GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

BIG BULK COPPER-GOLD PORPHYRY PROSPECT

KINSKUCH LAKE, BRITISH COLUMBIA

Skeena Mining Division
NTS 103P/11
Latitude: 55° 39' 48"N
Longitude: 129° 29' 43"W

Prepared For

ABER RESOURCES LTD.
Vancouver, B.C.

and

OLIVER GOLD CORPORATION
Vancouver, B.C.

and

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TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

1.0 SUMMARY

The Kits-Jade Project focuses on Lower Jurassic Hazelton Group rocks in the Kitsault River area, 40 kilometres (25 miles) southeast of Stewart in northwestern British Columbia. The area is within 30 kilometres (20 miles) of deep water port facilities at Kitsault to the southwest on Alice Arm. An unmaintained mine road extends north from Alice Arm up the Kitsault River, approximately 8 kilometres (5 miles) to the west of the property. The project area includes the Big Bulk copper-gold prospect, on the southeast end of Kinskuch Lake.

Detailed prospecting, geological mapping and sampling conducted in the area of the Big Bulk copper-gold prospect has identified extensive zones of disseminated copper and associated gold mineralization hosted in alkalic andesite porphyry rocks of the Hazelton Group. Favourable pyrite, chlorite, carbonate, epidote, sericite and albite alteration underly a gossanous area measuring 2.0 kilometres by 3.5 kilometres (6,500 feet by 11,000 feet).

The 1991 work program was intended to further define the areas of copper mineralization, outline zones of gold enrichment and identify structural and lithological controls to mineralization. Two weeks were spent detail mapping and sampling the entire area around the south end of Kinskuch Lake, which now includes the recently acquired Skuch 14 claim.

The most significant results of the 1991 work done on the Big Bulk area come from channel samples taken from the Bonnie Zone, a rocky peninsula at the southeast corner of Kinskuch Lake. Fourteen discontinuous channel samples totalling 27.9 metres (91.5 feet) in length averaged 1.25% copper and 1.0 grams/tonne (0.029 oz/ton) gold. The mineralization extends beyond the limit of the sampling, indicating the potential for high grade gold-rich copper zones on the property. In addition, the Twyla, Tracey and Marla copper zones were significantly enlarged in size, and the new Metallica zone was found. These zones lie in a one kilometre (0.6 mile) radius around a large glacial moraine.

Geological mapping suggests a structural control of mineralization that ranges from the outcrop scale to the possible control of whole zones. Favourable trends strike between 080° and 120°. Petrographic studies of samples taken from the Big Bulk area suggest the Bonnie

Zone to be within the shell of a high level intrusive stock located at the south end of Kinskuch Lake. The thin section work also suggest the Marla, Tracey and Twyla zones to be hosted in andesitic to rhyodacitic(?) flows.

A polished thin section of mineralization from the Bonnie Zone identifies pyrite and chalcopyrite as the only sulphides present. The chalcopyrite occurs as fine grained veinlets in the pyrite and as disseminations.

The Big Bulk system displays obvious zones of propylitic, phyllic and to a lesser degree potassic alteration typical of alkalic volcanic hosted copper-gold porphyry systems. This, plus the large dimensions of the system suggest strongly the potential for the presence of a significant ore grade reserve on the property. The circle of copper-rich (Twyla-Tracey-Metallica-Marla) zones around the moraine east of the lake, and its relative untested status, make this the best target on the property. The Twyla, Metallica, Marla Zones also are potential targets.

A two phase program for 1991 is recommended. An initial phase of ground mapping, sampling and specifically magnetometer and induced polarization geophysical surveys of the entire area southeast of Kinskuch Lake would be required to outline drill targets. The second phase would include five 200 metre NQ diamond drill holes in the best areas. The proposed budget for this work would be $400,000.00.

2.0 INTRODUCTION

The 1991 Kits-Jade Project mineral exploration program commenced August 26, 1991 and ran continuously for 16 days in the field until September 10, 1991. The 1991 work was done exclusively on the Big Bulk copper-gold porphyry prospect situated at the south end of Kinskuch Lake. The Kits-Jade program is funded by the joint venture group of Oliver Gold Corporation of Vancouver, B.C. (50% and operator), Aber Resources Ltd. of Vancouver, B.C. (25%) and Tanqueray Resources Ltd. of Calgary, Alberta (25%). Geological consulting services for the project were contracted to Keewatin Engineering Inc. of Vancouver, B.C. A petrographic study of six rock specimens was sub-contracted to Dr. Craig Leitch of the G.S.C.

