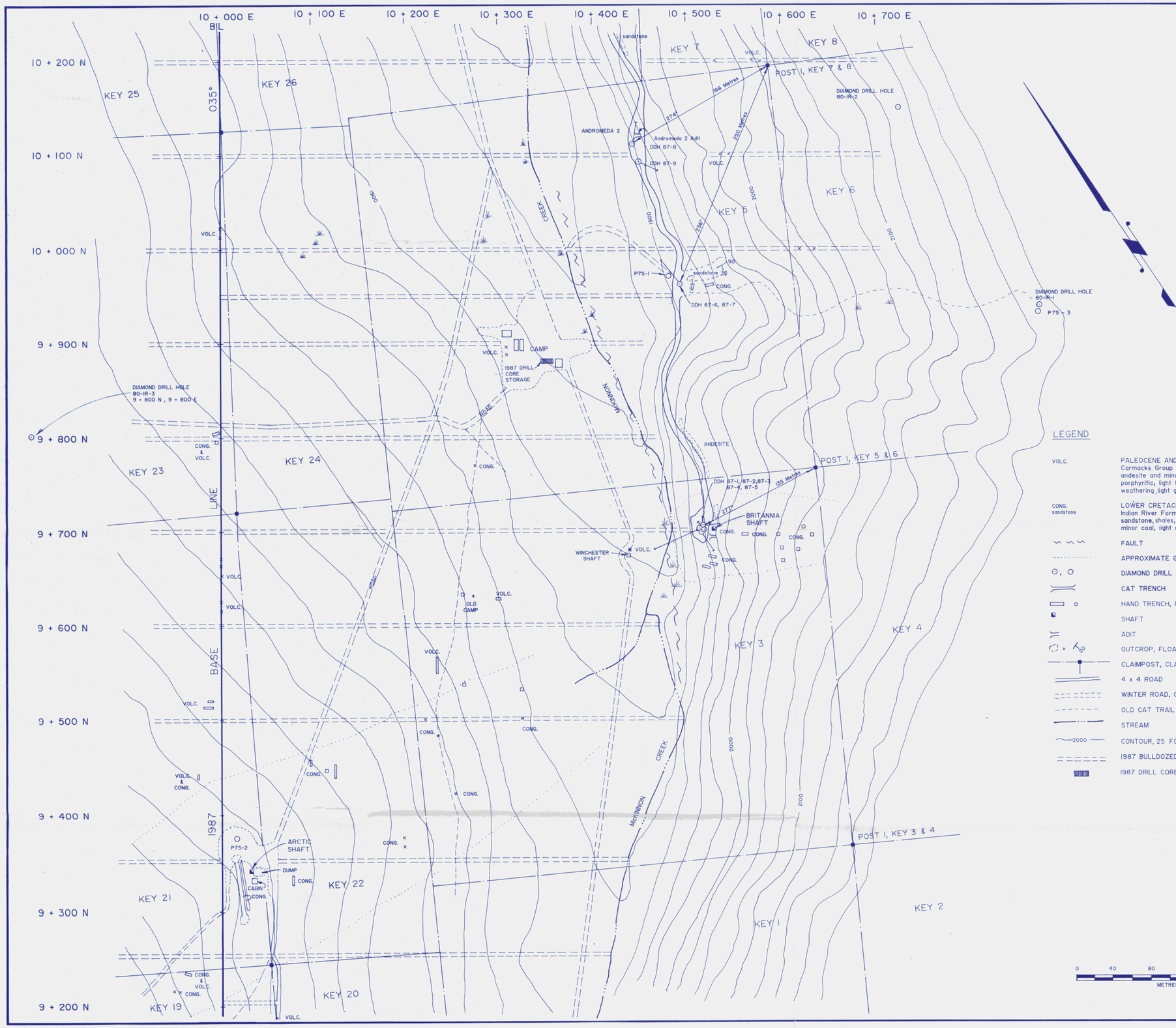
092082

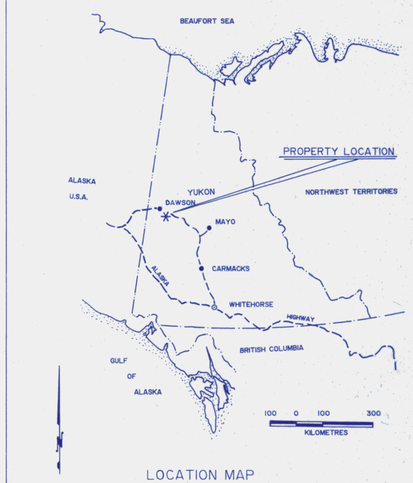
McKINNON CREEK - DRILL PROGRAM
VOLCANO RESOURCES CORP.
**KEY CLAIMS**

COST STATEMENT

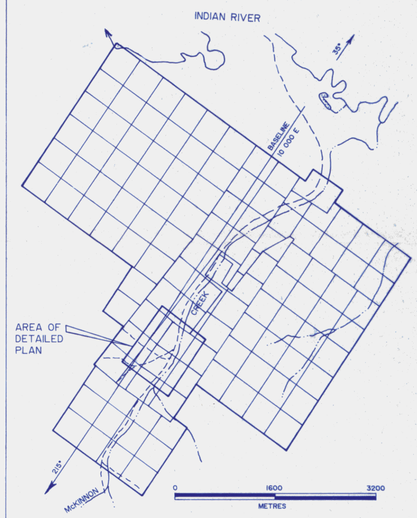
Period: September 4, 1987 - December 16, 1987
Fieldwork: September 10, 1987 - October 21, 1987

| | | |
|---|---|---|
| Drilling | Kluane Drilling Ltd: 464 meters of NQ core; holes 87-1 thru 87-9 | $ 67,080.90 |
| Geological Services | D. H. Waugh: 69 days (July 1 - December 16, 1987) - geological, supervision and management services | 20,700.00 |
| | Geologist - M. Fekete: 35 days (Sept. 8/Oct. 20) | 6,025.00 |
| | Geologist-G.Davidson: 7 days (Sept. 25/Oct. 2) | 1,750.00 |
| | Consulting geologist - T. Tough: 4 days (Oct. 5-27) | 1,200.00 |
| Labour | Camp cook: 30 days ) Handyman: 16 days ) Labourer: 22 days ) | 8,250.00 |
| Bulldozer Support | H. Coyne & Sons, D7E Cat: Sept. 9-Oct. 21 | 27,770.50 |
| Transportation | Scheduled airlines: CA/Alkan Air | 4,290.70 |
| | Helicopter charter: Capital Helicopters | 3,339.00 |
| | Vehicle rentals: trucks/cars/ATV's | 10,304.65 |
| | Taxis, air and highway freight: CA/Alkan/Frontier etc. | 1,003.50 |
| | Fuel - gas/diesel | 3,665.65 |
| | Repairs: minor service and repairs | 246.00 |
| Accommodation | Camp - D.H. Waugh: trailer camp rental and equipment rental | 4,800.00 |
| | Hotel - hotel rooms only | 2,284.40 |
| Groceries/Meals | Camp groceries, hotel and restaurant meals/tips | 6,282.11 |
| Supplies | Field and camp supplies; minor equipment parts | 3,342.14 |
| Expediting | Expediting services; minor supplies | 395.00 |
| Report | Drafting, reproduction, secretarial, supplies | 975.12 |
| Assays | Gold and silver assays for 90 samples | 1,921.50 |
| | SUBTOTAL | $176,782.32 |
| Claims | Filing fees on KEY 1-39 incl., KEY 76-81 incl. renewals | 1,230.00 |
| | **TOTAL** 092082 | **$178,012.32** |




