closed

1997 REPORT ON THE DIAMOND DRILLING PROGRAM ON THE MAMU 11, 12, 30, and 32 CLAIMS MAMU-BRAVO-KULAN PROPERTY

Watson Lake Mining District

Location:
1. 55 km South of Ross River, Y.T.
2. NTS 105-F/7, 8, 9, & 10
3. Latitude 61° 30' N
   Longitude 132° 30' W

Claims:
MAMU 1-24 (YB47318-YB47341)
BRAVO 25-44 (YB58933-YB58952)
KULAN 1-67 (YB79729-YB79795)
KULAN 68 (YD88804)
KULAN 69-109 (YB79796-YB79836)
KULAN 110-127 (YB89689-YB89706)
MAT 1-14 (YB701140YB70127)
MAT 17-40 (YB70128-YB70141)
MAT 31-44 (YB88921-YB88932)

For:
ORO BRAVO RESOURCES LTD.
Suite 202, 4746 Hastings Street
Burnaby, B.C.,
V5C 2K7

By:
R. Allan Doherty, P.Geo.
Aurum Geological Consultants Inc.
205-100 Main Street
P.O. Box 4367
Whitehorse, Yukon
Y1A 3T5

November 10, 1997

This report has been examined by the Geological Evaluation Unit

...ion 53 (4) Yukon Quartz ...nd is allowed as ...ion work in the amount $4,300.00.

M. Burke

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

SUMMARY

Oro Bravo Resources Ltd.'s Mamu-Bravo-Kulan project consists of 222 contiguous quartz claims located 55 km south of Ross River, Yukon. The claims were staked to cover known Minfile occurrences, geochemical and geophysical anomalies associated with Mississippian felsic metavolcanics that are interpreted to be characteristic of Kuroko style VMS mineralization.

A large portion of the Cassiar platform south of Ross River is underlain by Devonian and Mississippian clastic sedimentary and felsic volcanic rocks. The Mississippian metavolcanic rocks are known hosts for Kuroko style VMS mineralization. Kuroko style VMS occurrences were first reported in the late 1970's (Morin, 1979); Mortensen, 1982: Godwin and Mortensen, 1982). The MM property (105F-012), Matt Creek (105F-021), Chzernough (105F-071), Bnob (105F-073) and the Mamu-Bravo-Kulan (105F-013) are all examples of VMS occurrences within Mississippian metavolcanic rocks in the Cassiar Platform.

During the 1997 diamond drill program a total of 1363ft (415.45m) in three drill holes tested geochemical and geophysical anomalies found on the property in previous field programs in 1995 and 1996. Although no significant mineralization was found there are zones of alteration and elevated zinc values in the 2000 to 5000 ppm zinc range.

Further geological mapping on the property resulted in the discovery of a previously unreported massive iron sulphide lens exposed in lower Camp Creek.

Further work is warranted and recommended and should consist of detailed property mapping and sampling, extending the 1995 and 1996 grid soil sampling, and back-hoe trenching. The areas at lower elevations below tree line should be prospected for additional outcrops with special attention to those areas around magnetic highs or VLF-EM conductors.

The 1997drill core was incompletely sampled and additional sampling and assaying of core should be completed. Particularly those un-sampled intervals in the core adjacent to the intervals that reported anomalous zinc.

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INTRODUCTION

This report was prepared at the request of Mr. George Hajduk, President of Oro Bravo Resources Ltd. It describes the 1997 exploration program, carried out between August 07, and September 10, 1997, on the Mamu-Bravo-Kulan property.

The Mamu 1-24 and Bravo 26-44, and Kulan 1-127 claims are located on the east side of the McConnell River 55 km south of the community of Ross River, Yukon.

The 1997 program continued where the 1996 program ended and consisted of road building, extended geological mapping and diamond drilling to further define coincident Magnetic, VLF-EM and soil geochemical anomalies identified on the 1995/1996 grid. The original anomalies were located during previous work and on this occurrence between 1976 and 1991 by various operators. Previous work had indicated that the property may host VMS style mineralization associated with Devonian-Mississippian volcanics and sedimentary rocks.

The 1997 work program consisting of road building, geological mapping and diamond drilling was carried out partly from a helicopter supported fly camp that was later on accessed by Cat road. Field work was completed between August 07 and September 10. The diamond drilling was completed under contract with E. Caron Diamond Drilling Ltd., of Whitehorse.

This report is based on the information collected during the 1997, 1996 and 1995 work programs completed by Aurum Geological Consultants Inc., and on referenced reports by previous operators.

LOCATION and ACCESS

The Mamu 1-24, Bravo 25-44 and Kulan 1-127 claims are located 55 km south of Ross River, Yukon at the boundary of NTS map areas 105F/7,8,9 and 10. The property is approximately 12 km southwest of the Ketza River mine. A point at the centre of the claim block is at 61°30'North latitude and 132°30'West longitude, (Figure 1).

Year round access to the Mamu claims is via helicopter from Ross River, 55 km North of the property. There is a seasonal access road to the Ketza River mine site and an exploration tote road from the mine that now terminates on the Mamu claims. Another exploration tote trail leads up Groundhog Creek from the South Canol road and terminates within two kilometres of the property. Access from Groundhog Creek would require a bridge over the McConnell River.

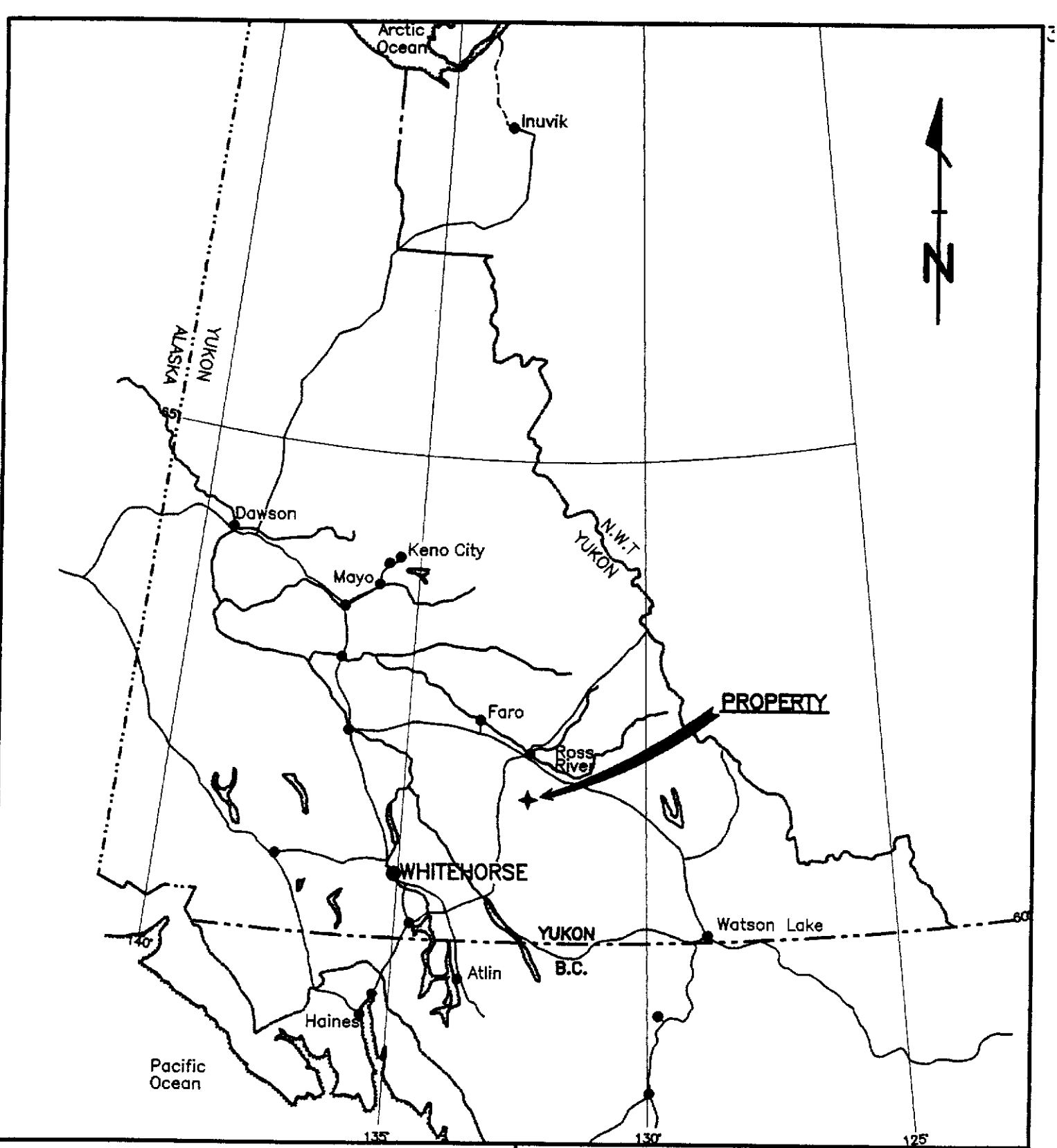
An additional 18 claims were staked in order to establish road access to the KULAN claims. Due to extensive Cat work over approximately 8 km the property is now linked to the Ketza Mine site via Cat road.

PHYSIOGRAPHY, CLIMATE, AND VEGETATION

The property is located within the Pelly Mountains on the southeast side of the Tintina Trench. The claim areas lie between the 4000 and 6500 feet elevation and most of the property is above treeline. The terrain consists of rugged mountains separated by wide glaciated valleys with fairly gentle floors. The claims lie on the east side of the McConnell River north of White Creek and straddle a northwest-southeast trending ridge that is incised in both the west and north side by steep gradient creeks. Outcrop is common at elevations above 4500 feet; below this elevation outcrop is obscured by brush cover, talus, and glacial till.

Sub-alpine vegetation on the property consists of stunted white spruce, and a thick mat of alpine fir below 4500 feet; willows and grasses, barren rock outcrop, and steep talus slopes predominate above the 4500 foot elevation.

The climate in this area of the southern Yukon is characterised by cold dry winters with one to two meters of snow accumulation. Summers are warm and wet. The exploration season typically extends from mid-June to mid-September.



200 100 0 200

kilometres

ORO BRAVO RESOURCES LTD.

MAMU, BRAVO, KULAN CLAIMS

WATSON LAKE MINING DISTRICT

PROPERTY LOCATION MAP

Aurum Geological Consultants Inc.			date: SEPTEMBER, 1997
NTS: 105 F	drawn: JC	scale: 1:6,000,000	figure: 1

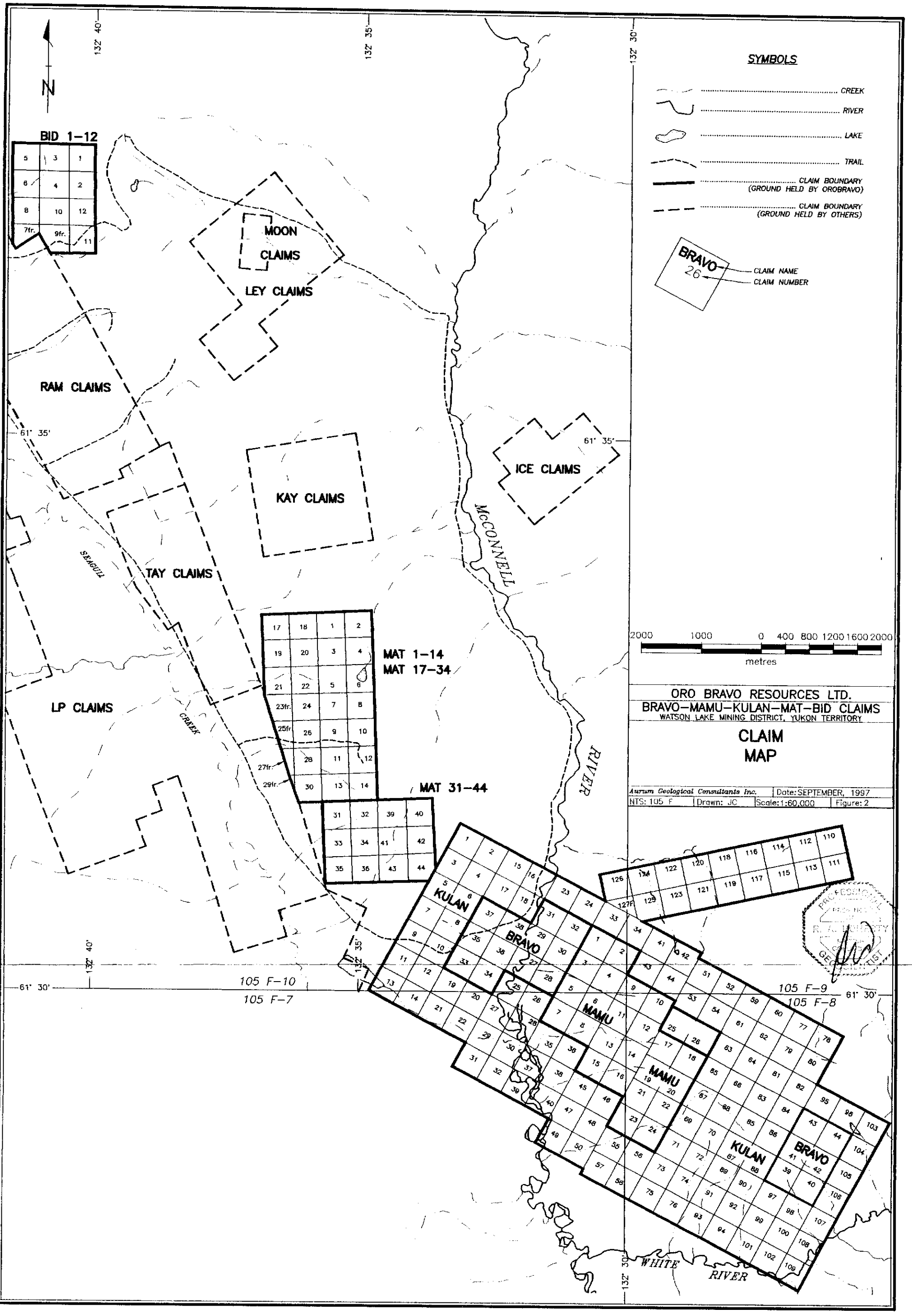
PROPERTY

The Mamu-Bravo-Kulan property consists of 222 contiguous un-surveyed quartz mineral claims that straddle NTS map areas 105F/ 7, 8, 9, and 10, located at the northern edge of the Watson Lake Mining District (Figure 2). The Mamu 1-24 claims were staked on March 8, 1994 and recorded on March 9, 1994 by Mr. Brian V. Hall of Bowen Island, B.C. The claims were optioned by Oro Bravo Resources Ltd., in early 1995. The Bravo 25-44 claims were added in 1995. The Kulan 1-109 claims were added in February of 1996 to consolidate ground holdings in the area and to cover all airborne geophysical anomalies identified by an Aerodat airborne geophysical survey flown for Granges Inc., in 1990. The Kulan 68 claim was staked in October 1996 when the Matthew 18 claim previously located by Granges Inc., lapsed. The Kulan 110-127 claims were added on August 8, 1997.

Claim data and expiry dates are listed in Table I below:

CLAIM NAME	NO	GRANT NUMBER	RECORDING DATE	EXPIRY DATE
Mamu 1-24	24	YB47318-YB47341	March 9, 1994	March 09, 2001
Bravo 25-38	14	YB58933-YB58947	March 16, 1995	March 16, 2001
Bravo 39-44	6	YB58948-YB58952	March 16, 1995	March 16, 2002
Kulan 1-67	67	YB79729-YB79795	March 20, 1996	March 20, 2002
Kulan 68	1	YB88804	November 6, 1996	November 5, 2002
Kulan 69-109	41	YB79796-YB79836	March 20, 1996	March 20, 2002
Mat 1-14	14	YB70114-YB70127	October 13, 1997	October 13, 2002
Mat 17-40	24	YB70128-YB70141	October 13, 1997	October 13, 2002
Mat 31-44	14	YB88921-YB88932	March 4, 1997	March 4, 2002
Kulan 110-127	17	YB89689-YB89706	August 21, 1997	August 21, 1998

The Bid 1-12 Claims are also owned by Oro Bravo Resources Ltd., but are not contiguous. The Bid claims are located approximately 2 km northwest of the Mat Claims.


N
132° 40'
132° 35'
132° 30'
61° 35'
61° 30'
BID 1–12
5
3
1
6
4
2
8
10
12
7fr.
9fr.
11
MOON
CLAIMS
LEY CLAIMS
RAM CLAIMS
KAY CLAIMS
ICE CLAIMS
TAY CLAIMS
SEAGULL
McCONNELL
LP CLAIMS
CREEK
RIVER
MAT 1–14
MAT 17–34
MAT 31–44
17
18
1
2
19
20
3
4
21
22
5
6
23fr.
24
7
8
25fr.
26
9
10
27fr.
28
11
12
29fr.
30
13
14
31
32
39
40
33
34
41
42
35
36
43
44
KULAN
BRAVO
MAMU
105 F–10
105 F–7
105 F–9
105 F–8
WHITE
RIVER
SYMBOLS
CREEK
RIVER
LAKE
TRAIL
CLAIM BOUNDARY
(GROUND HELD BY OROBRAVO)
CLAIM BOUNDARY
(GROUND HELD BY OTHERS)
BRAVO
26
CLAIM NAME
CLAIM NUMBER
2000 1000 0 400 800 1200 1600 2000
metres
ORO BRAVO RESOURCES LTD.
BRAVO–MAMU–KULAN–MAT–BID CLAIMS
WATSON LAKE MINING DISTRICT, YUKON TERRITORY
CLAIM
MAP
Aurum Geological Consultants Inc.
Date: SEPTEMBER, 1997
NTS: 105 F
Drawn: JC
Scale: 1:60,000
Figure: 2

HISTORY

The first claims in the area were the CPA 1-12 claims staked by Charta Mines Ltd., in October 1969. Their exploration efforts focused on a possible porphyry-type deposit with peripheral Pb-Ag veins. Exploration consisted of mapping and geochemical sampling in 1970-71 and a ground magnetometer survey in 1971. There was limited hand trenching completed in 1976 (Yukon Minfile, #105F-013), and the property was optioned to United Keno Hill Mines Ltd in 1977 who explored with mapping, geochemistry and trenching.