The Big Bulk area is located 50 kilometres southeast of Stewart within the Skeena Mining Division. It is part of the Kits-Jade property that is comprised of 58 mineral claims totalling 869 claim units (21,725 hectares/53,682 acres). The property includes the two claim (22 units) Big Bulk option vended by Mr. K.W. Livingstone of Vancouver, B.C. The remaining 56 claims (847 units) were staked for and are wholly owned by the joint-venture group. Only the Gossan 3 claim (18 units) is not contiguous with the main claim block.

The Kits-Jade property covers approximately 25 kilometres of favourable geology that includes sediments and basaltic volcanics of the Upper Triassic Stuhini Group unconformably overlain by intermediate to felsic volcanics, volcanoclastics and sediments of the Lower Jurassic Hazelton Group (Greig, 1991b). Mineral occurrences identified to date on the property include: the Big Bulk Cu-Au porphyry system on Kinskuch Lake; the Midnight Blue Cu-Au porphyry(?) system at the Dak River headwaters and the narrow high grade Au-Cu quartz veins at the headwaters of Lahte Creek.

The 1991 work program explored the Big Bulk Cu-Au porphyry area only. The $50,000 budget was allocated for detailed mapping, prospecting and trenching to further delineate the zones of copper mineralization and assess the important Skuch 14 claim recently acquired by staking.

The 1991 work program was a continuation of an exploration effort began on the Big Bulk prospect in 1990. The Kits-Jade Project has been ongoing since 1989 when the joint-venture group optioned the Sault property and staked the 42 Kit and Jade claims. To date, expenditures for the Kits-Jade Project total almost $800,000.00.