LOCATION MAP
KEY PROPERTY




KEY CLAIM GROUP
KEY 1 - 123
115 - 0 - 11

## LEGEND

| | |
|---|---|
| VOLC. | PALEOCENE AND UPPER CRETACEOUS Carmacks Group - Haystack Andesite : andesite and minor dacite, porphyritic, light to dark green, weathering, light green - brown. |
| CONG. sandstone | LOWER CRETACEOUS Indian River Formation : interbedded sandstone, shales, conglomgrate and minor coal, right grey - black |
| | FAULT |
| | APPROXIMATE GEOLOGICAL CONTACT |
| O, O | DIAMOND DRILL SITE, ROTARY DRILL SITE |
| | CAT TRENCH |
| | HAND TRENCH, PITS |
| | SHAFT |
| | ADIT |
| | OUTCROP, FLOAT, STRIKE, DIP, |
| | CLAIMPOST, CLAIM BOUNDARY |
| | 4 x 4 ROAD |
| | WINTER ROAD, CAT TRAIL |
| | OLD CAT TRAIL |
| | STREAM |
| 2000 | CONTOUR, 25 FOOT INTERVAL |
| | 1987 BULLDOZED GRID LINE |
| | 1987 DRILL CORE STORAGE |

0 40 80 120 160 200
METRES

VOLCANO RESOURCES CORP.

# McKINNON CREEK KEY PROPERTY

McKINNON CREEK, INDIAN RIVER AREA
DAWSON MINING DISTRICT, YUKON

## DETAILED PLAN

| SCALE : | DATE : | MAP SHEET : | FIGURE : | DRAFTED BY : |
|---|---|---|---|---|
| 1 : 2000 | OCT. '87 | 115 - 0 - 11 | 5 | B.B. |

D.H. WAUGH CONTRACT GEOLOGICAL SERVICES

INTEGRAPHICS LTD.

1056

092082

# APPENDIX I

APPENDIX I

BIBLIOGRAPHY


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

APPENDIX II

092082

# DIAMOND DRILL RECORD

**PROPERTY** MacKinnon Creek - Vo..ano Resources **HOLE NO.** 87-1

SHEET NUMBER 1 of 2 SECTION FROM ____ TO ____ STARTED ____

LATITUDE 97+04N DATUM ____ COMPLETED ____

DEPARTURE 105 15E BEARING ____ ULTIMATE DEPTH 148' (45.1 m)

ELEVATION 1974' (601.7 m) DIP -90° PROPOSED DEPTH ____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES |
|---|---|---|---|---|---|---|
| 0 - 24 | CASING | | | | | |
| | | 56001 | 24 | 27 | | |
| 24 - 40.5 | QUARTZ PEBBLE CONGLOMERATE - white to gray, | 34101 | 27 | 32 | | |
| | clast supported slight argillic to sericitic | 34102 | 32 | 40.5 | | |
| | alteration | 56002 | 40.5 | 43.5 | | |
| | | 56003 | 43.5 | 48.5 | | |
| 40.5 - 70 | - very broken with poor recovery; matrix | | | | | |
| | lost and quartz pebble returned | 56004 | 48.5 | 52 | | |
| | | 56005 | 52 | 56 | | |
| 70 - 79 | - white, very bleached; intense argillic | 56006 | 56 | 70 | | |
| | alteration | 56007 | 70 | 73 | | |
| | | 56008 | 73 | 76 | | |
| 79 - 94 | - white-rusty as fractures very broken and | | | | | |
| | crumbled | 56009 | 76 | 79 | | |
| | | 56010 | 79 | 82 | | |
| 94 - 126 | "FELSIC" VOLCANIC - pale to slightly rusty, | 56011 | 82 | 85 | | |
| | very soft with intense argillic/supergene | 56012 | 85 | 90 | | |
| | alteration; probably altered andesite | 56013 | 90 | 93 | | |
| | porphyry; crumbled and broken | | | | | |
| | | | | | | |
| | | | | | | |

092082

DRILLED BY ____ SIGNED ____

# DIAMOND DRILL RECORD

**PROPERTY** _____ **HOLE NO.** 87-1

SHEET NUMBER 2 of 2 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 126 - 129 | ANDESITE PORPHYRY - slightly rusty porphyr- | 56014 | 93 | 96.5 | | | | | |
| | itic volcanic; rustiness is stain over | 56015 | 96.5 | 100 | | | | | |
| | basic texture; phenocrysts visible slightly | 56016 | 100 | 103 | | | | | |
| | clouded | | | | | | | | |
| | | | | | | | | | |
| 129 - 151 | - dark green fresh; chloritized + 1% dis- | 56017 | 123 | 126 | | | | | |
| | seminated pyrite indicates pervasive weak | 56018 | 126 | 129 | | | | | |
| | propylitic alteration | 56019 | 129 | 133 | | | | | |

DRILLED BY _____ SIGNED _____

# DIAMOND DRILL RECORD

**PROPERTY** MacKinnon Creek - Volca Resources **HOLE NO.** 87-2

SHEET NUMBER 1 of 3 SECTION FROM ____ TO ____ STARTED ____

LATITUDE 97+04N DATUM ____ COMPLETED ____

DEPARTURE 105+15E BEARING 125 ULTIMATE DEPTH 151' (46 m)

ELEVATION 1974' (601.7 m) DIP -70° PROPOSED DEPTH ____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 - 33 | CASING | 56029 | 34 | 37 | | | | | |
| | | 56030 | 37 | 40 | | | | | |
| 33 - 55 | QUARTZ PEBBLE CONGLOMERATE (QPC) - poorly | 56031 | 40 | 43 | | | | | |
| | indurated, clast supported; 80% gray to | 56032 | 43 | 46 | | | | | |
| | white quartz clasts + 20% gray to black | 56033 | 46 | 47 | | | | | |
| | clastic material (sst, mst) clasts; clasts | 56034 | 49 | 52 | | | | | |
| | very well rounded indicating that material | 56035 | 52 | 55 | | | | | |
| | was very well worked before disposition; | | | | | | | | |
| | clasts range from 1/8" to >2" with ½" | 56020 | 55 | 57 | | | | | |
| | average; matrix soft, crumbly with moderate | 56021 | 57 | 59 | | | | | |
| | (clay) alteration + weak sericitic altera- | 56022 | 59 | 61.5 | | | | | |
| | tion; minor rust on fractures @ ±10-20° to | 56023 | 61.5 | 64 | | | | | |
| | C/A | 56024 | 64 | 69 | | | | | |
| | | 56025 | 69 | 73 | | | | | |
| 55 - 57.5 | QPC - as to 55' but very broken and | | | | | | | | |
| | crumbled with intense argillic (clay) | 56036 | 73 | 76 | | | | | |
| | alteration - shear? | 56037 | 76 | 79 | | | | | |
| 57.5 - 59 | QPC - very rusty | 56038 | 79 | 82 | | | | | |
| | | 56039 | 82 | 85 | | | | | |
| 59 - 62.5 | QPC - intense silicification;rusty; clasts | 56040 | 85 | 88 | | | | | |
| | very angular and broken, suggesting breccia- | 56041 | 88 | 91 | | | | | |