To the east of the Mamu claims, Archer Cathro and Associates on behalf of the Ukon Joint Venture (Chevron and Kerr Addison) staked the Guano claims in 1976 and explored a rare earth element (Th, REE, Nb) skarn at the margin of a Mississippian syenite.

A portion of the CPA and Guano claims was restaked as the Matthew claims by Brian V. Hall and optioned to Cascade Pacific Resources Ltd. A 1988 work program (Burson, 1989) consisted of 53 man days which included 11.5 km of picketed griding, collecting 420 soil samples and 63 rock samples, and mapping and prospecting. This work identified anomalous Cu, Pb, Zn, and Ag values in soils over a 400 m by 200 m zone with other scattered single or double element anomalies. The geochemical anomalies and bedrock geology, particularly the presence of fragmental felsic volcanics and pyritic exhalite horizons, lead to the conclusion that Kuroko style VMS deposits may be located on the property.

In 1990, Granges Inc., optioned the property from Cascade Pacific Resources Ltd., and completed an airborne magnetic, Electromagnetic and VLF survey (Kilin, 1990). A follow-up exploration program in 1991 consisting of ground investigation of airborne geophysical anomalies, prospecting, line-cutting with soil sampling and mapping, contour soil sampling, blast trenching, EM geophysics, and thin section petrography (Solkoski, 1991). The conclusions from this work program was that the property had potential for VMS-type mineralization and that further work should be conducted. A small two stage program of mapping and sampling was completed by Granges Inc., in 1992, and was reported on by Downing, 1993. The program consisted of mapping and sampling but only 44 rock and 4 soil samples were collected in total. The author concluded that ...
" There are some indications of a VMS deposit setting, although there is no surface outcropping of 'ore grade' mineralization." He also indicated that the presence of massive pyrite, fragmental and felsic volcanics, exhalite, ferricrete and alteration are all indicative of possible VMS mineralization.

The Mamu and Bravo claims were optioned to Oro Bravo Resources Ltd., in early 1995 and a program of griding, mapping sampling and Magnetometer and VLF-EM surveys were completed in 1995 and 1996(Doherty, 1995, 1996).

GEOLOGY

Regional Geology

The property is situated within the Pelly-Cassiar Platform (Figure 3), which is comprised mostly of moderately faulted and folded Paleozoic miogeoclinal clastic and carbonate sedimentary rocks and volcanic rocks that were deformed during Mesozoic arc-continent collision, and intruded by mid Cretaceous plutons of intermediate composition (Tempelman-Kluit, 1981). The Ketza-Seagull District is bounded on the northeast by the Tintina fault which has postulated right lateral strike slip displacement in excess of 450 km. This area of the Cassiar platform is characterised by four significant northeast directed thrust panels that are parallel to the Tintina Fault (Abbott, 1986). From northeast to southwest and from structurally lowest to highest, they are: the St. Cyr thrust fault; the Cloutier thrust fault; the Seagull-Porcupine thrust; and, the McConnell Thrust fault. The most prominent feature in this area of the Cassiar Platform is the Ketza-Seagull Arch (Abbott, 1986). The Ketza-Seagull Arch is an elongate, northwest-trending window through the Porcupine-Seagull thrust that is most probably related to a buried Cretaceous intrusion (Abbott 1986). The Mamu property which is the subject of this report is located just north of the McConnell Thrust and on the south side of a large Mississippian syenite intrusion. Structures within the window are characterised by steeply dipping normal faults.

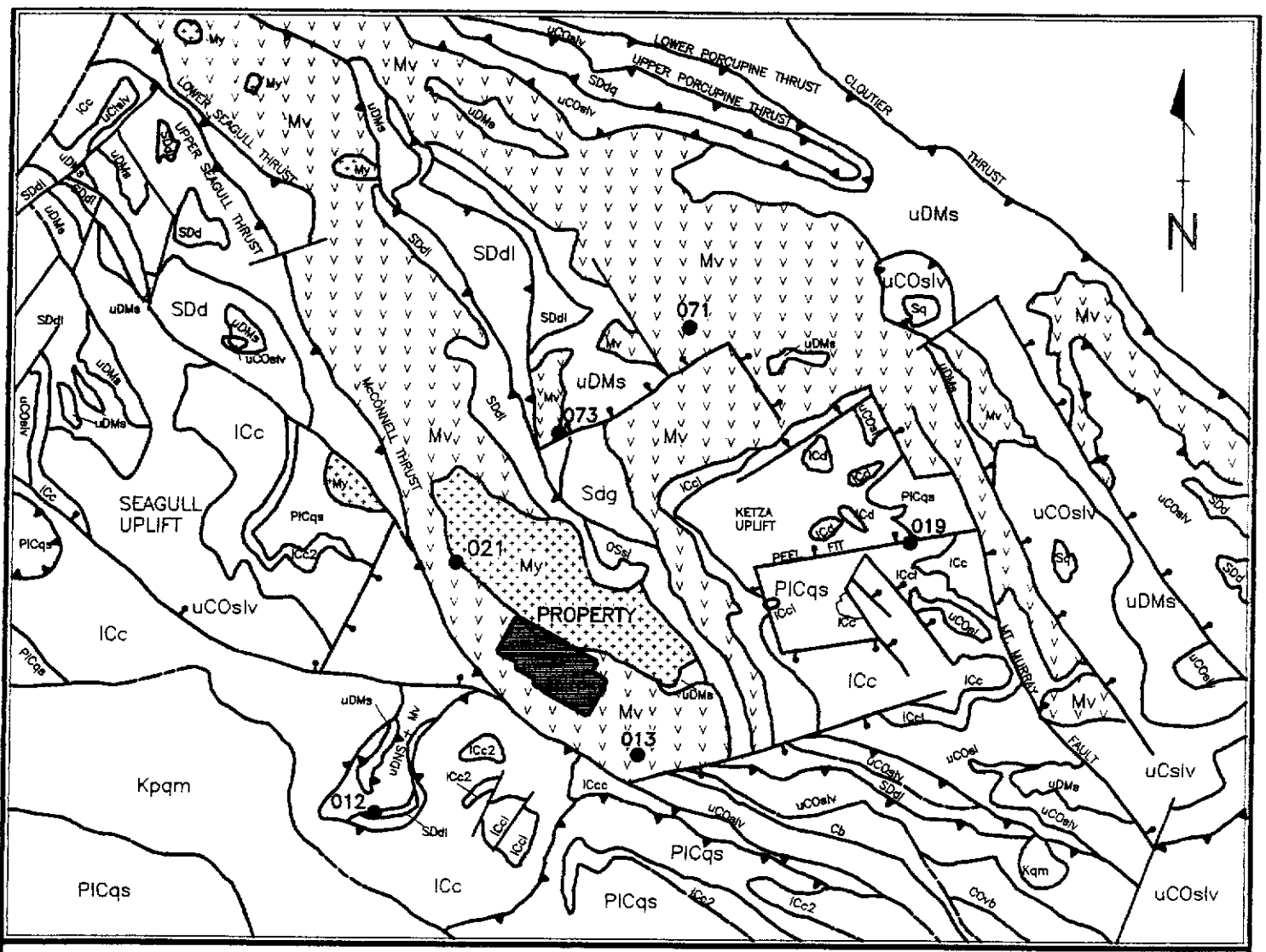
A regionally extensive but poorly mapped package of Mississippian volcanic rocks overlies the Palaeozoic platform carbonates and is intruded by the syenite, (Morin,1979)

Regional Metallogeny

Regional metallogeny of this portion of the northern Cordillera is characterised by Kuroko style VMS occurrences associated with Devonian-Mississippian volcanics in the Cassiar Platform; and gold and base metal occurrences and deposits spatially related to two domal uplifts or arches named the Ketza and Seagull Arches (Abbott, 1986). The Ketza River gold mine is an auriferous sulphide/oxide manto and chimney in thin bedded to massive grey limestone. The mantos occur in Lower Cambrian sedimentary rocks just below the lower contact of laminated greenish grey mudstones overlying the grey limestones. The genesis of the Ketza River gold deposits are thought to be related to a buried Cretaceous intrusion beneath the Ketza Arch (Abbott, 1986)

Most of the epigenetic veins in the district consist of galena, sphalerite, quartz , and siderite, with or without pyrite, pyrrhotite, arsenopyrite, chalcopyrite, and tetrahedrite. Most veins or pods occur along well defined faults with small displacements.

Kuroko style VMS occurrences have been recognized from the Devonian-Mississippian volcanics since the 1970's (Morin, 1979; Mortensen, 1982; Mortensen and Godwin,1982). The Mamu-Bravo-Kulan property, the MM, Cherpnough, Bnob, and Tree occurrences have characteristics that typify VMS deposits. The locations of all these occurrences are shown on Figure 3. With the exception of the MM property most VMS occurrences in the Cassiar Platform have seen limited work.



LEGEND

CRETACEOUS

Kqm — QUARTZ MONZONITE
Kpqm — PORPHYRITIC QUARTZ MONZONITE

MISSISSIPPIAN

My — SYENITE
Mv — MAFIC AND FELSIC VOLCANICS

DEVONIAN/MISSISSIPPIAN

uDMs — GRAPHITE SHALES

SILURIAN/DEVONIAN

SDd — DOLOMITE, MUDSTONE, DOLOMITIC SILTSTONE
SDdl — SANDY DOLOMITE
SDdq — DOLOMITE, DOLMITIC SANDSTONE

SILURIAN

Sq — ORTHOQUARTZITE

ORDOVICIAN/SILURIAN

OSsl — SLATE

CAMBRO–ORDOVICIAN

COrb — BASALT
uCOslv — PHYLLITE AND "GREENSTONE"
uCOsl — PHYLLITE

CAMBRIAN

Cb — DIABASE/DIORITE
ICc2 — MARBLE
ICd — DOLOMITE
ICc — CALCAREOUS ARGILLITE
ICcl — LIMESTONE

PROTEROZOIC AND/OR LOWER CAMBRIAN

PICqs — SHALE, SANDSTONE

THRUST FAULT
NORMAL FAULT
PROPERTIES

MINFILE #	PROPERTY	DEPOSIT TYPE
105F–019	KETZA RIVER MINE	(Au – Ag)
105F–012	MM DEPOSIT	(VMS)
105F–021	MATT CREEK	(VMS)
105F–073	BNOB	(VMS)
105F–071	CHZERPNOUGH	(VMS)
105F–013	CPA	(VMS)

5 2.5 0 1 2 3 4 5
kilometres

after:
Tempelman–Kluit 1977
GSC Open File 486

ORO BRAVO RESOURCES

BRAVO–MAMU–KULAN

WATSON LAKE MINING DISTRICT, YUKON TERRITORY

REGIONAL GEOLOGY

Aurum Geological Consultants Inc.		Date: SEPTEMBER, 1997	
NTS: 105 F	Drawn: JC	Scale: 1:250000	Figure: 3

Property Geology

The Mamu property covers a package of Devonian-Mississippian volcanics and Devonian sedimentary rocks intruded by or in faulted contact with a Mississippian intrusive complex consisting of syenite, diorite, monzonite, quartz monzonite, and gabbro (Burson 1989; Solkoski, 1991; Downing, 1993; and Reynolds, 1994). The main intrusive body is an elongate 12 km long by 3 km wide northwest trending pluton outcropping on the north side of the Mamu-Kulan claims. Intrusive complex lithologies that outcrop on the property consist of dykes or sills or a small stock of intermediate composition (Diorite according to Downing, 1993). The contact between the Syenite and the Mississippian volcanics is obscured but has been interpreted as a faulted contact. If the lamprophyre dikes are associated with the syenite it could be concluded that the syenite post dates the volcanics.

The Mississippian volcanic-sedimentary rocks consist of: 1)intermediate volcanics comprising tuff, breccia, flows, and minor felsic volcanics; 2) felsic volcanics including rhyolite, limonite pitted rhyolite, rhyolite-trachyte; 3) argillite and phyllite. Pyritic chert or pyritic chert rhyolite found on the property are thought to represent exhalative horizons within the volcanic stratigraphy. According to Reynolds (1994) most showings on the property exhibit some form of pyritic or siliceous exhalite. The exhalites appear to be associated with both intermediate and felsic volcanic units.

The volcanics and sedimentary rocks are variably altered. Most alteration consists of a phyllic assemblage of quartz-sericite-carbonate-pyrite. Secondary biotite or chlorite are present in significant amounts in some areas. Ankerite, fluorite, and tremolite-actinolite are reported both from mapping and petrographic reports (Solkoski, 1991; Downing, 1993). Most sulphides have been oxidized to limonite and other Fe-oxides.

Two major inferred faults interpreted from former airborne geophysical work are trending WSW-ENE and intersect with the Base Line at 5850E and 6300E (Figure 5). The nature of the faults still remain unknown due to lack of outcrop evidence in the field. Structurally a possible 400m wide block of ferricrete zones and gossanous weathering of talus may be considered to be caused by the faulting.

Evidence of low grade metamorphism is seen by a well developed foliation. The foliation shows a uniform strike between 110° and 140° (Figure 5). Dip angles for the foliation planes vary between 40° and 70° with dip directions to both NE and SW. Volcanic rocks display a schistose character were noted from intersections in drill holes KL 97-2 and KL 97-3.

Mineralization

Mineralization located to date on the property consists of: 1) disseminated pyrite in exhalite horizons, 2) massive bedded pyrite, and 3) quartz veins and quartz breccias containing pyrite, +/- sphalerite, tetrahedrite, galena, and chalcopyrite. The most important occurrences are shown on the property geology compilation (Figure 4) and are briefly described below:

Main Showing (Location 1, Figure 4)

This showing is located on Camp Creek and was trenched by Granges Inc., in 1991. The showing consists of a stratigraphic horizon of 1.0 to 1.8 m thick massive pyrite.

Gully Showing (Location 2, Figure 4)

This showing is 300 m east of the Main Showing and consists of massive pyrite which is both stratabound and stratiform. The massive pyrite grades into a small zone of siliceous exhalite.

Granges Showing (Location 3, Figure 4)

The Granges showing was located by L.R. Solkoski in 1991 and is located 450 m southeast of the Main showing. It consists of a 0.5 to 1.0 m wide zone of exhalite which contains visible grains of sphalerite, galena, chalcopyrite, and tetrahedrite. Sampling by Granges Inc. returned values of 62,000 (6.2%) Zn, and 2.5 % Pb (Figure 4). One sample returned 36.1 ppm Ag, (Solkoski, 1991). These results indicate that the exhalite horizons can contain anomalous base metal values. The Granges showing may be continuous with the exhalite showing.

Exhalite Showing (Location 4, Figure 4)

A number of zones of siliceous exhalite are exposed along the prominent ridge that runs parallel to L7000E on the 1995 grid. Although anomalous base metal values are generally low in rocks one of the 1995 multi-element soil anomalies is coincident with this zone of exhalites.

There is an overall strong correlation between the locations of the anomalous 1995 - 1996 soil geochemistry and the above listed showings. The Granges showing is not well reflected in the soil geochemical results probably because the grid area just reaches the showing, and because there is poor soil development over this area.

Ferricrete Zones (Location 5, Figure 4)

A number of Ferricrete zones are exposed on the property and consist of iron oxide cemented talus materials. There is some evidence of active hot spring deposits associated with the ferricrete zones. Both the ferricrete zones and the hot fossil hot springs represent hydrothermal processes that post date the formation of volcanogenic massive sulphide mineralization.

Pb-Zn Veins (Location 6, Figure 4)

A swarm of galena and sphalerite bearing quartz veins are found on the ridge at the northeast side of the 1995-96 grid. There is a strong gossan over this part of the ridge and an inferred fault separates the felsic volcanics from the Mississippian syenite.

A compilation showing the locations of outcrops, gossans and surface rock sample geochemistry is shown in Figure 5.

Camp Creek Iron Sulphide (Location 7, Figure 4)

A new sulfide occurrence was discovered on the Kulan Property, downstream on Camp Creek on Claim No. 35. The showing consists of a stratiform 20cm to 30cm thick massive pyrite lens of at least 3m length.

LEGEND

LITHOLOGY

MISSISSIPPIAN

Mvc — HETEROGENEOUS, RUSTY, BLACK, WHITE, AND ORANGE WEATHERING LAPILLI TUFF, VOLCANIC BRECCIA AND FLOW ROCKS RANGING IN COMPOSITION FROM TRACHYTE TO ANDESITE. BLACK ARGILLACEOUS SLATE, SILICEOUS PALE GREY TO GREEN CHERT AND FELSIC TUFFS ARE LOCALLY ABUNDANT. WEAKLY TO STRONGLY FOLIATED SO THAT PRIMARY TEXTURES ARE MASKED.

My — RESISTANT, MASSIVE MEDIUM TO FINE GRAINED EQUIGRANULAR SYENITE. CONTAINS UP TO 90% K-FELDSPAR (PERTHITE) AND 10-20% FERRO-MAGNESIAN MINERALS. LOCALLY HAS UNDERGONE STRONG SILICIFICATION AND EPIDOTE ALTERATION.