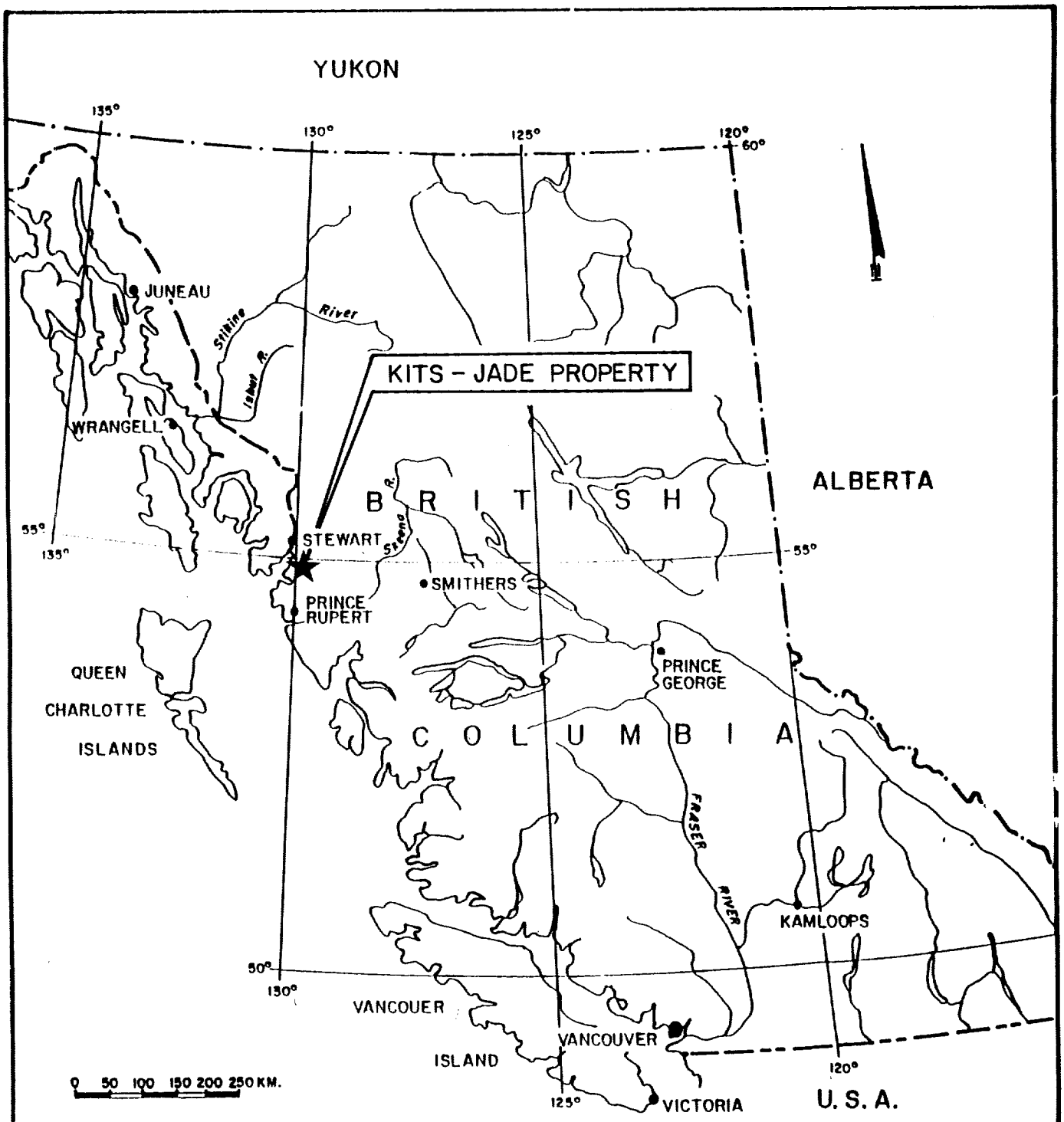
2.1 Location and Access

The Kits-Jade joint venture project is located approximately 40 kilometres (25 miles) southeast of Stewart, B.C. (Figure 1) and extends 20 kilometres (12.5 miles) from Kitsault Lake to the southeast of Kinskuch Lake (Figure 2). Tidewater is only 30 kilometres (19 miles) to the south along the Kitsault River valley at Alice Arm where the abandoned town of Kitsault is located. The claims are located on NTS maps 103P/11, 12E, 13E and 14W between latitudes 55°35'N and 55°50'N, and longitudes 129°13'W to 129°32'W.

The Big Bulk area is located at the south end of Kinskuch Lake, 50 kilometres (30 miles) southeast of Stewart, B.C. entirely on NTS map sheet 104P/11W at latitude 55° 39' 40" North and longitude 129° 29' 43" West.

Access into the area is limited to float plane or helicopter. Fixed wing aircraft flights generally originate in Smithers 180 kilometres (110 miles) to the southeast. Stewart, Alice Arm or Meziadin Lake, 35 kilometres (22 miles) northeast, provide good intermediate staging areas that are accessible by road. Aside from Kinskuch Lake, Kitsault and Jade Lakes can also accommodate a float plane. Access in the Big Bulk area can be managed on foot, although an inflatable boat with outboard motor is greatly recommended. Access to all other areas on the property generally requires a helicopter. Helicopter bases are located in Stewart, Smithers and at a logging camp on Highway 37 just south of Meziadin Lake.

The Kitsault River valley road which serviced the Dolly Varden Mine extends from Alice Arm to within 5 kilometres (3 miles) of Kitsault Lake. This road requires extensive repairs. Recent logging activity in the Kinskuch River valley created road access to within 10 kilometres (6 miles) of the north end of Kinskuch Lake. An old tractor road extends from



PROPERTY LOCATION MAP

Figure 1

KEEWATIN ENGINEERING INC.


Property Boundary
Kitsault L
Dam
2500
Penstock
HOMESTAKE
KIT'S Zn-Ag
TROUT Zn-Ag
ACE/GALENA Ag-Pb
Cr
4000
TREE FARM LICENCE 1
Jade L
2000
3202±
Niska Ck
Kinskuch Lake
RED POINT Au
Kitsault
TORBIT Ag-Pb
DOLLY VARDEN Ag-Pb
4500
Icefield
6108±
BIG BULK Cu-Au
Lavender Peak
Icefield
2000
Mount Klayduc
MIDNIGHT BLUE Cu-Au
Gravel Hog Ridge
Creek
Mount McGuire
Klayduc Creek
AJAX Mo
Ice field
Tsimstol Mountain
1500
Peak
Mtn
3500
ILLIANCE Ag
Mount Theophilus
Shishilab
OLIVER GOLD CORP.
KITS / JADE PROJECT
TOPOGRAPHY
0 1 2 3 4 5 km.
DATE: NOV. 1991
NTS: 103 P/11,14
PROJECT:
PROJ. GEOL.: D.W.T.
SCALE: 1:100,000
Keewatin Engineering Inc.
MAP No. 2
N

Alice Arm to Mount McGuire, 6 kilometres (4 miles) south of Kinskuch Lake on the Dak River. The most probable land route to Kinskuch Lake would be gained by the construction of a road up Star Creek east from the Kitsault River road to the west shore of Kinskuch Lake. This route would require approximately 10 kilometres (6 miles) of road building for an elevation gain of 900 metres (3,000 feet).