092082

DRILLED BY ____ SIGNED ____

# DIAMOND DRILL RECORD

**PROPERTY** _____ **HOLE NO.** 87-2

SHEET NUMBER 2 of 3 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| | tion by hydrothermal processes; fracture @ | 56042 | 91 | 94 | | | | | |
| | 30° to C/A | 56043 | 94 | 97 | | | | | |
| | | 56044 | 97 | 101 | | | | | |
| 62.5 - 74 | QPC - very rusty broken material; intense | 56045 | 101 | 104 | | | | | |
| | clay alteration of matrix; possible fault | | | | | | | | |
| | gouge FW to breccia zone | | | | | | | | |
| | | 56046 | 104 | 107 | | | | | |
| 74 - 84 | QPC - white to gray; rusty on fractures; | 56047 | 107 | 109.75 | | | | | |
| | very broken with only clasts recovered in | 56048 | 109.75 | 113 | | | | | |
| | some intervals (matrix probably lost in | | | | | | | | |
| | drilling) | 56026 | 117 | 118.25 | | | | | |
| | | | | | | | | | |
| 84 - 87 | QPC - white to grey with intense silifica- | | | | | | | | |
| | tion + weak sericitic alteration (indicated | | | | | | | | |
| | by muscovite) | | | | | | | | |
| | | | | | | | | | |
| 87 - 92.6 | QPC - white to gray; rusty on fractures; | | | | | | | | |
| | very broken; intense but spotty silicifica- | | | | | | | | |
| | tion | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

092082

DRILLED BY _____ SIGNED _____

# DIAMOND DRILL RECORD

**PROPERTY** _____ **HOLE NO.** 87-2

SHEET NUMBER 3 of 3 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 92.6 - 109.75 | QPC - white to gray, rusty on fractures; | | | | | | | | |
| | intense silicification | | | | | | | | |
| | | | | | | | | | |
| 109.75 - 117 | SILTSTONE - grey to black; well-bedded @ | | | | | | | | |
| | 40° to C/A | | | | | | | | |
| | | | | | | | | | |
| 117 - 118.25 | QPC - rusty gray to white quartz pebble | 56027 | 144.0 | 146.75 | 2.75 | | | | |
| | conglomerate | 56028 | 146.75 | 151.0 | 4.25 | | | | |
| | | | | | | | | | |
| 118.25 - 124.25 | SILTSTONE - grey to black; sandy matrix; | | | | | | | | |
| | bedding @ 40° to C/A | | | | | | | | |
| | | | | | | | | | |
| 124.25 - 128 | QPC - gray to black, very graphitic matrix; | | | | | | | | |
| | clasts average <¼" | | | | | | | | |
| | | | | | | | | | |
| 128 - 140 | SILTSTONE - gray to black siltstone, very | | | | | | | | |
| | graphitic fissile along bedding planes @ | | | | | | | | |
| | 60° to C/A; numerous fractures within fine | | | | | | | | |
| | grained reddish hematite (martite) | | | | | | | | |
| | | | | | | | | | |
| 140 - 151 | SILTSTONE - very black; bedding planes @ 60° to C/A | | | | | | | | |

DRILLED BY _____ SIGNED _____

# DIAMOND DRILL RECORD

**PROPERTY** MacKinnon Creek - Volcano sources **HOLE NO.** 87-3

SHEET NUMBER 1 of 2 SECTION FROM ____ TO ____ STARTED ____

LATITUDE 97+01 N DATUM ____ COMPLETED ____

DEPARTURE 105+11.5 E BEARING 285 ULTIMATE DEPTH 299' (91.1 m)

ELEVATION 1974' (601.7 m) DIP -55° PROPOSED DEPTH ____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 - 54 | CASING | | | | | | | | |
| | | | | | | | | | |
| 54 - 58 | QUARTZ PEBBLE CONGLOMERATE - very broken | 34093 | 54 | 58 | | | | | |
| | gray to white, rusty; much of matrix lost | 34094 | 58 | 61 | | | | | |
| | leaving only quartz clasts; silicification | 45095 | 61 | 64 | | | | | |
| | | | | | | | | | |
| 58 - 71 | "FELSIC" VOLCANIC - pale to slightly rusty, | | | | | | | | |
| | very soft intense argillic alteration; | | | | | | | | |
| | phonocryst "ghosts" apparent; probably | | | | | | | | |
| | intensely altered andesite porphyry | | | | | | | | |
| | | | | | | | | | |
| 71 - 93 | "FELSIC" VOLCANIC - similar to above but | 34096 | 82 | 87 | | | | | |
| | very pale white | | | | | | | | |
| | | 34097 | 98 | 102 | | | | | |
| 93 - 107 | "FELSIC" VOLCANIC - slightly rusty grading | | | | | | | | |
| | into fresher volcanic | | | | | | | | |
| | | | | | | | | | |
| 107 - 118 | ANDESITE PORPHYRY - light green; feldspar | | | | | | | | |
| | phenocrysts clouded and slightly rusty; | | | | | | | | |
| | matrix dulled and patchy, rusty, | | | | | | | | |
| | chloritized | | | | | | | | |

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DRILLED BY ____ SIGNED ____

# DIAMOND DRILL RECORD

**PROPERTY** _____ **HOLE NO.** 87-3

SHEET NUMBER 2 of 2 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 118 - 152 | ANDESITE PORPHYRY - rusty, very clay | | | | | | | | |
| | altered; note 137-138 large fracture @ 30° | | | | | | | | |
| | to C/A with dark material ($MnO_2$), possible | 34098 | 149 | 153 | | | | | |
| | fault | 34099 | 153 | 157 | | | | | |
| | | | | | | | | | |
| 152 - 165 | ANDESITE PORPHYRY - light green with white | 34100 | 168 | 172 | | | | | |
| | clouded feldspar phenocrysts; matrix | | | | | | | | |
| | chloritized with ±1% disseminated pyrite | | | | | | | | |
| | indicating pervasive propylitic alteration | | | | | | | | |
| | | | | | | | | | |
| 165 - 176 | - thin zone of intense chloritization | | | | | | | | |
| 176 - 195 | - light green, similar to 157-165 | | | | | | | | |
| 195 - 211 | - buff coloured, possibly a more dacitic/ | | | | | | | | |
| | rhyolitic layer | | | | | | | | |
| 211 - 277 | - light green with thin calcite veinlets | | | | | | | | |
| 277 - 290 | - massive to slightly porphyritic; generally | | | | | | | | |
| | finer grained | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

29062

DRILLED BY _____ SIGNED _____

# DIAMOND DRILL RECORD

**PROPERTY** MacKinnon Creek - Volcai. Resources **HOLE NO.** 87-4

SHEET NUMBER 1 of 3 SECTION FROM _____ TO _____ STARTED _____

LATITUDE 96+8.5 E DATUM _____ COMPLETED _____

DEPARTURE 105+14.5 N BEARING 195 ULTIMATE DEPTH 201' (61.3 m)