UPPER DEVONIAN AND MISSISSIPPIAN

uDMs — BLACK RECESSIVE WEATHERING, WITH RUSTY STREAKS, THIN BEDDED BLACK SILICEOUS SLATE WITH MINOR INTERBEDDED CHERT GRAIN GREYWACKE AND CHERT GRANULE GRIT; INCLUDES LENSES OF INTERMEDIATE TO ACID VOLCANIC ROCKS AND BARITE. UNDIFFERENTIATED.

MIDDLE AND UPPER DEVONIAN

SDdi — RESISTANT, THICK BEDDED TO MASSIVE, RED WEATHERING COARSELY SUCROSE DOLOMITE; MINOR SANDY DOLOMITE.

MINERALIZED SHOWINGS

- 1 ..... MAIN SHOWING
- 2 ..... GULLY SHOWING
- 3 ..... GRANGES SHOWING
- 4 ..... EXHALITE SHOWING
- 5 ..... FERRICRETE ZONES
- 6 ..... LEAD-ZINC VEINS
- 7 ..... CAMP CREEK

SYMBOLS

- ..... THRUST FAULT
- ..... NORMAL FAULT
- 1600 ..... ELEVATION CONTOUR (100m)
- ..... CREEK
- ..... RIVER
- ..... LAKE
- ..... EM CONDUCTOR
- ..... AIRBORNE MAGNETIC HIGH (> 58340 nT)
- ..... PRE-1995 GRIDS
- ..... SOIL SAMPLE (1991 GRANGES) (ASSAY AS SHOWN)
- ..... ROCK SAMPLE (Cu,Pb,Zn,Ag,Au)
- ..... AREA OF COINCIDENT Cu-Pb-Zn GEOCHEMICAL ANOMALY
- KL97-1 ..... 1997 DIAMOND DRILL HOLE

500 250 0 100 200 300 400 500 metres

after Solkoski 1991, Reynolds 1994

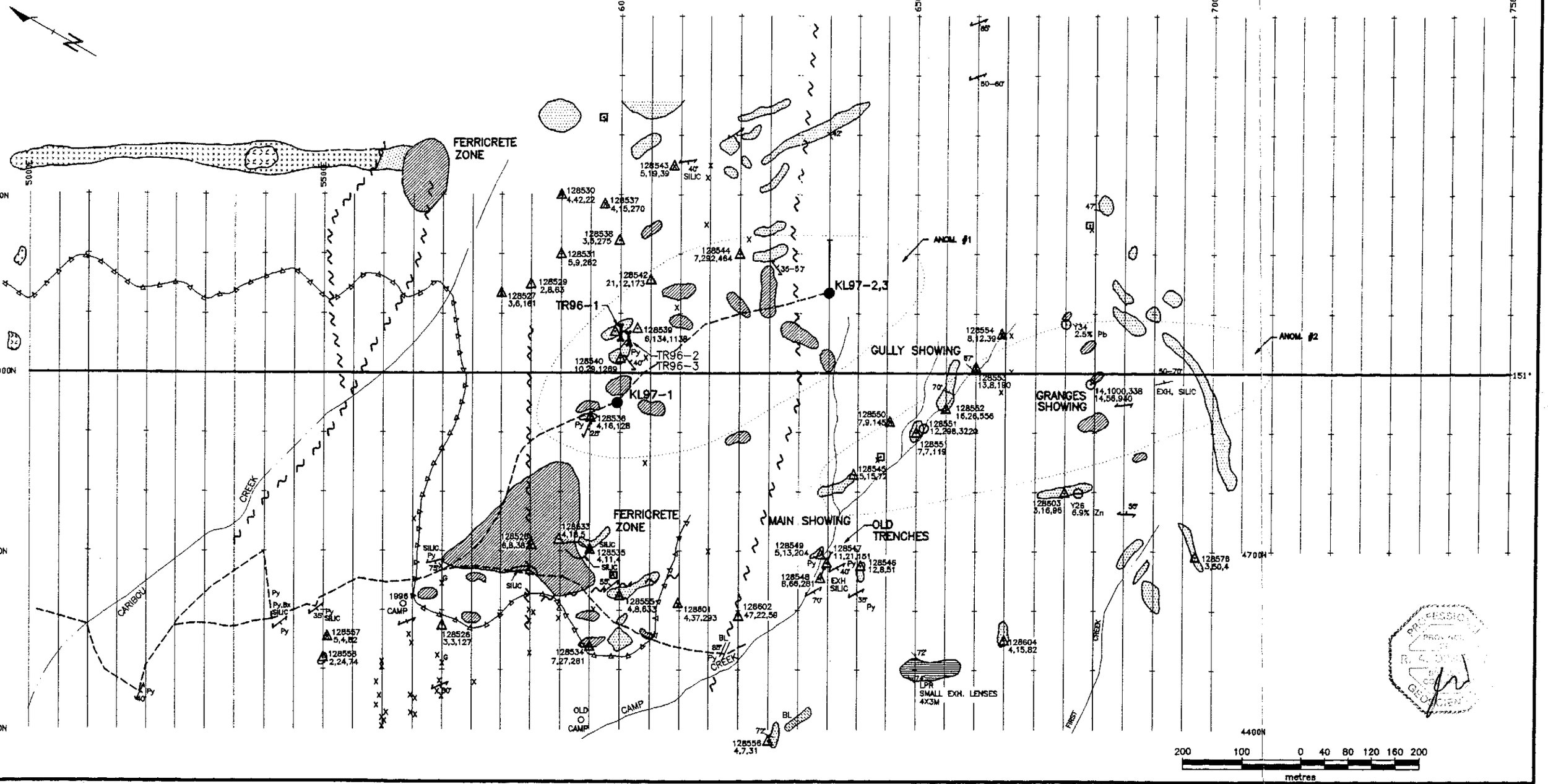
ORO BRAVO RESOURCES LTD.

BRAVO-MAMU-KULAN

WATSON LAKE MINING DISTRICT, YUKON TERRITORY

PROPERTY COMPILATION AND DRILL HOLE LOCATION

Aurum Geological Consultants Inc.	Date: SEPTEMBER, 1997	
NTS: 105 F	Drawn: JC	Scale: 1:30000	Figure: 4



LITHOLOGY

- Sy: SYENITE: MASSIVE INTRUSIVE SYENITE, MEDIUM GRAINED, K-FELDSPAR, BIOTITE, HORNBLENDE-PROXENE, <5% QUARTZ, INCLUDES INTRUTIONS OF RELATIVELY YOUNGER QUARTZ VEINS WITH FLOURITE MINERALIZATION.
- Di: DIORITIC DYKES AND SMALLER INTRUSIVE DOMES WITHIN THE SYENITE, FINE GRAINED, FELDSPAR AND MAFICS (HORNBLEND, PYROXENE). CONTAINS SMALLER AMOUNTS OF PYRITE CRYSTALS.
- BL: BIOTITE LAMPROPHYRE DYKE
- Vx: VOLCANIC FLOW ROCK, PROBABLE RHYOLITIC TUFF, DISTINCT FLOW STRUCTURE, LAPILLI, AND ELONGATED XENOLITHS. CONTAINS MASSIVE PYRITE IN SOME BLACK SHALE SERICITE ALTERED SUB-UNITS. INDICATION OF RECENT SULFUR SPRING FLOWS.
- Ph: PHYLLITIC SLATE WITH SERICITIC ALTERATION.

LITHOLOGY

- 25 m INTERVAL 1995/96 SOIL GRID
- FAULT, INFERRED
- AREA OF OUTCROP
- TALUS BOUNDARY
- CLAIM POST
- CREEK
- OUTCROP, SMALL (G-GOSSAN)
- EXTENT OF GOSSAN
- TRENCH, PRE-1996
- TRENCH, 1996
- 1996 AURUM ROCK SAMPLE
- 98335500 2,24,74 — SAMPLE NUMBER / ASSAY (Cu,Pb,Zn) ppm
- 1989-91 ROCK SAMPLES (APPROX. LOCATION)
- Y36 2,24,74 — SAMPLE NUMBER / ASSAY (Cu,Pb,Zn) ppm
- 1997 CAT ROAD
- 1997 DIAMOND DRILL HOLE

1996 TRENCH ASSAY RESULTS

	SAMPLE NUMBER	Cu,Pb,Zn
TR96-1 (L6000E, 5080N–5073N)	128901	20,221,1386
	128902	10,7,365
	128903	6,3,325
	128904	34,845,851
	128905	8,4,288
	128906	12,99,453
	128907	2,6,272
	128908	2,4,478

	SAMPLE NUMBER	Cu,Pb,Zn
TR96-2 (L6013.5E, 5068N–5061N)	128909	2,191,516
	128910	4,7,606
	128911	1,<3,230
	128912	3,<3,1173
	128913	2,4,1953
	128914	19,725,506
	128915	2,17,525
	128916	3,15,481
TR96-3 (5060N–5058N)	128917	2,<3,270
	128918	2,11,851
	128919	12,21,574

ORO BRAVO RESOURCES LTD.

MAMU-BRAVO-KULAN CLAIMS

GEOLOGICAL COMPILATION, ROCK SAMPLE LOCATION AND DRILL HOLE LOCATION

Aurum Geological Consultants Inc.

SCALE: 1 = 7000		SEPTEMBER, 1997
NTS 105F/7,8,9,10	DRAWN: JC	FIGURE: 5

ROAD BUILDING

From August 07th to August 23rd cat work was carried out to establish a cat trail access to the property for the planned drill program. The Mamu-Bravo-Kulan claims are now linked to the Ketza Mine site by an 8 km road. The Cat trail is not passable with four wheel drive vehicles at this time, because of isolated areas of permafrost and some extremely blocky boulder fields where the cat trail crosses the northern end of the syenite body. The location of the road is shown on Figures 4 & 5.

DIAMOND DRILLING

During the 1997 field program, a total of 1363 ft (415,45 m) of NQ and HQ diamond core drilling in three holes was completed. The drilling was contracted to E. Caron Diamond Drilling Ltd., of Whitehorse. The drill-program was terminated after 24 12-hour-shifts, a total 288 hours of drilling. The drill core is stored at the camp site on the property.

Drill statistics from the 1997 program are listed in Table II below:

HOLE #	Easting	Northing	Azimuth	Dip	Depth (feet)	Depth (m)	Hours of Drilling	Core Samples
KL 97-1	5995	4950		vertical	543	165.51	120	36
KL 97-2	6350	5135	61°	-60°	389	118.57	72	18
KL 97-3	6350	5135		vertical	431	131.37	96	13
Total					**1363**	**415.45**	**288**	**67**

DDH KL 97-1:

The DDH KL 97-1 (Figure 6) was collared at 5995E/4950N to test the western part of the multi-element Anomaly #1. Geochemical anomalies of Cu > 57 ppm, Zn > 1700 ppm and Pb > 700 ppm coincide. Structurally the target is located within a possible 400 m wide fault block, where two major inferred WSW-ENE trending faults intersect with the Base Line at 5850E and 6300E (Figure 5). Trenches TR96-1 to TR96-3 are located approximately 100 m to the North. The drill hole is approximately 150 m to the West of a smaller magnetic anomaly centred around 6050E/5150N, and is located within the broad West-East trending gossanous ferricrete zone. Outcrops and talus of limonite pitted Rhyolite indicate extensive surface oxidation of contained sulphides. A vertical hole of 543 ft (165.51 m) was drilled in 120 hours of drilling. The hole was stopped in order to continue drilling the main target area. Thirty-six core samples were taken for assay (sample #'s: 128951 to 128975; 206801 to 206811). The best value returned from KL97-1 was 7,707 ppm Zn over a 0.90 m interval between 99.40 and 10.30 m depth. A section of 1.45 m between 79.35 and 80.80 m returned a weighted average of 2,204 ppm Zn. Some sections of core directly above or below these samples were not sampled.

General description of DDH KL 97-1:

Lithologies intersected in hole KL 97-1 can be subdivided into two main stratigraphic units. From 0 m to 63.5 m intersected sericitic rhyolite, and from 63.5 m to 165.5 m (EOH) a unit of siliceous rhyolite was intersected. The contact between these two units is not sharp but is characterised by a series of white quartz veining and faults with Mn-oxide and Fe-oxide colours on fractures.

Sericitic Rhyolite Unit: 0 m to 63.5 m

From 0 to 28 m the sericitic rhyolite contains < 1% disseminated pyrite, with limonite pitting, and locally Mn-oxide and Fe-oxide stained sections. Two siliceous rhyolite interlayers occur at 28 to 29.3 m and from 31.4 to 35 m. The first interlayer contains mm sized pyrite-banding with up to 20% disseminated pyrite and traces of sphalerite. The second interlayer has a vesicular texture with carbonate fillings of mostly white calcite, and contains < 1% disseminated pyrite and locally up to 5mm sized pyrite in the matrix.

From 36.9 to 42.7 m the core intersected a biotite lamprophyre dike with ferromagnetic mineralization, possibly accessory magnetite, and secondary calcite in the matrix and as calcite healed fractures. No upper or lower contacts are visible due to shattering of the core. The sericitic rhyolite from 42.7 to 63.5 m contains 5% to 10% disseminated pyrite, and mm sized pyrite banding with up to 30% to 40% pyrite. White quartz-veining is associated with traces of sphalerite and galena, the quartz-veining varying between 20° to 45° TCA.

Foliation within the unit is dominantly subparallel TCA. Alteration is characterised by sericite and clay on foliation and fracture planes.

Siliceous Rhyolite Unit: 63.5 m to 165.5 m

The siliceous rhyolite unit is porphyritic in places, with feldspars < 1mm to 2mm in size; it is pyritic as a whole, and shows ubiquitous quartz-carbonate banding or veining. The bands/veins being < 1mm to 4cm wide, oriented subparallel to 30° TCA, and displaying 25% up to 50% carbonate content. Locally associated with quartz-carbonate veining is dark green to brown coloured very fine grained soft (hardness 2.5 - 4) masses of earthy consistency. The unit can best be characterised by it's variation in mineralization. From 63.5 to 68.7 m the rock has 1% to 5% disseminated pyrite, shows mm sized massive pyrite banding and stringers and traces sphalerite, galena, pyrrhotite within the quartz.

A 17 m ferromagnetic section occurs from 68.7 to 86 m. The siliceous matrix contains trace to 2% disseminated pyrrhotite and 1 to 5mm sized pyrrhotite blebs. Pyrite is disseminated in amounts from 2% to 7%, and massive <1 mm to 1 mm wide pyrite banding is common. Traces of sphalerite are associated with quartz-carbonate banding. From 80.15m to 80.8 m a berated section displays trace amounts of disseminated sphalerite as well as 1mm to 2mm wide sphalerite banding. From 86 to 165.5 m the unit shows <1% to 7% disseminated pyrite and massive < 1mm to 2mm wide pyrite banding. Associated with quartz-carbonate banding are traces of sphalerite, and galena , and locally massive pyrite blebs up to 1.5 cm in size.

Foliation of the unit displays variable attitudes between 20° and 40° TCA. Alteration is sericitic and clay alteration found along foliation and fault/fracturing planes.

DDH KL 97-2:

The DDH KL 97-2 (Figure 7) was collared at 6350E / 5135N to test the eastern part of the multi-element Anomaly #1. Combined geochemical anomalies for Cu > 57 ppm and Zn > 1700 ppm are flanking a 300 m long NW-SE trending magnetic high. Structurally the target is located to the South of the inferred fault block, with it's southern fault line intersecting with the Base Line at 6300E. Minor outcrops and talus of the E-W trending

gossanous ferricrete zone with limonite pitted Rhyolite rocks extend to the drill site. The drill was collared with an Azimuth of 61° and a dip of -60°. The hole ended at 389 ft (118.57 m) and was drilled in 72 hours. The hole was stopped due to an increased risk of loosing drill rods in a fault zone hit at the end of the hole. Eighteen core samples were taken for assay (sample #'s 206812 to 206825;.128607 to 128610). The best results in Hole KL97-2 were at the top of the hole, between 30.40 m and 44.53 m where a number of samples returned between 1156 and 4480 ppm zinc. The highest lead value within this zone was 962 ppm lead. As with hole KL97-1 there are a number of unsampled sections between samples.

General description of DDH KL 97-2:

Hole KL 97-2 (Figure 7) intersected alternating stratigraphic units of siliceous rhyolitic or rhyolite tuff separated by brecciated units of either massive quartz and quartz-carbonate veining or quartz-flow-rocks with pyritic groundmass and schistose character.