Timber in the area is plentiful at lower elevations, but vegetation at Kinskuch Lake is scarce and stunted.

2.2 Physiography and Climate

The Kits-Jade property area is characteristic of the rugged coastal topography and climate common to British Columbia (Figure 2). Elevations on the property range from 450 metres (1,500 feet) to 2,000 metres (6,500 feet). The terrain varies from moderately sloped and glaciated to steep and precipitous. It is commonly deeply incised by large glacier fed creeks and rivers. Glaciers cover roughly 5% of the property flanking the taller peaks throughout the area. The glaciers have receded significantly since the turn of the century.

Vegetation within the property package varies greatly with elevation. The larger drainages and lower elevations are heavily wooded by spruce, fir and hemlock and not uncommonly snarled by alders, willows, blueberry bushes, huckleberry bushes, and devil's club. Treeline ranges between 1,050 to 1,400 metres (3,500 and 4,500 feet) above which only sparse balsam fir can be found. Large areas of glacially scoured bare rock can be found adjacent to the numerous ice fields.

The climate is coastal with abundant rainfall occurring between June and October. Snow accumulations throughout the winter months can exceed 6 metres (20 feet). Access into the area is often hampered by low cloud and foul weather.

The Big Bulk area is topographically confined by Kinskuch Lake at an elevation of 1,117 metres (3,666 feet), Lavendar Peak rising to 2,300 metres (7,600 feet) to the east and a 1,600 metre (5,300 feet) glacier covered peak to the south. A low saddle rising only 60 metres (200

feet) above Kinskuch Lake lies to the west in the direction of Star Creek and the Kitsault River valley. A sounding profile done in 1991 of the south end of Kinskuch Lake shows it to reach a depth of 88 metres (289 feet). Very little vegetation other than heather and juniper bushes are found in the Kinskuch Lake basin. A small stand of balsam fir is located along the lake shore on the Big Bulk claim. The Kinskuch Lake area has a slightly dryer climate than the surrounding valley areas and is expected to accumulate less snow than average. However, snowfalls begin in late September, reducing the summer period in which exploration can be carried out effectively, to between June and September.