ELEVATION 1974' (601.7 m) DIP -70° PROPOSED DEPTH _____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 - 27 | CASING | | | | | | | | |
| | | | | | | | | | |
| 27 - 35 | QUARTZ PEBBLE CONGLOMERATE (QPC) - poor | 34051 | 27 | 35 | | | | | |
| | recovery mostly broken quartz clasts; | 34052 | 35 | 40 | | | | | |
| | matrix shows moderate argillic alteration | 34053 | 40 | 43 | | | | | |
| | | 34054 | 43 | 46 | | | | | |
| 35 - 54 | QPC - clast supported; quartz clasts mostly | 34055 | 46 | 49 | | | | | |
| | but some dark siltstone clasts; matrix | | | | | | | | |
| | patchy discontinuous rusty supergene alter- | 34056 | 49 | 54 | | | | | |
| | ation; moderate to intense argillic seri- | 34057 | 54 | 57 | | | | | |
| | citic alteration | 34058 | 57 | 60 | | | | | |
| | | 34059 | 60 | 65 | | | | | |
| 54 - 71 | QPC - very rusty with some sections very | 34060 | 65 | 68 | | | | | |
| | crumbled and decomposed and others intensely | | | | | | | | |
| | silicified with apparent hydro-thermal | 34061 | 68 | 71 | | | | | |
| | brecciation. HW contact very distinct @ | 34062 | 71 | 74 | | | | | |
| | ±20° to C/A | 34063 | 74 | 77 | | | | | |
| | | 34064 | 77 | 80 | | | | | |
| 71 - 119 | QPC - clast supported; mostly white to gray | 34065 | 80 | 83 | | | | | |
| | quartz clasts with ±10% gray to black | 34066 | 83 | 86 | | | | | |
| | clastic material; matrix very hard, silici- | 34067 | 86 | 89 | | | | | |

DRILLED BY _____ SIGNED _____

# DIAMOND DRILL RECORD

**PROPERTY** _____ **HOLE NO.** 87-4

SHEET NUMBER 2 of 3 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| | fied and brittle - shattering when struck; | 34068 | 89 | 92 | | | | | |
| | thin zones with graphitic matrix and/or | 34069 | 92 | 95 | | | | | |
| | sandy matrix; clasts average 0.5 - 1" but | 34070 | 95 | 98 | | | | | |
| | up to 2"; possible bedding planes measured | | | | | | | | |
| | at 72' @ 40° to C/A | 34071 | 98 | 101 | | | | | |
| | | 34072 | 101 | 104 | | | | | |
| 119 - 130.5 | SILTSTONE - black to gray; thin bedded | 34073 | 104 | 107 | | | | | |
| | with bedding @ 45° to C/A; slightly graphitic | 34074 | 107 | 110 | | | | | |
| | | 34075 | 110 | 113 | | | | | |
| 130.5 - 137.5 | QPC - speckled gray, white, black; up to 60% | | | | | | | | |
| | quartz clasts, 40% black to gray clastic | 34076 | 113 | 116 | | | | | |
| | material clasts | 34077 | 116 | 118 | | | | | |
| | | | | | | | | | |
| 137.5 - 151 | SILTSTONE - sandy matrix; gray to black; | | | | | | | | |
| | convoluted bedding @ ±40° to C/A; banded | | | | | | | | |
| | appearance caused by alternating beds of | 34078 | 130.5 | 134 | | | | | |
| | gray and black material | 34079 | 134 | 137.5 | | | | | |
| | | | | | | | | | |
| 151 - 157 | SILTSTONE - pale gray sandy siltstone with | | | | | | | | |
| | beds of hematitic material; soft crumbling | | | | | | | | |
| | with argillic (clay) alteration bedding | | | | | | | | |

092082

DRILLED BY _____ SIGNED _____

# DIAMOND DRILL RECORD

**PROPERTY** _____ **HOLE NO.** 87-4

SHEET NUMBER 3 of 3 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| | planes @ 20° to C/A | | | | | | | | |
| | | | | | | | | | |
| 157 - 182 | SILTSTONE - black to gray; some massive | | | | | | | | |
| | and some bedded with bedding @ 30-40° to | | | | | | | | |
| | C/A | | | | | | | | |
| | | | | | | | | | |
| 182 - 196 | SANDSTONE - light gray salt and pepper | | | | | | | | |
| | colour; some large "erratic" clasts | | | | | | | | |
| | | | | | | | | | |
| 196 - 201 | SILTSTONE - very black almost coal-like; | | | | | | | | |
| | massive | | | | | | | | |
| | | | | | | | | | |
| | END OF HOLE | | | | | | | | |

092082

DRILLED BY _____ SIGNED _____

# DIAMOND DRILL RECORD

**PROPERTY** MacKinnon Creek - Volcano Sources **HOLE NO.** 87-5

SHEET NUMBER 1 of 2 SECTION FROM ____ TO ____ STARTED ____

LATITUDE 97+1.5 N DATUM ____ COMPLETED ____

DEPARTURE 105+14.5 E BEARING 020 ULTIMATE DEPTH 79' (30.1 m)

ELEVATION 1974' (601.7 m) DIP -70° PROPOSED DEPTH ____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 - 22 | CASING | | | | | | | | |
| | | | | | | | | | |
| 22 - 32 | QUARTZ PEBBLE CONGLOMERAGE - mottled gray | 34080 | 24 | 28 | | | | | |
| | to white, slightly rusty; very hard due to | 34081 | 28 | 32 | | | | | |
| | silicification; some core loss due to | 34082 | 32 | 36 | | | | | |
| | grinding of matrix | 34083 | 36 | 40 | | | | | |
| | | 34084 | 40 | 44 | | | | | |
| 32 - 46 | - soft and crumbled; intense argillic | 34085 | 44 | 48 | | | | | |
| | alteration | 34086 | 48 | 52 | | | | | |
| | | 34087 | 52 | 56 | | | | | |
| 46 - 54.5 | - soft and crumbled; matrix very rusty | 34088 | 56 | 60 | | | | | |
| | | | | | | | | | |
| 54.5 - 57 | - gray to white; broken, some loss due to | | | | | | | | |
| | matrix wash; intense silicification | 34089 | 68 | 72 | | | | | |
| | | | | | | | | | |
| 57 - 73 | "FELSIC" VOLCANIC - very bleached white; | | | | | | | | |
| | porphyritic texture barely discernible; | | | | | | | | |
| | very soft due to intense clay alteration | | | | | | | | |
| | | | | | | | | | |
| 73 - 91 | - soft, rusty; grading into rock below | 34090 | 87 | 91 | | | | | |
| | | | | | | | | | |

092082

DRILLED BY ____ SIGNED ____

# DIAMOND DRILL RECORD

**PROPERTY** _____ **HOLE NO.** 87-5

SHEET NUMBER 2 of 2 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 91 - 99 | ANDESITE PORPHYRY - light to dark green; | 34091 | 91 | 94 | | | | | |
| | zones of intense chloritization; matrix | 34092 | 94 | 96 | | | | | |
| | shows minor (±1%) pyrite + chloritization | | | | | | | | |
| | indicates propylitic alteration | | | | | | | | |
| | | | | | | | | | |
| | END OF HOLE | | | | | | | | |

DRILLED BY _____ SIGNED _____

092082

# DIAMOND DRILL RECORD

**PROPERTY** MacKinnon Creek - Volcano . sources **HOLE NO.** 87-6

SHEET NUMBER 1 of 2 SECTION FROM ____ TO ____ STARTED ____

LATITUDE 99+08 N DATUM ____ COMPLETED ____

DEPARTURE 104+89 E BEARING ____ ULTIMATE DEPTH 151' (46 m)

ELEVATION 1905' (580.6 m) DIP -90° PROPOSED DEPTH ____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 - 20 | CASING | | | | | Au | | | |
| 20 - 35 | SILTSTONE - black, massive; matrix muddy | | | | | | | | |
| 35 - 40 | CONGLOMERATE - poorly sorted, matrix | 34103 | 35 | 40 | 5 | | | | |
| | supported; matrix very black, muddy | | | | | | | | |
| 40 - 44 | SILTSTONE - black, massive; matrix muddy | | | | | | | | |
| 44 - 55 | SILTSTONE - gray to rusty; well bedded @ | | | | | | | | |
| | 75° to C/A | | | | | | | | |
| 55 - 68 | SANDSTONE - gray to rusty; well bedded @ 75° | | | | | | | | |
| | to C/A | | | | | | | | |
| 68 - 73 | INTERLAYERED SANDSTONE/SILTSTONE - distinct | | | | | | | | |
| | beds of sandstone alternating with siltstone | | | | | | | | |
| 73 - 103 | SILTSTONE - gray to rusty; matrix sandy; | | | | | | | | |
| | well b edded @ 80° to C/A | | | | | | | | |