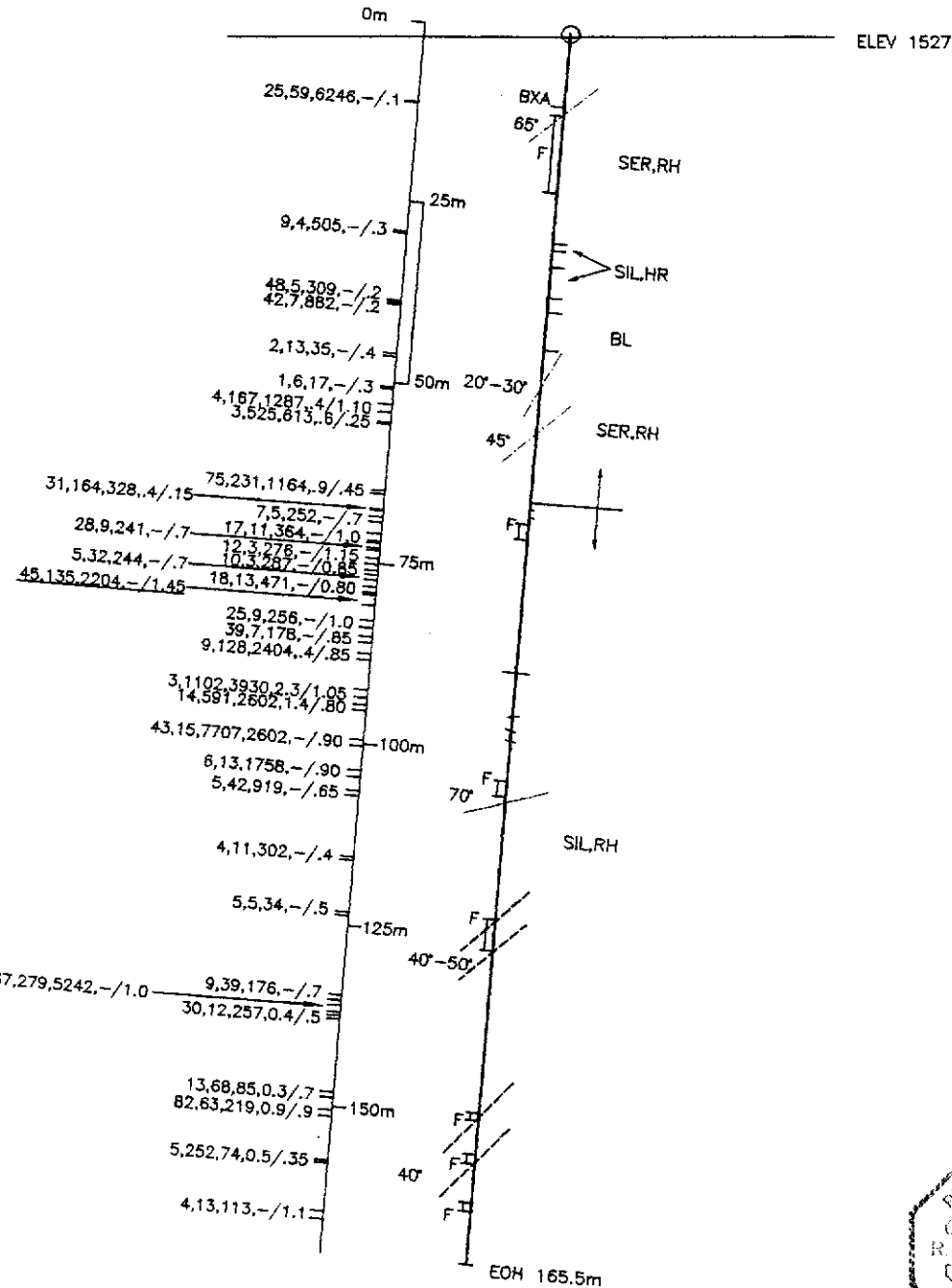
The first 37.3 m of core intersected a siliceous felsite of probable rhyolite origin. The unit shows a remnant sericitic foliation at 45° to 70° to core axis. From 31 to 34.4 m a flow breccia with mm sized quartz-carbonate banding and massive brecciated pyrite banding. The siliceous felsite unit occasionally shows disseminated pyrite < 1% and from 33.4 to 35.3 m massive pyrite banding 1 to 5 mm wide. Dendritic manganese oxide occurs locally as soft masses in banding and blebs. Intense faulting and gouge is found throughout the entire unit. Alteration is present as clay in gouge zones and sericite on remnant foliation. Mn-oxide and Fe-oxide staining is present along foliation and fracture planes.

The unit is underlain from 37.3 to 56 m (with an upper contact at 30° to core axis) by a brecciated massive quartz and quartz-carbonate vein system. Associated are traces of sphalerite, galena and mm sized fluorite and pyrite blebs. Minor pyrite banding and trace to 5% disseminated pyrite occur locally. Alteration on fissures is sericite and clay. Fe-oxidation of sulphide banding and Mn-oxide staining on fractures is a local feature.

From 56 to 59.25 m and from 63,5 to 100 m a quartz-flow breccia unit was intersected. This unit has a pyritic groundmass, <1 mm to 20 mm subangular to subrounded fragmented quartz clasts, clast alignment and a faint flow banding of the groundmass at angles ranging from subparallel to 40 to core axis. Interlayered in the breccia from 59.25 to 63.55 m and at contact angles between 60° to 70° to core axis is a siliceous porphyritic unit of possible tuff origin. Less than 1 mm sized feldspar phenocrysts are common at 3% to 5% rates. Traces of sphalerite and galena are associated with < 1mm to 2mm wide quartz-carbonate fissures and veinlets that occur at angles mostly 40° to 60° TCA. 1% to 2% disseminated pyrite and < 1mm to 1mm sized pyrite stringers in irregular orientation are present in the siliceous matrix.

The main quartz-flow breccia unit has an upper contact angle of 60° to 70° TCA and a lower contact angle of 20° TCA. The unit is characterised by traces up to 2% disseminated pyrite, locally massive mm wide pyrite banding, and 1mm to 5mm wide quartz-carbonate banding running at angles subparallel to 30° TCA. Associated with the quartz-carbonate are traces fluorite and sphalerite. Locally up to 10cm wide massive quartz veins with 20% carbonate content intersect the unit. Alteration is generally minor and occurs as clay in fault related gouges, and as Fe-oxide and Mn-oxide colouring on fractures.

From 100 to 118.56 m (EOH) the hole intersected a siliceous rock unit of probable tuffaceous origin, which from 100 to 106.98 m has a porphyritic texture due to up to 1.5mm



HOLE	NORTHING	EASTING	ELEVATION	AZIMUTH	DIP	EOH
KL97-01	5995	5135	1527	-	-90°	165.5

DRILLED ON MAMU 11, YB47328. AUGUST 26 TO AUGUST 31, 1997

25 12.5 0 5 10 15 20 25
metres

LEGEND

BL: BIOTITE LAMPROPHYRE
SIL,RH: SILECEOUS RHYOLITE
SER,RH: SERICITIC RHYOLITE

BXA BRECCIATION
FOLIATION
F FAULT
QUARTZ-CARB VEINING

89,76,45,.3/1.2 ASSAY (Cu,Pb,Zn,Ag/WIDTH)
(ppm/metres)
UNDERLINED INDICATES WEIGHTED AVERAGE

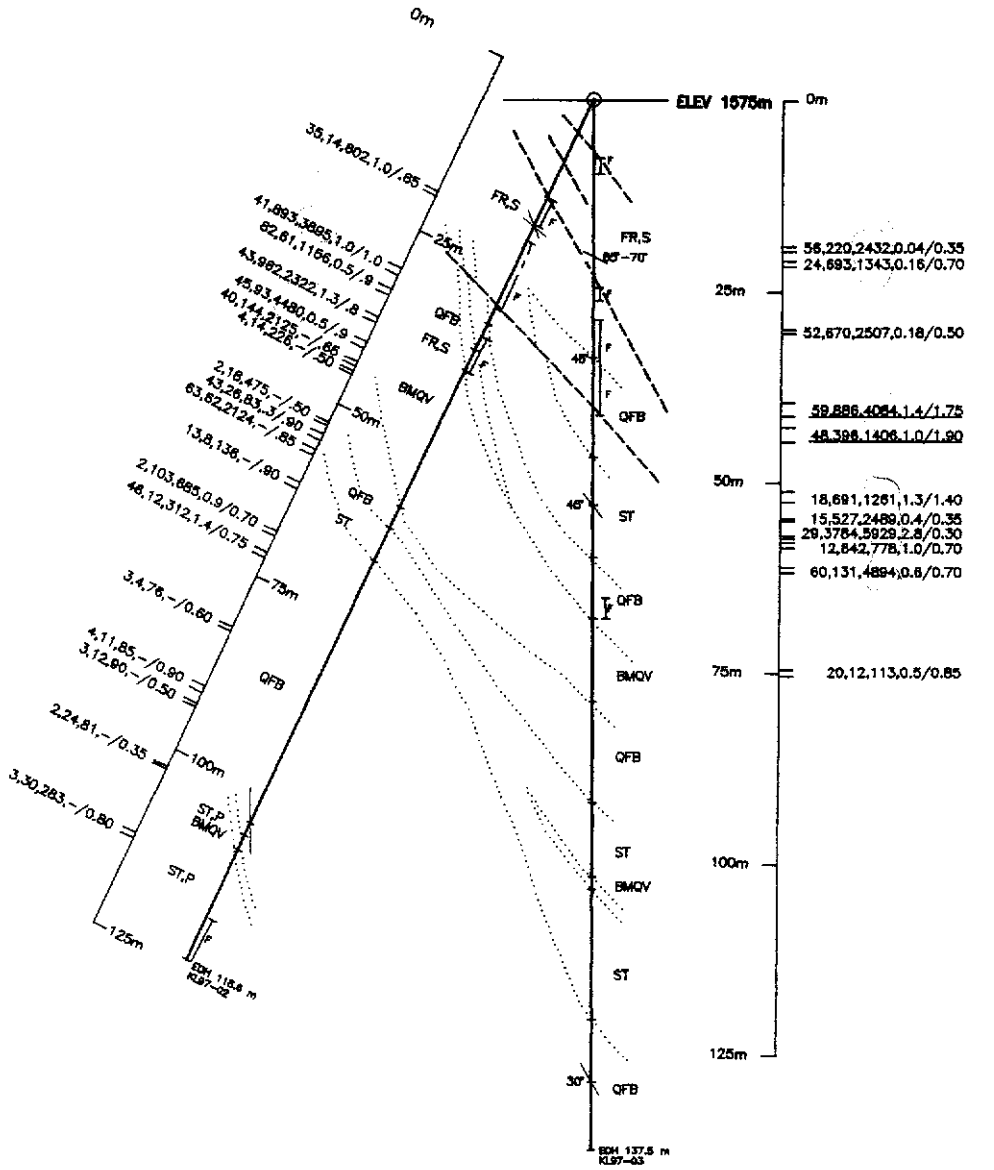
ORO BRAVO RESOURCES LTD.

MAMU, BRAVO, KULAN CLAIMS

WATSON LAKE MINING DISTRICT

DIAMOND DRILL CROSS SECTION KL97-01

Aurum Geological Consultants Inc.			date: SEPTEMBER, 1997
NTS: 105 F	drawn: JC	scale: 1:1000	figure: 6



HOLE	NORTHING	EASTING	ELEVATION	AZIMUTH	DIP	EOH
KL97-02	5135	6350	1575	61°	-65°	118.6
KL97-03	5135	6350	1575	-	90°	137.5

DRILLED ON MAMU 12, YB47329. SEPTEMBER 1 TO SEPTEMBER 8, 1997

25 12.5 0 5 10 15 20 25
metres

LEGEND

FR,S: SILECEOUS FELSITE OF PROBABLE RHYOLITE ORIGIN
ST,P: SILECEOUS ROCK OF POSSIBLE TUFF ORIGIN, p=PORPHRYRIHIC
QFB: QUARTZ-FLOW BRECCIA
BMQV: BRECCIATED MASSIVE QUARTZ AND QUARTZ-CARBONATE VEINING

BXA BRECCIATION
FOLIATION
F FAULT
QUARTZ-CARB VEINING

89,76,45,.3/1.2 ASSAY (Cu,Pb,Zn,Ag/WIDTH)
(ppm/metres)
UNDERLINED INDICATES WEIGHTED AVERAGE

ORO BRAVO RESOURCES LTD.

MAMU, BRAVO, KULAN CLAIMS

WATSON LAKE MINING DISTRICT

DIAMOND DRILL CROSS SECTION KL97-02,03

Aurum Geological Consultants Inc. | date: SEPTEMBER, 1997

NTS: 105 F | drawn: JC | scale: 1:1000 | figure: 7

sized anhedral feldspar phenocrysts. The rest of the unit is non-porphyritic. From 101.4 to 103.4 m the unit is intersected by brecciated massive quartz-carbonate veining, 60% quartz content and clasts ranging from 1mm to 4cm in size. Trace amounts of sparse pyrite crystals occur within the breccia.

The Siliceous Rock unit displays a dark grey greenish appearance and a faint banding of the groundmass in streaks at angles 10° TCA. Minor quartz-carbonate veining <1 mm to 3mm wide are present at angles 40° to 50° TCA. The groundmass contains trace amounts to 1% disseminated pyrite in the porphyritic unit. From 113.2 m on intense faulting and clay-gouge material was intersected. Alteration is weakly chloritic-sericitic on fractures and remnant texture features, and includes clay formation in faulted zones.

DDH KL 97-3:

The DDH KL 97-3 (Figure 7) was collared at 6350E / 5135N and it's geological setting are identical to KL 97-2. In order to accomplish extended structural and geological information about the targeted anomaly a vertical hole of 431 ft (131.37 m) was drilled in 96 hours of drilling. Thirteen core samples were taken for assay (sample #'s 128611 to 128623) from hole KL97-3.

General description of DDH KL 97-3:

The rock types encountered in the KL 97-3 hole are similar to the sequence found in KL 97-3 with alternating stratigraphic units of siliceous rocks of rhyolitic or tuffaceous origin separated mainly by brecciated quartz-flow-rocks with pyritic groundmass and minor brecciated massive quartz-carbonate veining.

From 0 to 32.6 m the hole cut predominantly siliceous felsite of probable rhyolite origin with a remnant sericitic foliation at 65° to 70° TCA. Limonitic specs throughout the unit and Fe-oxide colours as a faint banding subparallel to foliation are common. Random oriented < 1 mm wide pyrite stringers and disseminated pyrite in trace amounts to 1% occur in siliceous sections of the unit. Traces of sphalerite are associated with a weak localised quartz-carbonate veining. Locally Manganese oxide is present in soft clayish masses and in a mostly dendritic pattern on foliation and fracture planes. Intense faulting throughout the entire unit is indicated by shattered core and major clay gouging. Alteration within the unit is sericitic to weakly chloritic on remnant foliation planes, is characterised by strong clay alteration in gouged zones, and Mn-oxide and limonitic Fe-oxide staining along foliation and fracture planes.

From 32.6 to 44.5 m the hole intersected a quartz-flow breccia unit with a pyritic groundmass at an approximately 45° contact angle TCA. The subangular quartz clasts vary in size between < 1mm to 20mm and display minor clast alignment at angles subparallel to 10° TCA. Flow banding of the groundmass is irregular and mostlly sub-millimeter sized. Quartz-carbonate veining occurs at the beginning of the unit as < 1mm wide fissures oriented subparallel TCA and continues as up to 3mm wide veins oriented at 30 ° TCA in the main section. The groundmass contains 1% to 5% disseminated pyrite and locally massive pyrite blebs 1mm to 2cm in size. Traces of sphalerite and galena are associated with quartz-carbonate veining. Faulting is intense throughout the entire unit ad characterised by clay gouging. Alteration consists of clay formation in fault zones, Mn-oxide staining along crackles in the beginning of the unit, and locally Fe-oxide alteration of pyritic banding.

From 44.5 to 57.45m a pyritic siliceous rock of dark grey to grey-greenish colour forms the next unit which is subdivided as follows.

With a gradational upper contact and a lower contact angle of 40° TCA from 44.5 to 51.15m follows a siliceous rock unit of possible tuff origin with a pyritic groundmass. A distinct schistose character of the structure is given by microfolding and deformation of leucocratic bands and minor formation of microboudins. Quartz-Carbonate banding is <1mm to 2mm wide with angles subparallel TCA in the upper end of the section and at 45 ° TCA in the lower end of the section. Disseminated pyrite in traces to 5% and massive pyrite stringers are present in the dark groundmass. Traces of sphalerite and galena occur with quartz-carbonate banding. Faulting characterised by fault gouge is strong, forming half the core at an angle supbarallel TCA. Alteration consists of chloritization within the groundmass, locally Mn-oxide and Fe-oxide staining and clay gouging in faults.

A brecciated siliceous rock unit was intersected from 51.15 to 54.1 m as a subunit of the previous. Fragments of siliceous unit are healed by quartz-carbonate bands with 60% to 70% quartz content, the banding being 1cm to 2cm wide, and intersecting the core at various angles between subparallel to 40° to 55° TCA. Disseminated pyrite is < 1% in the siliceous fragments. Traces of sphalerite and galena occur with the quartz-carbonate banding. Alteration consists of minor Fe-oxide and Mn-oxide staining on fractures.

From 54.1 to 57.45 m the non-brecciated, grey-greenish to dark grey coloured pyritic siliceous rock unit of possible tuff origin continues with a gradational upper contact and a lower contact of 45 ° TCA, indicated by a 2cm wide quartz-carbonate vein. The upper grey-greenish section between 54.1 to 56 m displays a texture with < 1mm to 1 mm wide quartz-carbonate bands, the banding oriented at angles subparallel to 10 ° TCA. Occasionally massive pyrite veinlets intersect at angles 40 ° to 50 ° TCA. A lower dark grey siliceous section from 56 to 57.45 m shows a fine grained texture with no visible phenocrysts, irregular pyrite stringers and pyrite and quartz-carbonate blebs. The matrix contains < 1% to 1% disseminated pyrite, and traces of galena, sphalerite, and possibly chalcopyrite at the lower contact.

From 57.45 to 64.9 m the hole intersected a quartz-flow breccia unit with the flow texture indicated by it's dark grey groundmass displaying banding roughly subparallel TCA. The subangular quartz clasts vary in size between < 1mm to 20mm, predominantly 1mm to 3mm clast size. Irregular oriented quartz-carbonate veining, < 1mm to 5mm wide, carry traces of sphalerite and galena. Disseminated pyrite is present in the groundmass in traces to 1%, and massive disrupted pyrite stringers and pyrite banding occur locally. Possible faulting in indicated by shattered core from 61.9 m to the end of the unit, obliterating a lower contact. Alteration is minor as Mn-oxide and Fe-oxide staining on fractures.