2.3 Property Status and Ownership

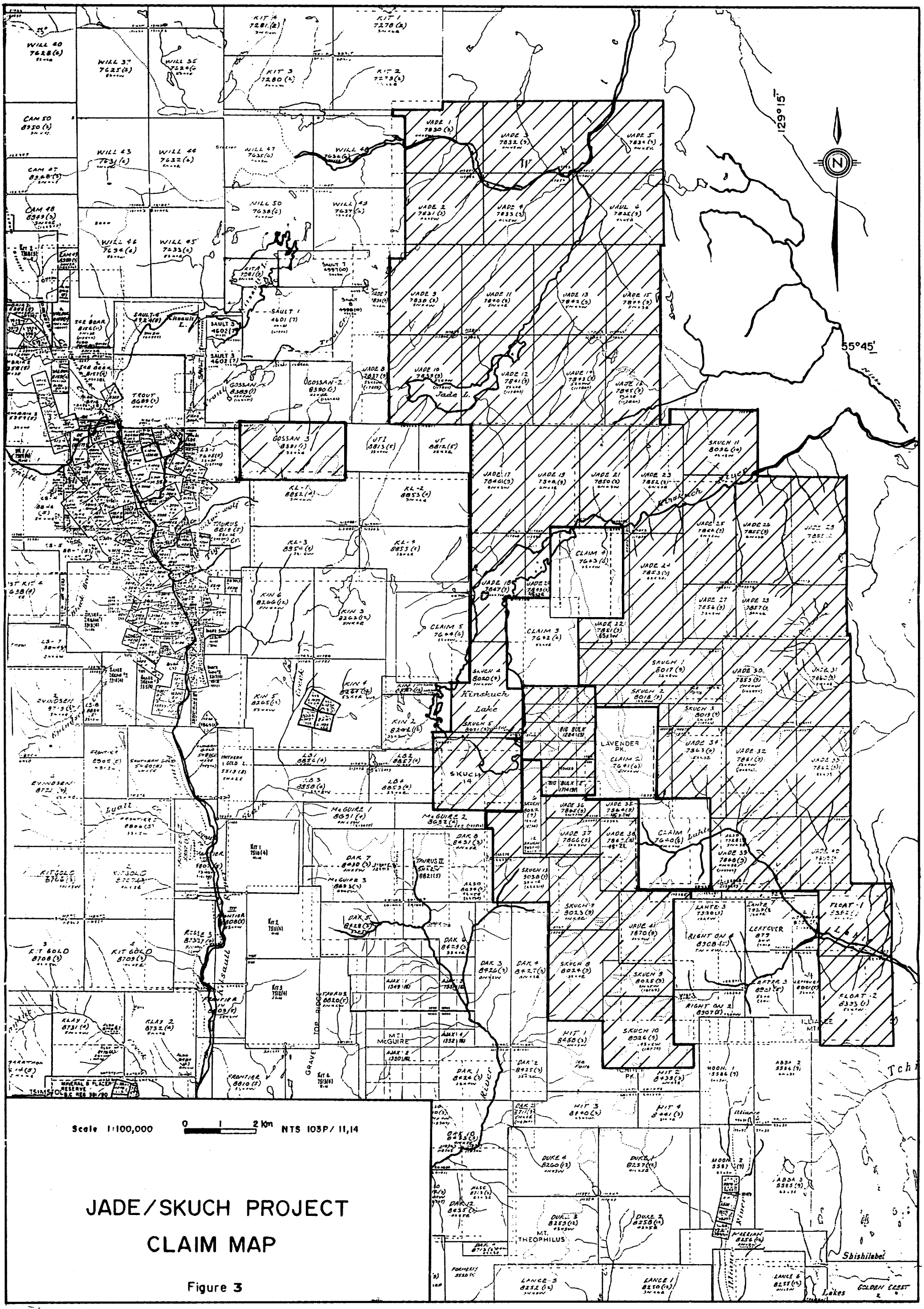
The property is made up of 58 claims comprising 869 units. All claims are located within the Skeena Mining Division. The status of the claims can be divided into two divisions based upon acquisition and ownership (Figure 3).

Big Bulk Option

The Big Bulk and Big Bulk 2 claims were optioned by the Joint Venture group from Mr. Wayne Livingstone of Reno, Nevada in May of 1990.

Claim Name	No. of Units	Record No.	Record Date	Expiry Date
Big Bulk	16	1284	May 14, 1979	May 14, 1992
Big Bulk 2	6	1714	September 17, 1979	September 17, 1992

The Big Bulk group is subject to annual advance royalty payments of $10,000.00 in the first two years, and $20,000 each year thereafter until production; all to be credited against a 3% N.S.R.



JADE/SKUCH PROJECT
CLAIM MAP

Figure 3

The Kit, Jade, Skuch and Gossan Claims

The Jade 1 to 6 and the Jade 9 to 41 claims comprise 630 units that were staked for the Joint Venture group in early September of 1989 by contract staker J. Hobson of Smithers, B.C. The Jade 20, 22, 35 and 38 have been reduced by a total of 50 units because they overlapped prior claims. The Skuch 1 to 11 (140 units in total) were staked by Keewatin field crews in September and October of 1989. The Gossan 3 and the Float 1 and 2 comprise 54 units and were staked in January of 1990 by contract staker A. Dupras of Penticton, B.C. The Skuch 12 and 13 total 21 units and were staked by Keewatin field crews in July of 1990. The Skuch 14 claim (20 units) was staked by Keewatin in July of 1991 over key ground in the Big Bulk area. These claims are held 100% by the Joint Venture and are subject to no financial obligation other than government assessment requirements. The Jade 7 and 8, the Kit, the Gossan 1 and 2, and Frog 1 to 4 (69 units) were transferred to Mr. J.R. Woodcock when the Sault option was dropped in 1990. Particulars regarding the Jade/Skuch claim group are as follows:

Claim Name	No. of Units	Record No.	Record Date	Expiry Date
Jade 1	20	253037	September 1, 1989	September 1, 1993
Jade 2	20	253038	September 1, 1989	September 1, 1993
Jade 3	20	253039	August 31, 1989	August 31, 1993
Jade 4	20	253040	August 31, 1989	August 31, 1993
Jade 5	20	253041	August 31, 1989	August 31, 1993
Jade 6	20	253042	August 31, 1989	August 31, 1993
Jade 9	20	253045	September 2, 1989	September 2, 1993
Jade 10	20	253046	September 2, 1989	September 2, 1993
Jade 11	20	253047	September 2, 1989	September 2, 1993
Jade 12	20	253048	September 2, 1989	September 2, 1993
Jade 13	20	253049	September 3, 1989	September 3, 1993
Jade 14	20	253050	September 3, 1980	September 3, 1993
Jade 15	15	253051	September 3, 1989	September 3, 1993
Jade 16	15	253052	September 2, 1989	September 2, 1993
Jade 17	18	253053	September 4, 1989	September 4, 1993
Jade 18	18	253054	September 4, 1989	September 4, 1993
Jade 19	18	253055	September 4, 1989	September 4, 1993
Jade 20	8(reduced)	253056	September 4, 1989	September 4, 1993

Claim Name	No. of Units	Record No.	Record Date	Expiry Date
Jade 21	18	253037	September 4, 1989	September 4, 1993
Jade 22	6(reduced)	253058	September 4, 1989	September 4, 1993
Jade 23	18	253059	September 4, 1989	September 4, 1993
Jade 24	18	253060	September 4, 1989	September 4, 1993
Jade 25	18	253061	September 4, 1989	September 4, 1993
Jade 26	18	253062	September 4, 1989	September 4, 1993
Jade 27	9	253063	September 4, 1989	September 4, 1993
Jade 28	18	253064	September 4, 1989	September 4, 1993
Jade 29	18	253065	September 4, 1989	September 4, 1993
Jade 30	20	253066	September 4, 1989	September 4, 1993
Jade 31	15	253067	September 4, 1989	September 4, 1993
Jade 32	20	253068	September 4, 1989	September 4, 1993
Jade 33	15	253069	September 4, 1989	September 4, 1993
Jade 34	15	253070	September 5, 1989	September 5, 1993
Jade 35	4(reduced)	253071	September 5, 1989	September 5, 1994
Jade 36	6	253072	September 5, 1989	September 5, 1994
Jade 37	6	253073	September 5, 1989	September 5, 1994
Jade 38	8(reduced)	253074	September 5, 1989	September 5, 1994
Jade 39	20	253075	September 5, 1989	September 5, 1998
Jade 40	16	253076	September 5, 1989	September 5, 1993
Jade 41	16	253077	September 5, 1989	September 5, 1993
Skuch 1	8	253222	September 22, 1989	September 22, 1993
Skuch 2	8	253223	September 22, 1989	September 22, 1993
Skuch 3	6	253224	September 22, 1989	September 22, 1993
Skuch 4	20	253225	September 22, 1989	September 22, 1993
Skuch 5	5	253226	September 22, 1989	September 22, 1993
Skuch 6	7	253227	September 22, 1989	September 22, 1994
Skuch 7	16	253228	September 22, 1989	September 22, 1994
Skuch 8	20	253229	September 22, 1989	September 22, 1994
Skuch 9	10	253230	September 22, 1989	September 22, 1995
Skuch 10	20	253231	September 22, 1989	September 22, 1995
Skuch 11	20	253301	October 14, 1989	October 14, 1993
Skuch 12	9	254242	July 17, 1990	July 17, 2001
Skuch 13	12	254243	July 17, 1990	July 17, 2001
Skuch 14	20	302779	August 7, 1991	August 17, 1997
Gossan 3	18	253596	January 20, 1990	January 20, 2001
Float 1	16	253597	January 20, 1990	January 20, 1994
Float 2	20	253598	January 20, 1990	January 20, 1994
Total	**847**			

All claims are four post modified grid mineral claims. New record numbers have been assigned to all claims by the Government Recorder's office in 1991.

The Trout Option

The Trout claim (16 units) option has been dropped. The claim covers the southwest extension of the Kit-Trout Zn-Pb-Ag horizon in the Kitsault Lake area. The claim has been returned to its owner, Mr. C. Kowall.

2.4 History of Exploration

The Kits-Jade project area has been explored sporadically since the turn of the century when rich silver bearing outcroppings were first discovered and the Dolly Varden silver camp was established along the banks of the Kitsault River (Figure 3).