DRILLED BY ____ SIGNED [signature]

# DIAMOND DRILL RECORD

**PROPERTY** _____ **HOLE NO.** 87-6

SHEET NUMBER 2 of 2 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 103 - 110 | VOLCANIC PORPHYRY - light coloured and speckled; altered andesite or dacitic volcanic? | | | | | | | | |
| 110 - 151 | ANDESITE PORPHYRY - dark green; matrix chloritized; feldspar phenocrysts slightly chloritized | | | | | | | | |

092082

DRILLED BY _____ SIGNED _____

# DIAMOND DRILL RECORD

**PROPERTY** MacKinnon Creek - Volcan Resources **HOLE NO.** 87-7

SHEET NUMBER 1 of 2 SECTION FROM ____ TO ____ STARTED ____

LATITUDE 99 + 08 N DATUM ____ COMPLETED ____

DEPARTURE 104 + 90 E BEARING 355 ULTIMATE DEPTH 204' (62.2m)

ELEVATION 1905' (580.6 m) DIP -60° PROPOSED DEPTH 150'

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 - 20 | CASING | | | | | | | | |
| 20 - 62 | SILTSTONE - black to slightly rusty brown; bedding @ 40° to C/A | | | | | | | | |
| 62 - 78 | SANDSTONE - brown to slightly rusty; bedding @ 40° to C/A | | | | | | | | |
| 78 - 81 | SANDSTONE - very rusty | | | | | | | | |
| 81 - 90 | SANDSTONE - brown to slightly rusty; bedding @ 30° to C/A | | | | | | | | |
| 90 - 101 | SANDSTONE - gray with very black clasts of clay up to 1" long; 'ripup clasts' | | | | | | | | |
| 101 - 139 | SILTSTONE - gray, very well bedded @ 50° to C/A; lense of coarse gray sandstone at 115-117 | | | | | | | | |

DRILLED BY ____ SIGNED ____

# DIAMOND DRILL RECORD

**PROPERTY** _____ **HOLE NO.** 87-7

SHEET NUMBER 2 of 2 SECTION FROM _____ TO _____ STARTED _____

LATITUDE _____ DATUM _____ COMPLETED _____

DEPARTURE _____ BEARING _____ ULTIMATE DEPTH _____

ELEVATION _____ DIP _____ PROPOSED DEPTH _____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 139 - 176 | "FELSIC" VOLCANIC - light gray to buff | | | | | | | | |
| | colour; porphyritic texture; light colour | | | | | | | | |
| | may be due to alteration of dark green | | | | | | | | |
| | porphyritic andesite | | | | | | | | |
| | | | | | | | | | |
| 176 - 204 | ANDESITE PORPHYRY - light to dark green; | | | | | | | | |
| | shows pervasive propylitic alteration | | | | | | | | |
| | (chloritite, pyrite) | | | | | | | | |
| | | | | | | | | | |
| | END OF HOLE | | | | | | | | |

DRILLED BY _____ SIGNED _____

# DIAMOND DRILL RECORD

**PROPERTY** MacKinnon Creek - Volcano Resources **HOLE NO.** 87-8

SHEET NUMBER 1 of 1 SECTION FROM ____ TO ____ STARTED ____

LATITUDE 101+12 N DATUM ____ COMPLETED ____

DEPARTURE 104 33 E BEARING 045 ULTIMATE DEPTH 149' (45.4 m)

ELEVATION 1900' (879.1 m) DIP -60° PROPOSED DEPTH ____

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 - 20 | CASING | | | | | | | | |
| 20 - 64 | SILTSTONE - grey to black; well bedded @ 45° to C/A; matrix sandy | | | | | | | | |
| 64 - 86 | - gray to black; well bedded @ 40° to C/A; matrix muddy/silty | | | | | | | | |
| 86 - 126 | - banded siltstone caused by alternating gray and black beds; bedding @ 50° to C/A; convoluted | | | | | | | | |
| 126 - 133 | SANDSTONE - gray "salt and pepper" sandstone | | | | | | | | |
| 133 - 149 | MUDSTONE - black; well bedded @ 60° to C/A | | | | | | | | |

092082

DRILLED BY ____ SIGNED ____

# DIAMOND DRILL RECORD

**PROPERTY** MacKinnon Creek - Volca Resources **HOLE NO.** 87-9

SHEET NUMBER 1 of 1 SECTION FROM ____ TO ____ STARTED ____

LATITUDE 100+98 N DATUM ____ COMPLETED ____

DEPARTURE 104 38 E BEARING 140 ULTIMATE DEPTH 139' (42.4 m)

ELEVATION 1900' (579.1 m) DIP -60° PROPOSED DEPTH 150'

| DEPTH FEET | FORMATION | SAMPLE NO. | FROM | TO | WIDTH | ASSAY VALUES | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 - 20 | CASING | | | | | | | | |
| 20 - 48 | SILTSTONE - slightly rusty, gougey inter- | | | | | | | | |
| | layered siltstone, sandy siltstone, sand | | | | | | | | |
| | stone | | | | | | | | |
| 48 - 60 | - black well bedded @ 50° to C/A | | | | | | | | |
| 60 - 71 | SANDSTONE - slightly rusty; nondescript | | | | | | | | |
| 71 - 91 | - gray "salt and pepper" colour | | | | | | | | |
| 91 - 121 | SILTSTONE - black; well bedded @ 50° to C/A | | | | | | | | |
| 121 - 139 | - well bedded @ 50° to C/A with alternating | | | | | | | | |
| | gray and white beds giving ribboned appear- | | | | | | | | |
| | ance | | | | | | | | |

090282

DRILLED BY ____ SIGNED ____

DIAMOND DRILL CORE

SAMPLE DESCRIPTIONS

VOLCANO RESOURCES
**KEY** CLAIMS
September - October 1987

| Hole | Interval | Width (ft) | Sample # | Description | Au oz/ton |
|---|---|---|---|---|---|
| 87-1 | 24-27 | 3 | 56001 | Quartz pebble conglomerate; slight argillic/sericitic alteration | |
| | 27-32 | 5 | 34101 | Ditto | |
| | 32-40.5 | 8.5 | 34102 | Ditto; poor recovery | |
| | 40.5-43.5 | 3 | 56002 | Very broken quartz pebble conglomerate | |
| | 43.5-48.5 | 5 | 56003 | Very broken, rusty quartz pebble conglomerate | |
| | 48.5-52 | 3.5 | 56004 | Ditto; poor recovery | |
| | 52-56 | 4 | 56005 | Quartz pebbles from conglomerate; poor recovery returned only pebbles - no matrix | |
| | 56-70 | 14 | 56006 | Ditto | |
| | 70-73 | 3 | 56007 | White, bleached quartz pebble conglomerate | |
| | 73-76 | 3 | 56008 | White quartz pebble conglomerate | |
| | 76-79 | 3 | 56009 | Ditto | |
| | 79-82 | 3 | 56010 | Quartz pebble conglomerate; white, rusty on fractures; very broken | |
| | 82-85 | 3 | 56011 | Quartz pebble conglomerate; very broken; rusty on fractures with dark mineral ($mnO_2$?) | |
| | 85-90 | 5 | 56012 | Quartz pebble conglomerate; very broken; white to rusty | |
| | 90-93 | 3 | 56013 | Quartz pebble conglomerate; very broken; white to rusty on fractures | |