The unit is underlain from 64.9 to 75.29 m by a brecciated massive quartz and quartz-carbonate vein system with 90% quartz content and irregular shaped carbonate blebs ranging from 1mm to 7mm in size. Associated in traces are mm sized flourite and pyrite blebs, and traces chalcopyrite occurs as < 1mm wide specs at the end of the unit. Locally included are brecciated sections of siliceous pyritic groundmass from the hangingwall or footwall rocks. Upper and lower Contacts are unknown due to shattering of core.

From 75.29 m to 122.95 m the rock units following are alternating sequences of quartz-flow breccia and siliceous rock of possible tuff origin which are considered to be a mixed unit of the rock types described above. From 75.29 m to 88.1 m the rocks are mainly quartz-flow breccia with interlayers of siliceous rocks. The latter consisting of dark grey

matrix and a fine grained texture with pyrite stringers. From 88.1 m to 115.3 m predominantly siliceous rock occurs containing minor < 1 mm wide quartz-carbonate veining and blebs, associated with it traces of galena and chalcopyrite in mm sized specs. Throughout the siliceous unit the rocks are ferromagnetic, possibly due to invisible disseminated pyrrhotite in a dark grey pyritic matrix with minor pyrite fissures..
The unit is intersected from 97.6 m to 98.26 m by massive white quartz veining oriented subparallel TCA and from 98.26 m to 99.06 m by brecciated massive quartz veining containing minor amounts of carbonate. From 115.3 m to 122.95 m quartz-flow breccia occurs at a lower contact angle 30° TCA.

MAPPING

A lens shaped massive sulfide occurrence was discovered on the Kulan Property, downstream on Camp Creek (Showing 6, Figure 5). The lens is predominantly pyritc in composition and two smaller occurrences were found in the hanging wall and foot wall of the main lens. The outcrop is located on Claim No. 35, downstream on Camp Creek in the creek bed at the last of a series of small waterfalls just before the creek turns WSW in a broad bend towards McConnell River.

Outcrop Description:

The outcrop consists of red to rusty colored massive siliceous volcanic rock containing disseminated pyrite. Fracturing and jointing is intense in the surrounding outcrops. The dark gray to metallic yellow colored lens of massive sulfide is 20cm to 30cm thick and extends more than 3m in length before running into the creek slope. Mineralization is mainly massive pyrite and in parts siliceous pyritic exhalite. The orientation of the lens is stratiform and steeply dipping (60° to 80°). The lens crosscuts the creek bed at an angle of approximately 70°. It can be followed into the talus covered creek slope where the lens is surficially weathered to an earthy consistency. Four grab samples were taken for assay and reference from the massive sulfide lens One sample # 128624 was sent for analyses and returned 312 ppm zinc, and 7.09% iron with 1.43% Mg and 2.24% K.

Two meters below the main sulfide lens is another smaller outcrop of lenticular shaped gray colored exhalite, this occurrence has less disseminated pyrite, and is more siliceous in composition. Approximately 50 m upstream of the showing is a 2 cm to 3 cm wide band of pyritic massive sulfide.

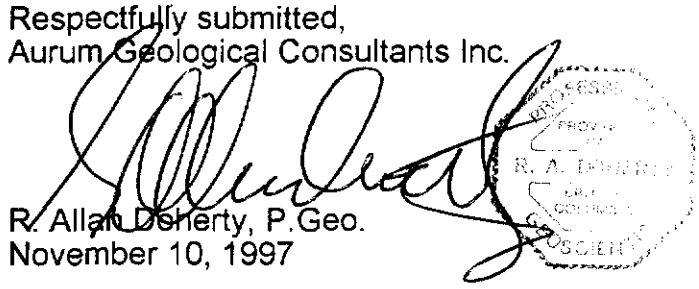
CONCLUSIONS AND RECOMMENDATIONS

Based on geological mapping, geophysical surveys, geochemical soil and rock surveys, and diamond drilling, the property definitely displays evidence permissive of volcanic massive sulphide occurrences. Sulphide mineralization in the volcanic rocks of rhyolite and tuff composition range from mm sized pyrite banding up to massive meter sized pyrite horizons or lenses. Sphalerite, galena, pyrrhotite, and chalcopyrite are so far mostly associated with quartz-carbonate veining that probably post date the deposition of the Mississippian volcanics.

Further detailed geological mapping over the entire property with special focus on the volcanic stratigraphy and alteration assemblages is recommended. Extension of the grid to the SW in combination with geological mapping, soil and rock sampling, trenching, and geophysical survey is recommended to gain access to possible further sulphide occurrences similar to the one discovered on Lower Camp Creek.

The 1997drill core was incompletely sampled and additional sampling and assaying of core should be completed. Particularly those un-sampled intervals in the core adjacent to the intervals that reported anomalous zinc.

Respectfully submitted,
Aurum Geological Consultants Inc.



R. Allan Doherty, P.Geo.
November 10, 1997

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STATEMENT OF QUALIFICATIONS

I, R. Allan Doherty, with business address:
Aurum Geological Consultants Inc.
205 - 100 Main Street
P.O. Box 4367
Whitehorse, Yukon
Y1A 3T5

1. I am a geologist with AURUM GEOLOGICAL CONSULTANTS INC., 205 - 100 Main Street, P.O. Box 4367, Whitehorse, Yukon.

2. I am a graduate of the University of New Brunswick, with a degree in geology (Hons. B.Sc., 1977) and that I attended graduate school at Memorial University of Newfoundland (1978-81). I have been involved in geological mapping and mineral exploration continuously since then.

3. I am a member of the Association of Professional Engineers and Geoscientists of the Province of British Columbia, Registration No. 20564.

4. I supervised the 1997 work program and prepared this report on the Mamu-Bravo-Kulan Claims which is based on data collected during property work completed between August 8 to September 10, 1997 by Aurum Geological Consultants Inc. and on referenced reports.

5. I have no direct or indirect interests in the properties or securities of Oro Bravo Resources Ltd.

6. I consent to the use of this report by Oro Bravo Resources Ltd., provided that no portion is used out of context in such a manner as to convey a meaning differing materially from that set out in the whole.

November 10, 1997

R. Allan Doherty, P.Geo.

STATEMENT OF COSTS

Work performed on the Mamu 11, 12, 30 and 32 claims between August 18 to September 10, 1997. Work included tote trail construction and Diamond drilling.

Personnel

Jens Neisel, project geologist Aug 18-Sep 23, 1997, 32 days @ $350/day	$11,200.00
Chris Gooliaff, geologist Sep 1-11, 1997, 11 Days @ $250/day	$ 2,700.00
Michelle Phillips, Cook Aug 18- Sep 11, 1997, 25 Days @ $280/day	$ 7,000.00
Camp Costs 140 man days @ $60 per day	$ 8,400.00

Diamond Drilling & cat work

E. Caron Diamond Drilling Ltd Inv 3618	$66,180.57
E. Caron Diamond Drilling Ltd Inv 3619	$50,662.36
TOTAL ASSESSMENT VALUE	**$146,142.93**

APPENDIX A
DRILL LOGS
HOLES KL97-1,2,3

AURUM GEOLOGICAL CONSULTANTS INC. — **DIAMOND DRILL LOG** — HOLE No. KL97-1 — Page 1 of 7

Property HAMU | NTS | Claim | Elevation | Azimuth — | Length | Dip -90°

Coordinates | Dip Tests 500'/86° | Advance | Depth 165.5 m | Date Collared 26.08 | Date Completed 31.08

Purposes MAG-ANOMALY TESTING | Drilled by CARON DD | Assays by | Logged by JN

Interval m From	To	Recy %	>1.5cm RQD	DESCRIPTION	Sample No.	Interval m From	To	Core Width	
				0 - 1.14m ... Box 01: 0-17.4m					
9.14	11	150	0.1						
11	11.9	190	1.1	9.14-9.64m: OVERBURDEN; Rock Type: chunks of grey limonite pitted rhyolite and silicified volcanic -					
11.9	12.8	47	0						
12.8	13.9	30	0	Alter'n: rusty limonite colors on fractures and in vesicules of silicified volc. chunks					
13.9	14.8	51	0						
14.8	15.8	96	0	MIN: sparse py specs in silicified volcanic rock chunks					
15.8	17.0	28	0						
17.0	18.6	44	0	9.64-10.5m: Rock Type: Brecciated Rhyolite, brittle CORE					
18.6	19.66	53	0	STRUCTURE: qtz-limited fractures - silicified reactivated fractures, fissures lol limonite oxidation seams					
19.66	20.4	46	0						
20.4	21.9	23	0	LC ∡ 65° TCA					
21.9	22.55	92	0.36	Alt'n: clay alt'n (greenish-(chlorite) on foliation planes					
22.55	24.0	63	0	MIN: rusty to yellow Fe-oxide/limonite colors along fractures and along Breccia components (Rhyolite)					
24.0	24.8	120	0.27						
24.8	25.9	77	0						
25.9	27.0	100	0.23	10.5-11.1m: ROCK TYPE: greenish-grey flow rhyolite?, few CORE chunks					
27.0	28.0	82	0	STRUCT: Foliation ∡ 50° TCA, brittle CORE					
28.0	29.5	66	0.27	Alt'n: Fe-oxide colors and clay alteration					
29.5	31.1	70	0.35	MIN: sparse py specs in some silicified chunks					
31.1	32.6	106	0.63						
32.6	33.7	73	0.3	11.1-11.55m: Rock TYPE: black-Mn-oxide-colored rhyolite? and Fe-oxide colored chunks of flow rock (rhyolite?)	128951	11.1	11.2	0.1	Title: Mn-oxide colored rhyolite? softened by alt'n
33.7	35.2	51	0.39						
35.2	36.9	33	0	Alt'n: strong Mn-oxide alt'n and clay alteration					
36.9	37.6	70	0						
37.6	38.4	96	0	11.55-11.9: ROCK TYPE: SERICITIC LIMONITE PITTED RHYOLITE, grey colored chunks					
38.4	38.8	135	0.2						
38.8	40.2	61	0.3	Alt'n: sericite/clay alt'n on foliation planes					
40.2	41.5	28	0						
41.5	41.8	116	0	11.9-17.2: Rock TYPE: MUD w/ grey sericitic limon pitted Rhyol. fragments - soft grey to rusty color variation					
41.8	42.8	95	0						
42.8	43.6	87	0	STRUCTURE: foliation parallel TCA ∡ ± 05°					
43.6	44.3	120	0.1	Alt'n: Intense clay alt'n, possibly talc or pyrophyllite					
44.3	45.1	100	0.27						

AURUM GEOLOGICAL CONSULTANTS INC. DIAMOND DRILL LOG HOLE No. KL 41-1

Interval m From	To	Rec'y %	>10cm RQD	DESCRIPTION
45.1	45.7	116	0.33	Box 2 - 17.4 - 26.5m / Box 3: 26.5 - 33.2m / Box 4: 33.2 - 41.8m /
45.7	46.3	110	0.28	Box 5 - 41.8 - 47.3m / Box 6: 47.3 - 52.8m / Box 7: 52.8 - 58.5m
46.3	47.2	94	0.1	
47.2	47.8	113	0.34	17.2-21.9: MVD of light grey sericitic rhyolite, muddy to clayish consistency, FAULT
47.8	48.6	110	0.2	
48.6	49.2	100	0.3	Alt: intense clay alter'n., possibly talc or pyrophyllite
49.2	50.0	74	0.3	
50.0	50.9	104	0.75	21.9-29.0: Rock Type: light grey sericitic rhyolite
50.9	51.5	130	0.75	STRUCT: foliation parallel TCA
51.5	52.4	64	0.4	MIN: limonite - Fe oxide colors on fractures
52.4	53.9	113	0.85	Alt'n: clay alt'n; sericite
53.9	54.5	110	0.36	
54.5	55.5	70	0.85	24.0-24.1: FAULT/SHEAR zone: rounded "pebbles" of grt and rhyolite chunks, latter contain 15% py
55.5	56.4	110	0.4	
56.4	57.3	77	0.3	
57.3	58.5	100	0.8	24.1-28.0: ROCK TYPE: Limonite pitted Sericitic rhyolite
58.5	59.9	135	0.6	STRUCT: foliation parall TCA; fault clay from 25.8-25.9m
59.9	61.4	120	0.2	MIN: sparse <1% py x'als size < 1mm
61.4	61.9	156	0.1	Alt'n: clay alt'n; sericite
61.9	62.5	83	0	
62.5	63.4	63	0	28.0-29.3: Rock Type: Siliceous rhyolite, grey
63.4	64.0	100	0.3	MIN: up to 20% dissem py; py x'als size 2mm
64.0	64.9	130	0.4	sparse red-brown sphalerite specs
64.9	66.0	110	0.46	
66.0	66.4	137	0	29.3-31.0: ROCK TYPE: sericitic rhyolite light grey
66.4	66.8	125	0	STRUCT: foliat'n parall TCA
66.8	67.6	112	0.2	MIN: py phenocrysts up to 10mm size; dissem. py < 1%
67.6	68.3	124	0.16	Alt'n: limonite - Fe oxide colors along fractures
68.3	68.7	212	0	
68.7	69.8	100	0.46	31-31.4: Rock Type: Clay, sericitic rhyol
69.8	70.1	200	0	Alt'n: clay altec'n and rusty limonite colors
70.1	70.7	83	0	
70.7	72.0	123	0.5	31.4-35.0: Rock Type: Siliceous rhyolite, grey color, vesicular
72.0	73.6	97	0.8	MIN: <1% dissem. py; py x'als up to 5mm in size,
73.6	75.1	110	0.8	vesicules contain carbonate/calcite filling, some idiomorph
75.1	76.6	98	0.97	white calcite.
76.6	78.2	118	0.7	Alt'n: limonite - Fe oxide colors on fractures

Interval m From	To	Core Width	Sample No.	
29.0	29.3	0.3	128952	Title: rhyolite w/ py banding/stringers with up to 20% diss. py; sparse Sph

AURUM GEOLOGICAL CONSULTANTS INC. DIAMOND DRILL LOG HOLE No. KL91-1

Interval m From	Interval m To	Rec'y %	>10cm RQD	DESCRIPTION	Interval m From	Interval m To	Core Width	Sample No.	
78.2	79.1	99	.95	35.0-36.9: Shear zone; Rock Type: clumps of rhyolite, with limonite Fe ox colors					
79.1	81.4	92	.70						
81.4	82.9	95	.90	36.9-42.7: Rock Type: Intermediate Volcanic: Biotite lamprophyr dyke					
82.9	84.85	99	.95	dark green - grey color; shattered - no contact visible					
84.85	85.95	99	.95	Min: Ferromagnetic - possibly magnetite accessory	38.55	38.65	0.10	128953	1-3% py, tr pyrrh?
85.95	87.50	99	.85	secondary Calcite in matrix (replacement or vugs filled)	39.00	39.20	0.20	128954	1-3% py, tr pyrrh?
87.50	89.00	99	.95	and mainly along fractures					
89.00	90.25	98	.93	STRUCT: Calcite healed fractures					
90.25	92.50	95	.80	fault zones with fragments of Biot L. and qtz veining					
92.50	93.60	90	.85	at 37.6-37.7; 38.4-38.5; 38.8-38.9; 40.2-40.4;					
93.60	95.40	85	.30	41.5-41.8					
95.40	96.15	35	.15						
96.15	97.50	99	.70	42.7-50.9: Rock Type: sericitic rhyolite					
97.50	99.40	95	.55	Min: up to 5% disem py, py in bands or stringers with qtz-bands	45.90	46.30	0.40	128955	up to 5% py, tr sph
99.40	101.35	97	.50	± 20-30° TCA; Sparse specs of Sphalerite	50.40	50.90	0.30	128956	same as above
101.35	102.11	80	.10	STRUCT: foliation 20-30° TCA. Clay in fault zones with Fe-oxide colors					
102.11	103.33	80	.10	at 48.4-48.6; 49.1-49.2					
103.33	105.16	99	.75	Alt'n: clay alteration, sericite					
105.16	106.53	99	.90						
106.53	107.90	95	.85	50.9-53.9: Rock Type: same as above - sericitic rhyolite but high in sulfides	53.00	54.10	1.10	128957	up to 30-40% py w/in bands, tr sph str.
107.90	110.64	99	.90	Min: py-banding with up to 30-40% py,					
110.64	111.86	99	90	irregular sphalerite stringers together with white qtz bands					
111.86	114.91	99	.75	milky to white colored qtz bands and irregular masses of qtz up to					
114.91	117.20	99	.95	10cm wide and ±45° TCA					
117.20	119.33	80	.35	STRUCT: foliation ± parallel TCA.					
119.33	119.94	95	.10	Alt'n: Sericite, clay on foliation planes					
119.94	121.01	10	.00						
121.01	122.23	95	.85	53.9-60.3: Rock Type: Sericitic rhyolite (less qtz and py mineralization)	55.70	55.75	0.25	128958	5-10% py, tr sph. and gn
122.23	123.60	75	.15	Min: disseminated py 5-10%; Specs of sphalerite and galena					
123.60	124.66	99	.60	Alt'n: limonite Fe-oxide colors on fractures, sericite, clay alt'n					
124.66	127.10	99	.95	STRUCT: foliation ± parallel TCA					
127.10	128.32	99	.90						
128.32	130.15	99	.95						
130.15	131.37	95	.70						
131.37	133.20	80	.65						
133.20	133.81	99	.95						
133.81	136.25	99	.95						