| Hole | Interval | Width (ft) | Sample # | Description | Au oz/ton |
|---|---|---|---|---|---|
| 87-1 (cont) | 93-96.5 | 3.5 | 56014 | Very broken white quartz pebble conglomerate interlayered with light coloured volcanic porphyry; note poor recovery | |
| | 96.5-100 | 3.5 | 56015 | Volcanic porphyry - rusty to grey white | |
| | 100-103 | 3 | 56016 | Volcanic - light coloured; very soft and crumbly; intense clay alteration | |
| | 123-126 | 3 | 56017 | Andesite porphyry - slightly rusty; light coloured | |
| | 126-129 | 3 | 56018 | Ditto | |
| | 129-133 | 4 | 56019 | Andesite porphyry; dark green with ± 1% disseminated pyrite | |
| 87-2 | 55-57 | 2 | 56020 | Quartz pebble conglomerate; very broken; weak to moderate silicification | |
| | 57-59 | 2 | 56021 | Quartz pebble conglomerate; very rusty oxidized; crumbled and broken | |
| | 59-61.5 | 2.5 | 56022 | Quartz pebble conglomerate; rusty colour; intense silicification; clasts broken and angular indicating brecciation (hydrothermal?) | |
| | 61.5-64 | 2.5 | 56023 | Quartz pebble conglomerate; rusty clay altered matrix with grey quartz clasts | |
| | 64-69 | 5 | 56024 | Ditto | |
| | 69-73 | 4 | 56025 | Quartz pebble conglomerate; white to slightly rusty; intense clay alteration | |
| | 117-118.25 | 1.25 | 56026 | Quartz pebble conglomerate; thin lens in mudstone | |
| | 144-146.75 | 2.75 | 56027 | Mudstone with hematite; soft and broken | |
| | 123-126 | 3 | 34253 | Basal pebbly ss or sandy conglomerate; black | |

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| Hole | Interval | Width (ft) | Sample # | Description | Au oz/ton |
|---|---|---|---|---|---|
| 87-2 (cont) | 126-127.5 | 1.5 | 34254 | Basal pebbly ss or sandy conglomerate; black | |
| | 146.75-151 | 4.25 | 56028 | Mudstone - light grey with streaks of hematite | |
| | 34-37 | 3 | 56027 | White quartz pebble conglomerate | |
| | 37-40 | 3 | 56030 | Ditto | |
| | 40-43 | 3 | 56031 | Ditto | |
| | 43-46 | 3 | 56032 | Ditto | |
| | 46-49 | 3 | 56033 | Ditto | |
| | 49-52 | 3 | 56034 | Ditto | |
| | 52-55 | 3 | 56035 | Ditto | |
| | 73-76 | 3 | 56036 | White quarts pebble conglomerate; silicified | |
| | 76-79 | 3 | 56037 | Quarte pebble conglomerate; white to rusty; silicified with minor sericitic alteration; very broken | |
| | 79-82 | 3 | 56038 | Ditto; poor recovery - matrix lost | |
| | 82-85 | 3 | 56039 | Quartz pebble conglomerate; white, silicified | |
| | 85-88 | 3 | 56040 | Ditto | |
| | 88-91 | 3 | 56041 | Ditto | |
| | 91-94 | 3 | 56042 | Ditto | |
| | 94-97 | 3 | 56043 | Ditto | |
| | 97-101 | 4 | 56044 | Ditto | |
| | 101-104 | 3 | 56045 | Ditto | |
| | 104-107 | 3 | 56046 | Ditto | |
| | 107-109.75 | 2.25 | 56047 | Ditto | |
| | 109.75-113 | 3.25 | 56048 | Siltstone; sandy, grey to black | |

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| Hole | Interval | Width (ft) | Sample # | Description | Au oz/ton |
|---|---|---|---|---|---|
| 87-3 | 54-58 | 4 | 34093 | Very broken quartz pebble conglomerate | |
| | 58-61 | 3 | 34094 | Crumbled clay altered rusty volcanic | |
| | 61-64 | 3 | 34095 | Ditto | |
| | 82-87 | 5 | 34096 | Ditto | |
| | 98-102 | 4 | 34097 | Very rusty, intense clay altered volcanic porphyry | |
| | 149-153 | 4 | 34098 | Andesite porphyry | |
| | 153-157 | 4 | 34099 | Ditto | |
| | 168-172 | 4 | 34100 | Ditto | |
| 87-4 | 27-35 | 8 | 34051 | Quartz pebble conglomerate; very broken with poor recovery | |
| | 35-40 | 5 | 34052 | Quartz pebble conglomerate matrix shows argillic and sericitic alteration | |
| | 40-43 | 3 | 34053 | Ditto | |
| | 43-46 | 3 | 34054 | Ditto | |
| | 46-49 | 3 | 34055 | Ditto | |
| | 49-54 | 5 | 34056 | Ditto | |
| | 54-57 | 3 | 34057 | Quartz pebble conglomerate; parts show intense silicate alteration with brecciation and parts very crumbly, rusty | |
| | 57-60 | | 34058 | Quarte pebble conglomerate; rusty crumbling with section of intense silicification | |
| | 60-65 | | 34059 | Quartz pebble conglomerate; intense silicification; rusty and very broken; appears brecciated with open spaces | |
| | 65-68 | 3 | 34060 | Quartz pebble conglomerate; slightly rusty with intense silicification; brecciated | |

KEY CLAIMS

| Hole | Interval | Width (ft) | Sample # | Description | Au oz/ton |
|---|---|---|---|---|---|
| 87-4 (cont) | 68-71 | 3 | 34061 | Quartz pebble conglomerate; rusty and broken | |
| | 71-74 | 3 | 34062 | Quartz pebble conglomerate; white to grey with silicification | |
| | 74-77 | 3 | 34063 | Ditto | |
| | 77-80 | 3 | 34064 | Ditto | |
| | 80-83 | 3 | 34065 | Ditto | |
| | 83-86 | 3 | 34066 | Ditto | |
| | 86-89 | 3 | 34067 | Ditto | |
| | 89-92 | 3 | 34068 | Ditto | |
| | 92-95 | 3 | 34069 | Ditto | |
| | 95-98 | 3 | 34070 | Ditto | |
| | 98-101 | 3 | 34071 | Ditto | |
| | 101-104 | 3 | 34072 | Ditto | |
| | 104-107 | 3 | 34073 | Ditto | |
| | 107-110 | 3 | 34074 | Ditto | |
| | 110-113 | 3 | 34075 | Ditto | |
| | 113-116 | 3 | 34076 | Ditto | |
| | 116-119 | 3 | 34077 | Ditto | |
| | 130.5-134 | 3.5 | 34078 | Lens of conglomerate within siltstone | |
| | 134-137.5 | 3.5 | 34079 | Ditto | |
| 87-5 | 24-28 | 4 | 34080 | Quartz pebble conglomerate; very broken | |
| | 28-32 | 4 | 31081 | Quartz pebble conglomerate; very broken; silicified | |
| | 32-36 | 4 | 34082 | Quartz pebble conglomerate; very broken, crumbled; intense argillic (clay) alteration | |

092082

| Hole | Interval | Width (ft) | Sample # | Description | Au oz/ton |
|---|---|---|---|---|---|
| 87-5 (cont) | 36-40 | 4 | 34083 | Quartz pebble conglomerate; very broken and crumbled; intense clay alteration | |
| | 40-44 | 4 | 34084 | Ditto | |
| | 44-48 | 4 | 34085 | Ditto | |
| | 48-52 | 4 | 34086 | Quartz pebble conglomerate; rusty, crumbled, broken | |
| | 52-56 | 4 | 34087 | Quartz pebble conglomerate; white to grey; silicified | |
| | 56-60 | 4 | 34088 | Quartz pebble conglomerate, just HW to altered volcanic | |
| | 68-72 | 4 | 34089 | "Felsic" volcanic - very soft with intense argillic alteration | |
| | 87-91 | 4 | 34090 | Andesite porphyry - soft, clay altered and rusty | |
| | 91-94 | 3 | 34091 | Andesite porphyry - light green | |
| | 94-96 | 2 | 34092 | Ditto | |
| 87-6 | 35-40 | 5 | 34103 | Matrix supported conglomerate; matrix very black and muddy | |

# APPENDIX III

092082

# MIN-EN LABORATORIES LTD.

*Specialists in Mineral Environments*

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

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


## *Analytical Report*

Company:VOLCANO RESOURCES
Project:
Attention:W.JACKSON/W.G.TIMMINS/D.H.WAUGH

File:7-1503
Date:OCT 6/87
Type:ROCK ASSAY

Date Samples Received :OCT 1/87
Samples Submitted by :D.H.WAUGH

Report on ..... Geochem Samples
.....
.....28..... Assay Samples
.....

Copies sent to:
1. W.JACKSON, VANCOUVER, B.C.
2. W.G.TIMMINS, VANCOUVER, B.C.
3. D.WAUGH, WHITEHORSE, YUKON

Samples: Sieved to mesh ..... Ground to mesh ....-100.....

Pr ared samples stored:.....X.... discarded:.....
rejects stored:.....X.... discarded:.....

Methods of analysis: AU-FIRE; AG - ACID DIGESTION, CHEMICAL ANALYSIS

Remarks

092O

MIN-EN LABORATORIES LTD.
*Specialists in Mineral Environments*
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

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

# *Certificate of ASSAY*

Company:VOLCANO RES. File:7-1503/P1
Project: Date:OCT 6/87
Attention:W.JACKSON/W.G.TIMMINS/D.H.WAUGH Type:ROCK ASSAY

*We hereby certify* the following results for samples submitted.

| Sample Number | AG G/TONNE | AG OZ/TON | AU G/TONNE | AU OZ/TON |
|---|---|---|---|---|
| 56 001 | 0.1 | 0.01 | 0.02 | 0.001 |
| 56 002 | 0.1 | 0.01 | 0.03 | 0.001 |
| 56 003 | 0.2 | 0.01 | 0.03 | 0.001 |
| 56 004 | 0.1 | 0.01 | 0.01 | 0.001 |
| 56 005 | 0.1 | 0.01 | 0.02 | 0.001 |
| 56 006 | 0.3 | 0.01 | 0.02 | 0.001 |
| 56 007 | 0.2 | 0.01 | 0.03 | 0.001 |
| 56 008 | 0.3 | 0.01 | 0.06 | 0.002 |
| 56 009 | 0.2 | 0.01 | 0.15 | 0.004 |
| 56 010 | 0.1 | 0.01 | 0.41 | 0.012 |
| 56 011 | 0.4 | 0.01 | 0.34 | 0.010 |
| 56 012 | 0.2 | 0.01 | 0.12 | 0.004 |
| 56 013 | 0.3 | 0.01 | 0.14 | 0.004 |
| 56 014 | 6.7 | 0.20 | 0.04 | 0.001 |
| 56 015 | 0.4 | 0.01 | 0.17 | 0.005 |
| 56 016 | 0.1 | 0.01 | 0.02 | 0.001 |
| 56 017 | 0.2 | 0.01 | 0.03 | 0.001 |
| 56 018 | 0.6 | 0.02 | 0.03 | 0.001 |
| 56 019 | 0.5 | 0.01 | 0.05 | 0.001 |
| 56 020 | 0.3 | 0.01 | 0.20 | 0.006 |
| 56 021 | 0.3 | 0.01 | 0.03 | 0.001 |
| 56 022 | 0.1 | 0.01 | 0.01 | 0.001 |
| 56 023 | 0.2 | 0.01 | 0.08 | 0.002 |
| 56 024 | 0.2 | 0.01 | 0.11 | 0.003 |
| 56 025 | 0.3 | 0.01 | 0.18 | 0.005 |
| 56 026 | 0.1 | 0.01 | 0.03 | 0.001 |
| 56 027 | 0.3 | 0.01 | 0.02 | 0.001 |
| 56 028 | 0.1 | 0.01 | 0.02 | 0.001 |

*Certified by*_____

MIN-EN LABORATORIES LTD.

092082

# MIN-EN LABORATORIES LTD.

*Specialists in Mineral Environments*

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

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


## *Analytical Report*

Company:VOLCANO RESOURCES
Project:VOLCANO
Attention:W.JACKSON/D.WAUGH

File:7-1551
Date:OCT 8/87
Type:ROCK ASSAY

Date Samples Received :OCT 5/87
Samples Submitted by :D.WAUGH

Report on ..... Geochem Samples
.....
.....11..... Assay Samples
.....

Copies sent to:
1. VOLCANO RESOURCES, VANCOUVER, B.C.
2. D. WAUGH, WHITEHORSE,YUKON.
3.

Samples: Sieved to mesh ..... Ground to mesh .....-150....

Prepared samples stored:.....X.... discarded:.....
rejects stored:.....X.... discarded:.....

Methods of analysis:

AG - ACID DIGESTION-CHEMICAL ANALYSIS.
AU - FIRE ASSAY.

Remarks

092002

MIN-EN LABORATORIES LTD.
*Specialists in Mineral Environments*
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

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

# *Certificate of ASSAY*

Company: VOLCANO RESOURCES
Project: VOLCANO
Attention: W. JACKSON/D. WAUGH

File: 7-1551/P1
Date: OCT 8/87
Type: ROCK ASSAY

*We hereby certify* the following results for samples submitted.

| Sample Number | AG G/TONNE | AG OZ/TON | AU G/TONNE | AU OZ/TON |
|---|---|---|---|---|
| 34069 | 0.4 | 0.01 | .01 | 0.001 |
| 34070 | 0.5 | 0.01 | .01 | 0.001 |
| 34071 | 0.3 | 0.01 | .01 | 0.001 |
| 34072 | 0.4 | 0.01 | .01 | 0.001 |
| 34073 | 0.2 | 0.01 | .02 | 0.001 |
| 34074 | 0.2 | 0.01 | .01 | 0.001 |
| 34075 | 0.3 | 0.01 | .05 | 0.001 |
| 34076 | 0.5 | 0.01 | .03 | 0.001 |
| 34077 | 0.2 | 0.01 | .02 | 0.001 |
| 34078 | 0.5 | 0.01 | .01 | 0.001 |
| 34079 | 0.2 | 0.01 | .01 | 0.001 |

*Certified by* _____

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.
*Specialists in Mineral Environments*
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

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

# *Analytical Report*

Company:VOLCANO RESOURCES
Project:VOLCANO
Attention:D.H.WAUGH

File:7-1579
Date:OCT 13/87
Type:ROCK ASSAY

Date Samples Received :OCT 9/87
Samples Submitted by :D.WAUGH

Report on ..... Geochem Samples
.....
.....20..... Assay Samples
.....