AURUM GEOLOGICAL CONSULTANTS INC. DIAMOND DRILL LOG HOLE No. KL97-1

Interval From	Interval To	Rec'y %	RQD	DESCRIPTION
136.25	138.07	99	.95	60.3-61.8: Rock Type: CLAY - of alt'd sericite rhyolite
138.07	141.12	99	.95	STRUCT: possible FAULT, fragmented core
141.12	142.34	99	.95	MIN: rock fragments with py xals < 1%
142.34	144.17	99	.95	Alt'n: clay - talc on foliat'n planes
144.17	146.00	97	.95	61.8-61.9 Rock Type: Qtz vein of white color, fragmented/broken core
146.00	146.76	99	.45	MIN: some py and galena x'als
146.76	148.74	95	.90	61.9-62.5: FAULT: fragments of sericite rhyolite with py xals < 1%
148.74	150.72	99	.85	62.5-62.6: Rock Type: white qtz-vein, fragments
150.72	152.40	97	0.5	MIN: x'als of py, sph, traces of galena
152.40	154.53	94	.86	62.6-63.4: Rock Type: CLAY - of alt'd sericit rhyolite, wh talc
154.53	157.43	100	.96	STRUCT: possible FAULT, broken core
157.43	159.72	100	.87	MIN: fragments with dissem. py ~ 3%
159.72	162.46	100	.97	63.4-63.5: Rock Type: white Qtz-vein, fragments
162.46	165.51	100	.95	MIN: py xals up to 2mm in size
	EOH			63.5-64.0: ROCK TYPE: SILICEOUS RHYOLITE
				MIN: py banding - py stringers and qtz bands
				STRUCT: all banding subparallel TCA
				64.0-64.1: Rock Type: Whik Qtz-veining, fragments
				MIN: 1mm size py xals, specs of galena and sph
				64.1->68.7: ROCK TYPE: SILICEOUS RHYOLITE, grey colored, pyritic
				STRUCT: qtz-banding - stockwork qtz veinlets
				→ at 65-65.5: 20° TCA, py-banding as well
				→ at 67.6-67: qtz and py banding subparall TCA
				FAULT: broken core and gouge at 65.7-68.8
				MIN: py bands and stringers and dissem. py 1-5%, sparse galena and Sph along with qtz-banding
				at 68.5-68.6: sparse pyrrhotite
				Alt'n: in fault zone sericitic - clay alt'n

Interval From	Interval To	Core Width	Sample No.	
64.95	65.40	0.45	128959	py stringers, tr gn, tr pyrrh, tr sph
67.60	67.75	0.15	128960	same as above

AURUM GEOLOGICAL CONSULTANTS INC. DIAMOND DRILL LOG HOLE No. KL 97-1 Page 4 of 7

Interval m From	Interval m To	Rec'y %	>10cm RQD	DESCRIPTION
				68.7 - 101.55 RT: SILICEOUS RHYOLITE, PORPHYRITIC (occas.) and PYRITIC
				- siliceous rhyol w/ qtz banding, and dissem. pyand py banding
				- feldsp pheno <1-2 mm wide, anhedral, random - subparall to qtz banding
				- occas. vugs up to 2mm wide w/ carbonate and/or py infill
				STRUC: UC & unknown TCA due to shattering, LC undistinguishable
				- qtz/carbonate-banding subparall to @ 30° TCA, <1mm to 40mm wide, quite prolific throughout unit, 40-50% Carbonate
				- foliat'n oppor 20° @ TCA
				- occas vugs parall. to subparall. to fol'n., <1 to 9mm wide, py or Carbonate filled
				- FAULT ZONE at
				→ 69.6 to 71.1; some fault gouge clay alt'n, Contact @ and nature unknown due to shattering
				→ 92.0-92.5, clay alt'n, some qtz veining w/ py
				→ 93.7-94.1, saa
				→ 95.1-95.4, saa + sph + gn
				→ 101.0-101.33 saa
				ALTN: Sericitic fspar alt'n, some clay alt'n along foliation and fault planes
				~78m locally drk-green rein/masses assoc. w/ qtz-carbonate veining, hardness 2.5-4, very fine grained, composition?
				MIN: 05 per sample

Interval m From	Interval m To	Core Width	Sample No.	
68.6	69.3	0.7	128961	trace pyrrh, diss. py 2-3%, py x'als up to 2mm wide
71.95	71.95	1.0	128962	diss. py 5-7%, py x'als <1 to 3mm wide, trace pyrrh. locally massive mm size py banding
72.2	72.9	0.7	128963	locally massive mm size py veins 50-60 @ TCA, diss. pyrrhot. x'als, up to 2mm wide, 1-2%
73.2	74.35	1.15	128964	qtz-Carb. veins 4cm wide, trace sph, trace pyrrh. 2-4% diss. py, locally massive mm size py veins @ 50-60°
75.1	75.95	0.85	128965	traces to 1% pyrrh. x'als up to 2mm wide, 2% dissem. py, locally mass py veinlets <1mm wide
76.6	77.3	0.7	128966	qtz-carb. banding, blebs of sph and pyrrh <1% associated w/ qtz-carb banding

AURUM GEOLOGICAL CONSULTANTS INC. DIAMOND DRILL LOG HOLE No. KL97-1

Interval From	Interval To	Rec'y %	RQD	DESCRIPTION
				101.35 - 165.51 EOH
				ROCK TYPE: SILICEOUS RHYOLITE, PYRITIC, occas. PORPHYRITIC
				unit as a whole same as previous
				–
				–
				STRUC: UC: FAULT ZONE, GOUGE fragments, NO reliable α TCA
				LC: EOH
				– qtz-carbonate veining; assoc. with fault gouge or shallow dip at contacts
				→ 103.7 - 104.5: massive qtz-carb veining with chyol fragments, qtz to carbonate: 75:25%, UC: 70° TCA, irregular contact w/ sph blebs
				→ 122.2 - 122.4 qtz veining
				→ 123.1 - 123.6 same
				→ 128.9 - 129.0 qtz-carb veining
				→ 157.4 - 157.9 qtz-carb veining

	Interval From	Interval To	Core Width	Sample No.	
	78.2	79.0	0.80	128967	diss. py 3-5%, some pyrials up to 2mm wide, trace to 2% pyrrh. some pyrrh veins up to 1mm wide,
				→	dk green masses
	79.35	80.15	0.80	128968	massive py banding, diss. py ~ 7%, locally blebs of massive py 1 x 2.5cm, traces of pyrrh.
*	80.15	80.80	0.65	128969	diss. sph + sph banding 1-2mm wide, py banding, crackle brecciation
	82.9	83.9	1.00	128970	py blebs up to 2cm wide, qtz-carb veining + assoc w. pyrrh blebs up to 5mm wide
	85.10	85.95	0.85	128971	disseminated py ~2-4%, tr to 1% pyrrh
	87.50	88.35	0.85	128972	tr sph, tr gn?, qtz-carb veining, disseminated py 1-3%
	92.50	93.55	1.05	128973	sph stringers < 1mm wide (< 1% of sample), 9cm wide qtz-carb vein
	94.60	95.40	0.80	128974	qtz-carb veining w/ tr gn and tr sph in veins, poor Rec % and RQD in this zone.
	99.40	100.30	0.90	128975	sph veinlets < 1mm wide (< 1%), disseminated py ~1-4%, gn veinlets < 1mm wide (< 1%)

AURUM GEOLOGICAL CONSULTANTS INC. DIAMOND DRILL LOG HOLE No. KL 97-1 Page 7 of 7

Interval From	Interval To	Rec'y %	RQD	DESCRIPTION	Interval m From	Interval m To	Core Width	Sample No.	
				- foliation: 40° & TCA, weak to strong, 121.0-122.2 strong fol.*					
				- massive py banding <1mm - 2 mm wide, mostly subparallel TCA to subparallel w/ foliation & 40-90° TCA					
				* Strong fol'n: 146.75-148.75, 162-EOH					
				- FAULT ZONES:					
				→ 119-123.7: poor to partly healed (qtz) with shiny fol'n and qtz-carb. veining; 40-50° & TCA subparallel to fol'n planar fractures, sericite-clay alt'n associated w/ fault zone					
				→ 146.4-146.6: fault gauge, 40° TCA, planar contact					
				→ 151.7-152.4: same					
				→ 158.0 and 159.3: minor fault gauge, 5cm wide					
				ALT'N: same as previous unit, sericite alt'n alone with strong fol'n					
				MIN: - same with qtz veining and banding: occas. specs and blebs of sph, galena, py					
				- <1mm to 2mm wide massive py banding subparallel to fol'n throughout entire core section, disseminated pyrite 5-7%					
				~137m - Rock dk green/brown, soft masses with earthy consistency assoc with carb veining as pervasive alt'n					
					103.65	104.55	0.9	206801	qtz-carb veining, tr sph, tr gn
					106.45	107.10	0.65	206802	qtz-carb. veining, py veins, tr gn, tr sph
					115.50	115.90	0.4	206803	" ; py stringers, py vein, 5% diss. py
					123.10	123.60	0.5	206804	qtz veining, massive qtz, fragments of rhyolite included
					134.60	135.30	0.7	206805	massive py blebs 1-1.5cm wide, py stringers 1-2mm wide
					136.00	137.00	1.0	206806	blebs of py veins arranged in rounding, specs of sph, minning py-qtz bands
					137.45	137.95	0.5	206807	qtz-carb veining, py blebs 1-5mm wide; sphal and
									→ blebs assoc. with qtz-carb veining of green brown color soft to scratch, cryptocrystalline to earthy
					148.05	148.75	0.7	206808	strong qtz radi banding, aligned py vein up to 2mm in size
					150.50	151.40	0.9	206809	massive py blebs and bands, 2mm to 15mm wide, pervasive py veins subparall TCA 1-2mm width
					157.40	157.75	0.35	206810	qtz-carb. veining, fragments of rhyolite, tr gn
					164.40	165.50	1.1	206811	minor qtz-carb veining, minor py banding, diss py 5-

AURUM GEOLOGICAL CONSULTANTS INC. — **DIAMOND DRILL LOG** — HOLE No. KL-17-2 — Page 1 of 4

Property MAMU	NTS	Claim	Elevation	Azimuth 61°	Length 118.57m	Dip -60°
Coordinates	Dip Tests 377/65°	Advance	Depth 107.45 m	Date Collared 01.09	Date Completed 04.09	
Purposes MAG ANOMALY TESTING			Drilled by CARON	Assays by	Logged by JN	

Interval m From	To	Rec'y %	RQD	DESCRIPTION	Sample No.	Interval m From	To	Core Width	
0.00	2.44	—	→	CASING (HW) 5.5m, HQ up to 46.6m; reduced to NQ thereafter.					
2.44	5.18	10	.0	2.44-37.3: FT FELSITE & RHYOLITE origin, altered					
5.18	6.71	30	.0	- predominant siliceous fabric with remnant sericitic foliation					
6.71	8.08	65	.0	- Mn 5-10 percent along foliation and fractures, dendritic pattern					
8.08	8.99	70	.0	- mod to occas. massive specks in fabric & Mn-ox					
8.99	9.75	90	.10	- limonite and py banding thruout unit					
9.75	10.36	80	.10	- in parts strong clay alteration					
10.36	11.73	92	.15						
11.73	12.80	95	.10	STRUCT: - UC: overburden - LC: @ 30° TCA undulatory, fault gouge					
12.80	13.72	95	.20	- Foliation: remnant @ 45-70° TCA variable, Mn-oxide staining					
13.72	14.48	97	.10	on foliation planes					
14.48	14.94	90	.10	- py banding: 1-5mm starts at 33.40m @ 40° TCA and various angles					
14.94	15.70	95	.10	when brecciated					
15.70	16.46	95	.10	- FLOW BRECCIA: 31.0-34.4: with qtz-carb. banding and brecciated					
16.46	17.22	95	.10	py-banding,					
17.22	17.98	95	.15	- qtz-carb. banding, 2-5mm wide pinching and swelling					
17.98	18.90	97	.30	- FAULTS/FZONES (structural weakness indicated by clay alt'n and					
18.90	20.88	98	.40	gouging, shattering					
20.88	21.95	95	.25	→at 5.2-9.0, gouge					
21.95	22.71	70	.0	→at 13.5-17.4, partly strong Mn-oxide + Fe-oxide					
22.71	23.77	85	.40	→at 19.6h-20.88, gouge					
23.77	28.04	95	.20	→at 21.95-22.71; shattered and gouge					
28.04	29.26	95	.35	→at 23.8-28.8; gouge					
29.26	30.78	97	.45	→at 32.50-33.39; gouge					
30.78	32.31	99	.65	→at 34.4-37.3; minor gouge sections					
32.31	33.38	95	.30						
33.38	34.75	99	.55	ALTN: - strong clay alt'n in gouged zones,					
34.75	36.27	95	.35	- sericite on remnant foliation planes					
36.27	37.19	99	.85	- Mn oxide alt'n along fractures and foliation					
37.19	38.71	98	.70						
38.71	40.23	99	.80	MIN: - py banding: 1 each 33.40 in 35.30, 1-5mm wide, < 1%	206812	19.35	20.0	0.65	Siltic. fracture zone top. Minor alt'n
40.23	40.69	99	.75	- occas. fine py < 1%	206813	30.4	31.4	1.0	Mn-ox banding and blebs; some py-banding
40.69	41.91	95	.70	- Mn-oxide: trace to 1% in massive bands and blebs dendritic,	206814	33.4	34.3	0.9	brecciated qtz-carb banding, 2-5cm wide;
41.91	43.28	95	.25						

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Interval From	Interval To	Rec'y %	RQD	DESCRIPTION
43.28	44.81	98	.70	37.3 - 56.0: RT: MASSIVE BRECCIATED QTZ VEINING
44.81	46.63	98	.60	- abundant qtz - carb veining
46.63	47.85	65	.30	- Mineraliz: FLUORITE, Galena, Pyrite, Sphalerite, comes along with qtz - carb. veining, occas. diss. py
47.85	49.38	85	.80	
49.38	50.29	99	.75	
50.29	52.58	99	.85	STRUCT: - UC: undulatory at ± 30° TCA, LC: gradational, approx ± 40° TCA
52.58	53.95	85	.65	
53.95	56.54	98	.90	- massive qtz unit with qtz - carb. veining and fissures at all angles TCA possibly stockwork
56.54	57.00	80	.60	
57.00	58.37	98	.65	- FAULT: fault gouge, clay alt'n
58.37	60.05	99	.90	→ at 43.5 - 43.8
60.05	63.10	99	.95	ALTN: Fe-ox alt'n of py banding or former sulfides
63.10	66.14	99	.85	Mn-ox alt'n / staining on fractures
66.14	69.19	99	.90	sericitic-clay alt'n in fissures < 1 mm wide
69.19	72.23	99	.85	
72.23	75.29	98	.90	MIN: as per Sample
75.29	78.33	99	.80	
78.33	80.77	99	.85	
80.77	83.82	99	.90	
83.82	86.87	99	.95	
86.87	89.92	96	.75	
89.92	90.53	99	.85	56.0 - 59.25: RT: QTZ - FLOW - BRECCIA with dark pyritic groundmass
90.53	93.27	99	.90	
93.27	96.47	99	.97	- clasts subangular, < 1mm - 1.5cm in size, qtz clasts
96.47	98.30	95	.65	- banding / flow banding (faint) ± 40-45° TCA (groundmass)
98.30	98.91	50	.0	
98.91	100.89	97	.80	STRUCT: UC: gradational, ~ ± 40° TCA; LC: planar, ± 70° TCA
100.89	101.80	95	.30	- irregular qtz - carb fillings up to 2cm wide
101.80	102.72	55	.15	- flow banding and clast alignment, ± subparall. to 40° TCA
102.72	103.33	45	.05	ALTN: - Fe-oxide alt'n at fractures
103.33	103.94	90	.50	MIN: - locally mass py banding, 1-2mm wide, diss py tr - 2%
103.94	105.77	95	.80	- trace sph
105.77	106.98	90	.50	
106.98	108.81	85	.35	
108.81	110.79	40	.0	
110.79	111.96	85	.75	
111.96	113.54	98	.70	

Interval From	Interval To	Core Width	Sample No.	
37.4	38.2	0.8	206815	tr. sph and spl blebs < 1%; py banding, Fluorite specs
41.0	41.9	0.9	206816	c.a.a.
43.88	44.53	0.65	206817	trace sph. Fluorite blebs, py blebs < 1%.
45.2	45.7	0.5	206818	Mn-ox stained section
52.6	53.1	0.5	206819	Fe-ox, Mn-ox, pass. [illegible]
54.35	55.25	0.9	206820	tr. gn, tr. sph., py blebs, diss py tr - 5%, fluorite
56.55	57.4	0.85	206821	mass. py banding; tr. sphalerite

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Interval From	Interval To	Rec'y %	RQD	DESCRIPTION
113.54	114.00	80	.50	59.25 - 63.55: RT: SILICEOUS PORPHYRITIC UNIT (TUFF?)
114.00	114.91	75	.00	dark grey color.
114.91	116.13	80	.10	- <1mm size fspr phenos, 3-5%.
116.13	116.74	80	.10	- fissures and veinlets of qtz-carbonate, <1mm to 2mm wide orientation predominant @ 40-60°, some parall. TCA
				- diss py and py stringers
				STRUCT: UC: planar @ 70° TCA, LC: undulatory @ 60-70° TCA
				- qtz-carb fissures and veinlets (see above)
				- py stringers irregular orientation, <1mm to 1mm width
				ALTN: - poss. weak sericitic alt'n of fspr-phenos
				MIN: - 1-2% diss. py
				- tr sph and gn assoc. with qtz-carbon. veining
				63.55 - 100.0: RT: QTZ-FLOW BRECCIA with dark pyritic groundmass:
				- section from 71.0 to 75.29: more pyritic groundmass than clasts, clast size <1 to 5mm
				STRUCT: UC: undulatory @ 60-70° TCA, LC: planar @ 20° TCA
				- clast size 2mm to 2cm
				- subrounded to subrounded clasts, broken and fragmented
				- qtz-carb banding: subparallel to @ 30° TCA, 1-5mm wide
				- locally massive qtz veining (<1% of unit), up to 10cm wide with 20% carbonate
				- FAULT ZONES: minor fault gouging
				→ at 87.9 - 88.0, planar @ 50° TCA, clay alt'n
				→ at 89.75 - 89.9: saa
				→ at 97.7 - 98.5: saa
				ALTN: - clay alt'n of fault zones
				- minor carb dissolution
				- minor Fe-ox and Mn-ox on fractures
				MIN: - trace fluorite, trace sph assoc. with qtz-carbonate banding <1%
				- diss py <1-2%

Interval From	Interval To	Core Width	Sample No.	
61.35	62.25	0.9	206822	1-2% diss py and py stringers, qtz-carb veining
68.50	69.20	0.70	206823	tr sph (<0.1%), disem and py blebs (tr→2
71.50	72.25	0.75	206824	py cubes (tr→1%), tr sph (<1%)
82.25	82.85	0.60	206825	brx, dissem py (tr→1%)
90.80	91.70	0.90	128607	tr fluor, py blebs tr→1%
93.25	93.75	0.50	128608	tr py, qtz-carb veining 5-30mm wide

AURUM GEOLOGICAL CONSULTANTS INC. **DIAMOND DRILL LOG** HOLE No. KL-97-2 Page 4 of 4

Interval From	Interval To	Rec'y %	RQD	DESCRIPTION
				100.9 - 102.37: RT - SILICEOUS PORPHYRITIC UNIT (TUFF?) dk grey
				- Section 101.4 - 103.4 - Massive brecciated qtz-carb veining
				- Similar previous SPU ... up to 1.5 mm, anhedral
				- at 100.9 - 102.37 shattered core
				STRUCT: UC: planar 15-20° α TCA LC: unknown due to shattering
				- faint banding at 90° α TCA, chloritic streaks
				- minor qtz-carb veining < 1mm to 3mm wide in Siliceous unit
				- Massive recrystal. qtz-carb veining from 101.4 - 103.4 m,
				40% qtz fragments and clasts ~1mm to 4cm wide, no
				continuity due to poor recovery
				ALTN: - chl alt'n of lapilli phases - anhedral chlor
				MIN: - disc. py ± tr - 1% in SPU
				- in brecciated/carbonate trace py
				102.37 - 111.56: RT: dk grey aphanitic SILICEOUS UNIT (TUFF?)
				- general description same, except no visible phenos
				STRUCT: LC: unknown LC = EOH
				- increasing shattering with depth, starting at 113.2 m
				- minor qtz-carb fracturing < 1mm to 2mm wide, @ 40-50° TCA
				- FAULT: fault zones and shattering from 113.2 to EOH.
				ALTN: - clay alt'n, weak chloritic - sericitic alt'n giving greenish appearance
				MIN: - trace pyrite
				EOH

Interval From	Interval To	Core Width	Sample No.	
102.37	102.72	0.35	128609	qtz-carb veining (strong), tr. disem py
111.9	112.7	0.8	128610	tr py, 1% - carb. veining

AURUM GEOLOGICAL CONSULTANTS INC. — **DIAMOND DRILL LOG** — HOLE No. KL 97-3 — Page 1 of 4

Property PIANN	NTS	Claim	Elevation	Azimuth	Length	Dip 90°	
Coordinates	Dip Tests 422': 87°	Advance	Depth 131.37m	Date Collared 04.09.	Date Completed 8.9.		
Purposes MAG ANOMALY TESTING			Drilled by CARON	Assays by	Logged by JN		

Interval m From	Interval m To	Rec'y %	RQD	DESCRIPTION	Sample No.	Interval m From	Interval m To	Core Width	
0.00	2.44			CASING HQ upto 200'/60.96m; reduced to NQ thereafter					
2.44	3.66	25	.00	2.44-32.6 RT: FELSITE of RHYOLITE ORIGIN altered					
3.66	4.27	80	.10	- predominantly siliceous fabric w/remnant sericitic foliation					
4.27	5.79	95	.15	- partly w/strong clay alt'n, mud-gouge					
5.79	7.62	85	.15	- localized strong Mn-oxide alt'n, in foliation and fractures, dendritic pattern and areas massive					
7.62	9.14	80	.05						
9.14	9.75	90	.10	- limonitic specs and banding (faint) thruout unit, Fe-ox colors					
9.75	11.13	95	.05	- mostly shattered core parallel to fol'n					
11.13	12.34	80	.60	STRUCT: - UC: overburden; LC: approx 45° TCA, planar, poss joint?					
12.34	12.80	85	.05	- Foliation: 65°-70° TCA, sericite and black Mn-oxide clay alt' on most foliation planes					
12.80	14.02	80	.05						
14.02	15.55	85	.10	- faint banding and stringers of Fe-ox (limonitic) subparall. to fol'n					
15.55	16.92	85	.15	- stringers of py <1mm wide in siliceous sections, random orientation					
16.92	18.29	80	.10	- FAULTS: indicated by shattering, and clay alt'n, gouging					
18.29	18.90	80	.00	→ predominant thruout entire unit, except solid core from: 20.9-22.85, with weak qtz-carb veining subparall. TCA					
18.90	20.27	90	.25						
20.27	20.88	80	.10	→ zone of major clay gouging: from 7.62-9.45; 24.0-25.60; 27.4-32.6					
20.88	21.95	95	.45						
21.95	23.47	95	.40	ALTN: strong clay alt'n in gouged zones					
23.47	24.69	95	.30	- sericite on remnant fol'n planes					
24.69	25.60	80	.00	- weak chlorite alt'n - locally greenish colors					
25.60	27.43	85	.05	- Mn-oxide alt'n and Fe-oxide along fol'n and fracture planes					
27.43	28.04	50	.00	MIN: - py stringers and diss. py tr-1%, tr sph locally	128611	19.3	19.65	0.35	Mn-oxide tr diss py
28.04	29.57	85	.10		128612	20.9	21.6	0.7	py blebs, diss py 1%, tr. sph, Mn-oxide
29.57	31.09	90	.55		128613	29.85	30.35	0.5	clay w 1% diss. py
31.09	32.61	95	.35						
32.61	34.14	90	.40	32.6-44.5 RT: QUARTZ-FLOW BRECCIA with dark grey pyritic groundmass					
34.14	35.66	95	.30	- clast size: <1mm to 2cm wide, subangular					
35.66	37.19	65	.35	- qtz-carbonate veining <1mm to 3mm wide, ± 30° TCA					
37.19	38.71	70	.20	- flow banding of groundmass irregular, possibly cracklos mostly sub mm size					
38.71	40.23	90	.35						
40.23	41.76	90	.25	STRUCT: - UC: approx 45° TCA, planar - poss joint?					
41.76	43.28	85	.40	- LC: gradational into unbrecciated unit					
43.29	44.81	95	.55	- qtz-carb veining: irregular fissures <1mm wide, subparall.					

AURUM GEOLOGICAL CONSULTANTS INC. DIAMOND DRILL LOG HOLE No. KL97-3

Interval m From	Interval m To	Rec'y %	RQD	DESCRIPTION
44.81	46.33	75	.05	to TCA at beginning of unit, up to 3mm wide qtz-carb v.
46.33	47.85	75	.10	at 30° TCA
47.85	49.07	75	.10	- clast size: <1mm to 2cm wide, minor clast alignment subpar.
49.07	49.68	75	.05	to 10° TCA
49.68	51.05	65	.15	- FAULTS: indicated by gouging / clay alt'n
51.05	52.42	97	.90	→ at 33.45-34.15
52.42	53.95	98	.95	→ at 34.85-35.65
53.95	55.47	98	.95	→ at 35.60-39.50
55.47	57.00	97	.85	→ at 40.95-42.70
57.00	58.52	98	.90	ALTN: - clay alt'n at fault zones
58.52	59.44	90	.55	- Mn-ox staining at beginning of unit along cracktes
59.44	60.96	85	.40	- locally Fe-oxide alt'n of py veinlets/blebs
60.96	61.87	96	.80	-
61.87	63.09	40	.00	MIN: - diss. py 1-5%. in groundmass, irregular py blebs (massive)
63.09	64.16	5	.00	1mm to 2cm wide, locally dk groundmass sulfidized?
64.16	64.92	45	.00	- tr. sph and gn assoc. with qtz-carb veining
64.92	65.84	65	.10	- poss. trace cpy in py blebs
65.84	67.82	25	.00	
67.82	69.04	40	.00	44.5-51.15 RT: SILICEOUS UNIT (TUFF?), schistose character
69.04	71.93	90	.80	- fine qtz-carb bands and pyritic dark groundmass.
71.93	72.39	95	.75	- entire unit faulted w/gouge, half core parall. TCA
72.39	74.22	98	.90	STRUCT: - UC gradational; - LC undulated 40° TCA
74.22	75.39	95	.85	- qtz carb bands <1mm to 2mm wide, subparallel (upper end) to 45° (lower end of section) TCA
75.20	76.96	97	.90	
76.96	77.72	60	.10	- FAULT: clay gouging thrust unit, subparall. TCA
77.72	77.88	85	.15	- microfolding / deformation of leucobands, microboudins
77.88	78.64	40	.00	ALT'N: clay alt'n with fault gouge
78.64	80.16	80	.30	- chloritization within "schistose" groundmass
80.16	81.38	35	.25	- locally Mn-ox and Fe-ox alt'n
81.38	83.21	95	.55	MIN: diss. py and py stringers tr to 5% within dark ground mass.
83.21	85.65	95	.65	tr. sph and tr gn in qtz-carb bands
85.65	86.87	65	.20	
86.87	87.48	85	.25	
87.48	88.09	70	.10	
88.09	89.76	95	.75	
89.76	92.20	90	.70	
92.20	92.81	95	.85	

Interval m From	Interval m To	Core Width	Sample No.	
39.5	40.25	0.75	128614	py blebs and dark pyritic groundmass
40.25	41.25	1.0	128615	saa, tr sph and gn
42.75	43.75	1.0	128616	py blebs and diss py in groundmass, tr sph
43.75	44.65	0.9	128617	s.a.a.

Interval From	Interval To	Rec'y %	RQD	DESCRIPTION	Interval From	Interval To	Core Width	Sample No.	
				51.15 - 54.1: RT: Brecciated SILICEOUS UNIT					
				- Subunit of previous, mix of qtz-carb banding 1-2cm, and qtz-carb healed breccia (fragments of siliceous unit)					
				STRUCT: UC: undulating 40° TCA; LC: end of qtz-carb veining					
				- qtz-carb veining: varying between subparall to 40-55° TCA					
				60% - 70% qtz in qtz-carb veins					
				ALTN: minor Fe-ox on fractures, minor Fm-ox					
				MIN: < 1% py diss in siliceous fragments	51.15	52.55	1.4	126818	qtz carb-veining, specs sph+gn, py in silic pr
				- tr sph, tr gn assoc with qtz-carb veins/bands, ? fluorite					
				54.1 - 57.45: RT: SILICEOUS UNIT (TUFF?) grey to dk grey					
				- 54.1 - 56: grey/greenish colored qtz-carb. banded unit, qtz carb banding < 1mm wide, py veinlets, tr gn					
				- 56 - 57.45: dk grey siliceous unit with py stringers/blebs and py diss in groundmass					
				STRUCT:					
				- UC: gradational from unit above, MC: gradational - LC: 45° TCA indicated by qtz-carb vein, 2cm wide					
				- upper section: qtz-carb-banded (< 1 to 1 mm wide) texture, banding subparall to 10° TCA, occas. isolated py veinlets, 40-50° TCA					
				- lower sections incomplete py stringers and qtz-carb blebs, fine grained texture no visible phenocrysts					
				ALTN: none					
				MIN: - diss py < 1% to 1%, tr gn, tr sph, tr cpy at LC	54.65	55.0	0.35	126819	qtz-carb banded texture, py veinlets
					57.0	57.3	0.3	126820	fine grained texture diss py < 1%, tr gn tr sph
				57.45 - 64.90 RT: Qtz-FLOW BRECCIA,					
				- flow texture indicated by d.k grey groundmass occasionally					
				- clast size: 1 mm to 2cm, predominantly 1-3 mm clasts					
				- occas. disrupted massive py banding					
				STRUCT: UC: 45° TCA, LC: unknown due to shattering					
				- irregular qtz-carb veining < 1 to 5 mm wide					
				- flow banding usually subparall TCA not in other unit					
				- shattered cont: 61.9 to LC, poss faulting?					
				ALTN: - minor Mn-Ox and Fe-ox staining on fractures	57.8	58.5	0.8	126821	tr sph tr gn, qtz-carb veining
				MIN: diss py tr - 1%, tr sph and tr gn assoc. w qtz carb veining occas. massive py stringers /	61.1	61.8	0.7	126822	mass. py stringers

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Interval From	Interval To	Rec'y %	RQD	DESCRIPTION
				64.9 - 75.29: MASSIVE Qtz VEIN, brecciated
				- Min along with qtz-carb: Fluor., py, tr cpy < 0.1%
				- local sections of silic. pyritic groundmass, brecciated
				STRUCT: - UC: unknown/shattering, - LC: unknown/shattered
				- qtz-carb: 90% qtz content with carb. blebs, 1-7 mm-irregular shape
				ALTN: Fe-ox discoloring of carbon.
				MIN: - specs of Fluorite (violet color), py blebs, EPY < 1mm wide
				specs at end of section
				75.29 - RT: MIXED UNIT
				- 75.29 - 76.8: Siliceous Unit, drk grey fine grained texture with py stringers, poss. Tuff
				- 76.8 - 77.85: Qtz-FLOW BRECCIA
				- 77.85 - 78.65: Siliceous unit (as before)
				- 78.65 - 83.0: Qtz-FLOW BRECCIA
			*	- 83.0 - 84.65: Siliceous Unit (as before), ferromagnetic
				- 84.65 - 88.1: Qtz-FLOW-BRECCIA
			*	- 88.1 - 96.6: Siliceous unit, with minor qtz-carb-veining/blebs, tr gn, tr cpy in mm sized specs associated with qtz-vein, ferromagnetic
				- 96.6 - 98.26: same Siliceous unit, from 97.6 - 98.2 massive white qtz-vein sub-parallel TCA
				[98.26 - 99.96: Massive brecciated qtz-veining, some carbonate within qtz-veining
				99.96 - 100.25: Siliceous Unit, minor py fissures and minor qtz-carb banding < 1mm sized
				100.25 - 107.9: Siliceous Unit, schistose character and drk grey pyritic groundmass banding
			*	107.9 - 115.3: Siliceous unit with minor qtz-carb-veining/blebs; ferromagnetism - poss pyrrh specs
				115.3 - 122.95: Qtz-FLOW BRECCIA LC: 30° TCA planar

Interval From	Interval To	Core Width	Sample No.	
74.45	75.3	0.85	126823	tr fluor, tr py, tr cpy

APPENDIX B
ASSAY RESULTS

Acme Analytical Laboratories Ltd.

1997 ORO BRAVO MAMU DRILL RESULTS.

Note: Au and Bi not included as all results are below detection limits.

SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppb	ppm
ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*	Ba*
128951	2	25	59	6246	0.3	49	10	33641	7.07	2	8	11	18	271.3	3	1	0.31	0.017	53	7	0.32	206	0.01	3	2.75	0.01	0.09	2	1	
128952	5	9	4	505	0.3	3	1	3021	3.25	19	8	11	49	2	3	1	2.14	0.024	130	3	0.56	66	0.01	3	0.33	0.01	0.25	2	1	
128953	1	48	5	309	0.3	42	26	1044	5.14	2	8	30	152	0.7	3	193	3.57	0.299	44	214	3.51	1927	0.34	3	2.67	0.07	1.15	2	1	
128954	2	42	7	882	0.3	47	27	1899	5.66	2	8	27	124	2.7	3	191	2.86	0.297	54	225	3.7	1970	0.32	3	2.84	0.05	1.1	2	1	
128955	4	2	13	35	0.3	1	1	29	3.21	10	8	10	5	0.2	3	1	0.05	0.015	22	4	0.03	21	0.01	3	0.25	0.01	0.24	2	1	
128956	6	1	6	17	0.3	1	1	23	2.32	9	8	4	6	0.2	3	1	0.08	0.034	11	2	0.04	27	0.01	3	0.24	0.01	0.22	2	1	
128957	8	4	167	1287	0.4	1	1	238	6.85	21	8	4	10	9	3	1	0.22	0.023	9	3	0.05	8	0.01	3	0.25	0.01	0.2	2	1	
128958	7	3	525	613	0.6	1	1	9	7.71	20	8	4	2	3.9	3	1	0.04	0.011	7	2	0.02	7	0.01	3	0.19	0.01	0.18	2	1	
128959	10	75	231	1164	0.9	1	1	1533	7.67	68	8	11	41	4.5	4	2	1.34	0.008	23	4	0.66	46	0.01	3	1.39	0.02	0.21	2	1	
128960	12	31	164	328	0.4	1	1	2828	6.86	26	8	12	76	0.8	3	1	2.25	0.011	16	2	1.04	54	0.02	3	1	0.02	0.22	2	4	
128961	6	7	5	252	0.3	1	1	2220	7.08	4	8	16	50	0.2	3	2	1.68	0.015	68	2	1.47	83	0.07	3	1.93	0.03	0.38	2	1	
128962	7	17	11	364	0.3	1	1	3475	6.4	7	8	24	96	0.8	6	1	2.93	0.023	146	3	1.29	49	0.08	3	1	0.04	0.44	2	1	
128963	9	28	9	241	0.3	1	1	1751	7.35	2	8	25	50	0.2	3	2	1.99	0.028	148	3	1.07	37	0.09	3	1.29	0.03	0.61	2	1	
128964	6	12	3	276	0.3	1	1	2265	5.58	2	8	19	112	0.3	3	2	3.1	0.033	113	5	0.92	83	0.09	3	1.22	0.05	0.49	2	4	
128965	8	10	3	287	0.3	1	1	1820	6.7	2	8	26	81	0.2	3	2	2.15	0.048	181	3	1.02	102	0.11	3	1.72	0.03	0.69	2	3	
	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*	Ba*
128618	15	18	691	1261	1.3	1	1	1298	1.92	4	8	33	68	7.9	3	1	1.25	0.029	171	6	0.17	187	0.01	3	0.3	0.07	0.25	3	1	1759
128619	13	15	527	2489	0.4	1	1	3858	4.94	2	8	9	74	17.4	3	1	1.1	0.02	40	4	0.33	129	0.01	3	0.37	0.03	0.33	3	1	2282
128620	10	29	3784	5929	2.8	1	1	2613	5.91	6	8	9	64	37.3	3	1	1.18	0.016	25	9	1.04	132	0.16	3	1.78	0.01	1.71	2	1	4254
128621	16	12	642	778	1	1	1	2632	2.59	2	8	20	87	5.4	3	1	1.65	0.016	68	2	0.44	284	0.02	3	0.57	0.04	0.37	2	1	2544
128622	11	60	131	4894	0.6	1	9	2016	7.84	22	8	14	44	27.5	3	1	1.09	0.015	86	11	0.68	13	0.06	3	0.86	0.05	0.69	2	1	1393
128623	20	20	12	113	0.5	2	1	660	1.32	2	8	67	21	0.4	3	1	0.51	0.027	163	7	0.1	117	0.01	3	0.27	0.09	0.12	5	1	756
128624	14	2	778	60	10.3	8	2	86	16.42	87	8	2	2	0.7	9	1	0.07	0.001	1	7	0.01	2	0.01	3	0.03	0.01	0.04	4	2	32
128607	7	4	11	85	0.3	2	1	1067	1.97	6	8	45	30	0.2	3	1	0.95	0.018	44	4	0.43	57	0.05	4	0.64	0.08	0.45	2	1	1581
128608	31	3	12	90	0.3	2	3	1114	1.95	2	9	48	50	0.2	3	1	1.28	0.03	31	2	0.61	144	0.05	4	0.74	0.04	0.54	2	1	3889
128609	9	2	24	81	0.3	1	1	1113	1.32	2	8	37	39	0.4	3	1	1.06	0.021	35	4	0.24	153	0.01	3	0.26	0.08	0.14	2	1	1550
128610	6	3	30	283	0.3	1	2	1661	4.12	2	8	15	43	1.2	3	1	1.27	0.031	73	2	0.78	304	0.07	3	1.39	0.03	0.55	2	1	1925
128611	10	56	220	2432	0.04	3	3	5593	5.53	5	8	40	10	20.2	3	3	0.17	0.078	514	4	0.04	362	0.01	3	0.63	0.04	0.13	2	1	2760
128612	12	24	693	1343	0.16	1	2	2864	5.79	4	8	26	22	11.6	3	1	1.43	0.033	263	4	0.16	161	0.01	3	0.37	0.04	0.17	2	1	1839
128613	16	52	670	2507	0.18	1	2	1628	5.62	11	8	27	14	13.7	3	1	0.19	0.023	106	2	0.18	44	0.01	3	1.05	0.02	0.17	2	3	1950
128614	9	54	1132	3259	1.8	1	3	1857	5.65	8	8	29	78	18.2	3	1	1.46	0.02	80	5	0.3	17	0.01	3	0.4	0.05	0.15	2	4	1191
128615	12	63	701	4703	1.1	1	1	2679	6.94	6	8	21	66	25.3	3	1	1.18	0.017	25	6	0.37	16	0.01	3	0.39	0.05	0.18	2	1	1434
128616	10	58	423	2020	1	1	1	2548	7.05	4	8	20	61	12.2	3	1	1.04	0.014	10	3	0.38	12	0.01	3	0.34	0.03	0.22	3	1	1930
128617	15	37	366	723	0.9	1	1	1859	4.89	5	8	15	66	4.7	3	1	1.22	0.012	36	2	0.32	16	0.01	3	0.48	0.04	0.26	2	2	2285
128966	9	5	32	244	0.3	1	1	3463	6.4	4	8	25	81	0.6	3	1	2.88	0.018	166	2	1.19	58	0.06	3	1.24	0.05	0.21	2	1	445
128967	11	18	13	471	0.3	1	1	3014	7.52	2	8	19	101	1.4	3	2	3.54	0.032	147	3	1.62	57	0.1	3	1.89	0.05	0.86	2	1	1059
128968	8	67	23	253	0.3	1	1	1570	7.08	7	8	18	36	0.5	3	2	1.44	0.041	142	2	1.45	26	0.14	3	1.48	0.1	1.26	2	1	1346
128969	9	17	272	4605	0.3	1	1	2986	5.76	13	8	14	66	24.3	3	1	2.8	0.043	115	7	1.15	22	0.04	3	0.51	0.08	0.4	2	2	1236
128970	4	25	9	256	0.3	2	2	2479	6.32	52	8	8	100	1.3	3	1	2.31	0.016	14	4	0.59	43	0.01	3	0.24	0.06	0.12	2	1	676
128971	26	39	7	178	0.3	1	1	1470	6.48	5	8	14	82	0.3	3	1	1.95	0.045	105	3	0.87	30	0.09	3	1.08	0.05	0.82	2	1	1640
128972	27	9	128	2404	0.4	4	2	1278	2.89	16	8	19	34	15.5	3	1	0.84	0.044	34	5	0.2	20	0.01	3	0.46	0.01	0.39	3	1	5061
128973	22	3	1102	3930	2.3	4	2	405	1.49	10	8	30	11	24.9	3	1	0.23	0.009	57	6	0.07	63	0.01	3	0.28	0.01	0.25	2	1	3267
128974	18	14	591	2602	1.4	8	1	1898	2.42	8	8	12	44	16.9	3	2	1.21	0.011	36	8	0.32	112	0.01	3	0.35	0.01	0.25	3	1	1914
128975	16	43	15	7707	0.3	3	2	1470	9.35	45	8	15	65	44.7	3	1	1.58	0.028	121	11	0.75	13	0.01	3	1.05	0.03	0.32	2	1	1266
206801	6	6	13	1758	0.3	2	1	6780	4.11	6	8	3	199	11	3	1	3.74	0.063	17	13	0.91	125	0.01	3	0.36	0.01	0.22	3	1	1547
206802	20	5	42	919	0.3	3	2	624	1.6	12	8	13	15	5.4	3	1	0.26	0.009	49	10	0.12	98	0.01	3	0.28	0.01	0.27	4	1	1729

1997 ORO BRAVO MAMU DRILL RESULTS.

Note: Au and Bi not included as all results are below detection limits.

SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppb	ppm
ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*	Ba*
206803	8	4	11	302	0.3	1	1	2076	5.96	7	8	3	81	0.7	3	1	1.08	0.03	10	5	0.79	22	0.12	3	1.48	0.01	1.03	2	1	3101
206804	2	5	5	34	0.3	3	1	79	1.1	3	8	2	6	0.2	3	1	0.07	0.014	9	13	0.03	61	0.01	3	0.14	0.01	0.15	7	1	568
206805	11	9	39	176	0.3	1	1	1726	7.04	19	8	5	44	0.2	3	1	0.65	0.015	18	3	0.79	17	0.07	3	1.1	0.01	0.85	2	1	3577
206806	10	67	27	5242	0.3	1	1	1896	5.48	9	8	5	61	51	3	1	0.97	0.013	13	6	0.88	27	0.06	3	1.45	0.01	0.72	2	1	3647
206807	10	30	12	257	0.4	1	1	2545	5.71	10	8	5	63	1.3	4	1	0.93	0.02	14	2	1.14	41	0.14	3	1.66	0.01	1.22	2	1	4409
206808	6	13	68	85	0.3	1	1	937	3.42	12	8	9	116	0.2	3	1	1.24	0.023	32	3	0.39	25	0.05	3	0.73	0.05	0.43	2	1	1173
206809	8	82	63	219	0.9	2	3	2037	9.26	40	8	2	121	0.2	3	1	1.22	0.02	5	3	1.57	13	0.08	3	1.75	0.01	1.2	2	1	6062
206810	4	5	252	74	0.5	3	1	916	2.27	11	8	3	61	0.2	3	1	0.75	0.013	11	9	0.2	42	0.01	3	0.22	0.02	0.15	6	1	1292
206811	9	4	13	113	0.3	1	1	1803	4.28	4	8	11	89	0.9	3	1	1.56	0.028	49	1	0.69	54	0.15	3	1.11	0.05	0.94	2	1	2419
206812	11	35	14	602	1	1	1	2010	4.7	2	8	21	14	4.4	3	1	1.21	0.032	145	2	0.1	230	0.01	3	0.64	0.03	0.13	2	2	3119
206813	12	41	893	3895	1	1	3	6131	6.6	14	8	5	69	21.4	3	1	1.72	0.035	46	4	0.4	71	0.01	3	0.31	0.04	0.15	2	1	1804
206814	6	82	61	1156	0.5	1	12	1569	5.1	15	8	12	38	8	3	1	1.23	0.04	125	2	0.11	49	0.01	3	0.39	0.04	0.19	2	1	1053
206815	11	43	962	2322	1.3	1	5	1945	3.95	4	8	27	67	20.2	3	1	1.74	0.035	127	2	0.22	71	0.01	3	0.5	0.05	0.2	4	1	1435
206816	11	45	93	4480	0.5	3	7	1979	4.43	15	8	27	67	24.1	3	1	1.47	0.024	86	4	0.2	45	0.01	3	0.24	0.05	0.12	2	1	985
206817	13	40	144	2125	0.3	1	5	508	1.8	16	8	42	26	14.6	3	1	0.68	0.026	257	2	0.07	105	0.01	3	0.26	0.09	0.12	5	1	772
206818	5	4	14	226	0.3	2	1	776	0.28	2	8	67	9	1.6	3	1	0.09	0.031	112	2	0.01	81	0.01	3	0.21	0.09	0.06	2	1	501
206819	11	2	18	475	0.3	2	1	2757	2.86	2	8	50	20	2.3	3	1	0.32	0.026	103	3	0.04	126	0.01	3	0.21	0.09	0.09	2	1	749
206820	45	43	26	83	0.3	3	6	1020	2.25	8	8	42	71	0.3	3	1	1.18	0.027	162	3	0.19	107	0.01	3	0.2	0.08	0.13	2	1	943
206821	15	63	62	2124	0.3	1	8	1097	3.75	4	8	28	41	14.5	3	1	0.96	0.025	74	1	0.71	71	0.09	3	0.91	0.05	0.79	2	1	1905
206822	6	13	8	136	0.3	1	1	2166	3.8	2	8	10	44	0.8	3	1	1.28	0.025	27	1	0.58	82	0.1	3	0.88	0.04	0.75	2	1	2803
206823	28	2	103	685	0.9	6	2	1686	1.99	4	8	73	73	5.7	3	1	1.4	0.031	210	2	0.63	332	0.07	3	0.59	0.11	0.48	2	1	875
206824	27	46	12	312	1.4	3	5	1694	7.09	19	8	242	36	1.6	3	1	0.9	0.055	900	3	1.43	122	0.14	3	2.41	0.02	2.24	2	1	3108
206825	10	3	4	76	0.3	2	1	760	1.48	3	8	32	57	0.2	3	1	1.23	0.022	69	3	0.28	346	0.07	3	0.54	0.12	0.38	2	1	1225

1997 Oro Bravo Mamu Property Drill Results. Correlation Caluclation. Note. Total Barium not used.																												
	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*
Mo	1.000																												
Cu	0.033	1.000																											
Pb	0.060	0.082	1.000																										
Zn	0.038	0.368	0.445	1.000																									
Ag	0.115	-0.051	0.419	0.056	1.000																								
Ni	-0.216	0.075	-0.087	0.147	0.018	1.000																							
Co	-0.135	0.358	-0.097	0.099	-0.050	0.799	1.000																						
Mn	-0.182	0.048	-0.007	0.384	-0.087	0.547	0.152	1.000																					
Fe	-0.168	0.344	0.106	0.188	0.494	0.087	0.058	0.155	1.000																				
As	0.010	0.195	0.030	0.074	0.572	-0.076	-0.067	-0.118	0.602	1.000																			
U	0.313	-0.121	-0.056	-0.090	-0.039	-0.023	0.003	-0.038	-0.140	-0.076	1.000																		
Th	0.406	0.057	-0.098	-0.124	-0.013	0.013	0.101	-0.073	-0.157	-0.125	0.095	1.000																	
Sr	-0.120	0.129	-0.053	-0.040	-0.167	0.191	0.276	0.033	0.112	-0.095	-0.020	-0.127	1.000																
Cd	-0.110	0.126	0.114	0.614	-0.013	0.542	0.178	0.918	0.133	-0.050	-0.043	-0.084	-0.129	1.000															
Sb	-0.004	-0.091	0.074	-0.128	0.796	0.023	-0.057	-0.049	0.529	0.586	-0.024	-0.095	-0.103	-0.065	1.000														
V	-0.230	0.147	-0.083	-0.081	-0.057	0.769	0.871	-0.038	0.032	-0.109	-0.022	0.026	0.381	-0.055	-0.035	1.000													
Ca	-0.161	0.078	-0.116	-0.062	-0.198	0.169	0.262	0.031	0.174	-0.124	-0.005	-0.079	0.824	-0.154	-0.060	0.373	1.000												
P	-0.190	0.169	-0.131	-0.085	-0.133	0.723	0.854	-0.019	0.006	-0.186	-0.009	0.119	0.417	-0.072	-0.100	0.963	0.426	1.000											
La	0.299	0.183	-0.089	-0.038	-0.059	-0.058	0.053	0.013	0.017	-0.102	-0.060	0.833	-0.135	-0.039	-0.078	-0.058	0.007	0.101	1.000										
Cr	-0.232	0.139	-0.066	-0.044	-0.042	0.778	0.870	-0.027	0.032	-0.096	-0.029	0.013	0.364	-0.035	-0.029	0.996	0.366	0.957	-0.072	1.000									
Mg	-0.222	0.223	-0.120	-0.097	-0.138	0.537	0.620	0.005	0.289	-0.079	-0.004	0.083	0.614	-0.094	-0.032	0.762	0.669	0.759	0.057	0.753	1.000								
Ba	-0.181	0.090	-0.072	-0.095	-0.080	0.778	0.847	0.022	-0.066	-0.194	0.001	0.094	0.355	-0.017	-0.073	0.967	0.351	0.952	0.030	0.961	0.709	1.000							
Tl	-0.195	0.123	-0.031	-0.178	-0.089	0.512	0.615	-0.075	0.160	-0.205	-0.002	0.136	0.460	-0.133	-0.031	0.747	0.453	0.750	0.080	0.731	0.886	0.717	1.000						
B	0.171	-0.169	-0.080	-0.129	-0.055	-0.033	-0.033	-0.055	-0.199	-0.086	0.702	0.127	-0.075	-0.062	-0.035	-0.031	-0.039	-0.034	-0.077	-0.036	-0.029	-0.022	-0.003	1.000					
Al	-0.200	0.259	-0.062	0.046	-0.147	0.560	0.472	0.356	0.360	-0.100	-0.018	0.172	0.350	0.295	-0.080	0.492	0.378	0.499	0.188	0.479	0.798	0.481	0.771	-0.038	1.000				
Na	0.126	0.027	-0.179	-0.157	-0.183	-0.002	0.126	-0.142	-0.346	-0.265	-0.002	0.294	0.104	-0.171	-0.149	0.120	0.184	0.168	0.184	0.099	0.054	0.200	0.116	0.120	-0.133	1.000			
K	0.032	0.208	0.120	-0.071	-0.037	0.131	0.235	-0.096	0.221	-0.094	0.025	0.361	0.293	-0.113	-0.086	0.280	0.218	0.321	0.310	0.270	0.641	0.252	0.771	0.017	0.708	-0.089	1.000		
W	-0.013	-0.164	0.017	-0.099	0.181	-0.039	-0.083	-0.123	-0.242	0.048	-0.049	-0.056	-0.180	-0.065	0.139	-0.071	-0.255	-0.109	-0.062	-0.033	-0.275	-0.081	-0.253	-0.070	-0.343	-0.064	-0.266	1.000	
Au*	-0.047	0.059	0.093	-0.011	0.145	-0.089	-0.101	-0.028	0.209	0.062	-0.043	-0.045	0.100	-0.053	0.082	-0.059	0.185	-0.063	-0.017	-0.065	0.001	-0.088	-0.062	-0.061	0.024	-0.049	-0.127	-0.099	1