Copies sent to:
1. W.JACKSON, VANCOUVER, B.C.
2. W.G.TIMMINS, ONT.
3. D.WAUGH, DAWSON CITY, YUKON

Samples: Sieved to mesh ..... Ground to mesh .....-100.....

Prepared samples stored:.....X.... discarded:.....
rejects stored:.....X.... discarded:.....

Methods of analysis: AU-FIRE; AG-ACID DIGESTION CHEMICAL ANALYSIS

Remarks

MIN-EN LABORATORIES LTD.
*Specialists in Mineral Environments*
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

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

# *Certificate of ASSAY*

Company:VOLCANO RES. File:7-1579/P1
Project:VOLCANO Date:OCT 13/87
Attention:D.H.WAUGH Type:ROCK ASSAY

*We hereby certify* the following results for samples submitted.

| Sample Number | AG G/TONNE | AG OZ/TON | AU G/TONNE | AU OZ/TON |
|---|---|---|---|---|
| 56 029 | .5 | 0.01 | .19 | 0.006 |
| 56 030 | .2 | 0.01 | .03 | 0.001 |
| 56 031 | .3 | 0.01 | .04 | 0.001 |
| 56 032 | .4 | 0.01 | .08 | 0.002 |
| 56 033 | .2 | 0.01 | .02 | 0.001 |
| 56 034 | .2 | 0.01 | .06 | 0.002 |
| 56 035 | .3 | 0.01 | .03 | 0.001 |
| 56 036 | .2 | 0.01 | .09 | 0.003 |
| 56 037 | .2 | 0.01 | .01 | 0.001 |
| 56 038 | .4 | 0.01 | .03 | 0.001 |
| 56 039 | .2 | 0.01 | .03 | 0.001 |
| 56 040 | .2 | 0.01 | .02 | 0.001 |
| 56 041 | .3 | 0.01 | .01 | 0.001 |
| 56 042 | .2 | 0.01 | .01 | 0.001 |
| 56 043 | .2 | 0.01 | .05 | 0.001 |
| 56 044 | .2 | 0.01 | .01 | 0.001 |
| 56 045 | .2 | 0.01 | .02 | 0.001 |
| 56 046 | .3 | 0.01 | .01 | 0.001 |
| 56 047 | .2 | 0.01 | .01 | 0.001 |
| 56 048 | .3 | 0.01 | .04 | 0.001 |

*Certified by*

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

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

# *Analytical Report*

Company:VOLCANO RESOURCES
Project:VOLCANO
Attention:B.JACKSON/D.WAUGH

File:7-1560
Date:OCT 16/87
Type:ROCK ASSAY

Date Samples Received :OCT 8/87
Samples Submitted by :D. WAUGH

Report on ..... Geochem Samples
.....
.....23..... Assay Samples
.....

Copies sent to:
1. VOLCANO RESOURCES, VANCOUVER, B.C.
2. VOLCANO RESOURCES, DAWSON CITY, YUKON.
3.

Samples: Sieved to mesh ..... Ground to mesh .....-150....

Prepared samples stored:.....X.... discarded:.....
rejects stored:.....X.... discarded:.....

Methods of analysis:

AG FE - ACID DIGESTION-CHEMICAL ANALYSIS.
AU - FIRE ASSAY.
HG - FLAMELESS AA.
SB - AQUA REGIA A.A.

Remarks

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## *Certificate of ASSAY*

Company:VOLCANO RESOURCES
Project:VOLCANO
Attention:B.JACKSON/D.WAUGH

File:7-1560/P1
Date:OCT 16/87
Type:ROCK ASSAY

*We hereby certify* the following results for samples submitted.

| Sample Number | AG G/TONNE | AG OZ/TON | AU G/TONNE | AU OZ/TON | FE % | HG PPB | AS % | SB % |
|---|---|---|---|---|---|---|---|---|
| 34 251 | 0.3 | 0.01 | .02 | 0.001 | 5.40 | 35 | .01 | .01 |
| 34 252 | 0.4 | 0.01 | .01 | 0.001 | 17.25 | 85 | .01 | .01 |
| 34 080 | 0.1 | 0.01 | .01 | 0.001 | | | | |
| 34 081 | 0.1 | 0.01 | .01 | 0.001 | | | | |
| 34 082 | 0.1 | 0.01 | .01 | 0.001 | | | | |
| 34 083 | 0.1 | 0.01 | .03 | 0.001 | | | | |
| 34 084 | 0.2 | 0.01 | .02 | 0.001 | | | | |
| 34 085 | 0.1 | 0.01 | .01 | 0.001 | | | | |
| 34 086 | 0.3 | 0.01 | .03 | 0.001 | | | | |
| 34 087 | 0.1 | 0.01 | .01 | 0.001 | | | | |
| 34 088 | 0.4 | 0.01 | .08 | 0.002 | | | | |
| 34 089 | 0.1 | 0.01 | .02 | 0.001 | | | | |
| 34 090 | 0.6 | 0.02 | .01 | 0.001 | | | | |
| 34 091 | 0.2 | 0.01 | .04 | 0.001 | | | | |
| 34 092 | 0.3 | 0.01 | .01 | 0.001 | | | | |
| 34 093 | 0.1 | 0.01 | .01 | 0.001 | | | | |
| 34 094 | 0.4 | 0.01 | .02 | 0.001 | | | | |
| 34 095 | 0.2 | 0.01 | .01 | 0.001 | | | | |
| 34 096 | 0.2 | 0.01 | .01 | 0.001 | | | | |
| 34 097 | 0.5 | 0.01 | .01 | 0.001 | | | | |
| 34 098 | 0.1 | 0.01 | .05 | 0.001 | | | | |
| 34 099 | 0.3 | 0.01 | .01 | 0.001 | | | | |
| 34 100 | 0.2 | 0.01 | .01 | 0.001 | | | | |

*Certified by* _____

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## *Analytical Report*

Company:VOLCANO RESOURCES
Project:VOLCANO
Attention:B.JACKSON/D.WAUGH

File:7-1617
Date:OCT 16/87
Type:ROCK ASSAY

Date Samples Received :OCT 14/87
Samples Submitted by :D. WAUGH

Report on ..... Geochem Samples
..... Assay Samples
.....8.....
.....

Copies sent to:
1. VOLCANO RESOURCES, VANCOUVER, B.C.
2. VOLCANO RESOURCES, DAWSON CITY, YUKON.
3.

Samples: Sieved to mesh ..... Ground to mesh .....-150....

Prepared samples stored:.....X.... discarded:.....
rejects stored:.....X.... discarded:.....

Methods of analysis:

AG - ACID DIGESTION-CHEMICAL ANALYSIS.
AU - FIRE ASSAY.

Remarks

092687

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## *Certificate of ASSAY*

Company:VOLCANO RESOURCES
Project:VOLCANO
Attention:B.JACKSON/D.WAUGH

File:7-1617/P1
Date:OCT 16/87
Type:ROCK ASSAY

*We hereby certify* the following results for samples submitted.

| Sample Number | AG G/TONNE | AG OZ/TON | AU G/TONNE | AU OZ/TON |
|---|---|---|---|---|
| 34101 | | | .01 | 0.001 |
| 34102 | | | .01 | 0.001 |
| 34103 | | | .01 | 0.001 |
| 34253 | | | .02 | 0.001 |
| 34254 | | | .01 | 0.001 |
| 34255 | 1.9 | 0.06 | .02 | 0.001 |
| 34256 | 0.4 | 0.01 | .01 | 0.001 |
| 34257 | 0.8 | 0.02 | .01 | 0.001 |

*Certified by*_____

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# APPENDIX IV

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