2.4.1 Previous Exploration on the Property

The Big Bulk copper showings along the southeast shore of Kinskuch Lake have been known since they were first prospected in the 1930's. Brittania Mines sampled the property in 1939, reporting gold assays of 0.051 oz/ton (1.75 g/tonne; Livingstone, 1980). During 1955 and 1956, fourteen AX diamond drill holes totalling 6,300 feet (1,920.3 metres) and over eleven packsack drill holes totalling 1,464 feet (446.2 metres) were completed by Northwestern Explorations Limited (Kennco Exploration) of Vancouver, B.C. A small reserve of a few million tons grading 0.4% Cu was outlined on the Bonnie Zone. The ground was acquired by Forrest Kerr Mines Ltd. in 1965; at which time geological mapping, magnetometer and induced polarization geophysical surveys, and 1,247 feet (380.1 metres) of diamond drilling were completed. Cyprus Exploration Corporation Ltd. optioned the property in 1966 and conducted a geological mapping, geochemical sampling and diamond drilling program (Carter, 1966). Kerr Addison Mines Ltd. optioned the property in 1970 and conducted limited Mag and I.P. surveys, and drilled three diamond drill holes (Sirola, 1970). The property was not worked again, and in 1979 the claims lapsed. The property was subsequently restaked as the Big Bulk by K.W. Livingstone. Prism Resources then optioned the property, working on a zone to the north over which a detailed geological map was made and numerous chip samples were taken. In 1982, Procan Resources took up the option and drilled five diamond drill

holes totalling 2,899 feet (883.7 metres) on the zones identified by the 1980 work (Livingstone, 1982).

The property was idle until 1990 when the Oliver-Aber-Tanqueray joint venture group acquired the option from Mr. Livingstone and began a detailed prospecting and geochemical sampling program. No grid was established, but numerous contour soil and rock chip lines were completed. A total of 167 rock samples, 57 soil samples and 20 silt samples were collected.

In 1991, the Skuch 14 claim was staked adding important ground at the south end of Kinskuch Lake. The Big Bulk area was prospected in detail with the collection of 148 rock samples and 8 reconnaissance soil samples. A total of 36 soil samples were collected over a small grid on the Twyla and Tracey Zones. Also, six samples were collected for petrographic study. A 24 metre (78.7 foot) trench was blasted and 27.9 metres (91.5 feet) of rock sawn channel samples were taken on the Bonnie Zone.

The Midnight Blue area at the headwaters of the Dak River, only 3 kilometres (2 miles) south of Kinskuch Lake, is not described in any mineral reports or inventories of the area. Chalcopyrite mineralization is outlined on a geological map of the area that is part of a 1957 Masters Thesis (Gale, 1957). Evidence of an old camp was found in the area, but no record of work can be found. Numerous Pb-Zn veins occur just south of the area and have been the subject of a variety of claim staking programs in the recent past. The Midnight Blue area was staked in July of 1990 by Keewatin crew members for the Joint Venture group. Initial prospecting produced a single float sample (90EEF-57) that assayed 0.111 oz/ton Au (3.81 g/tonne). This result led to more detailed soil sampling prospecting and trenching. A total of 34 rock samples, 88 soil samples and 6 silt samples were collected. No work was done in the Midnight Blue area in 1991.

The Jade and Skuch claim group were prospected and rock, soil and stream geochemically surveyed on a regional scale in 1989 by Keewatin crews. During 1990, the areas highlighted by the 1989 work were evaluated in more detail, and the areas not previously examined were prospected and geochemically surveyed.

2.4.2 Exploration in the Region

The Dolly Varden, North Star and Torbit stratiform volcanogenic Ag-Pb-Zn deposits (Devlin, 1987) have long been the major focus of mining and exploration activity in the area. The Dolly Varden and North Star mines produced 40.4 million grams (1.3 million ounces of silver) from 1919 to 1921, and the Torbit produced 579.4 million grams (18.6 million ounces silver) and 5.0 million kilograms (11.0 million pounds) of lead between 1949 and 1959 (Devlin, 1987). In more recent years, Dolly Varden Minerals Inc. has outlined significant additional proven, probable and possible reserves of 1.3 million tonnes (1.5 million tons) with 441.6 million grams (14.2 million ounces) contained silver at the Dolly Varden, North Star, Torbit and Wolf deposits (Devlin, 1987). During 1990, Dolly Varden Minerals Inc. conducted a 7,087 metre (23,250 foot) drill program testing targets along the trace of the Dolly Varden mineral horizon. No economic grades of mineralization were obtained (Vancouver Stockwatch, August 10, 1990). Dolly Varden Minerals was not active in the area in 1991. Numerous minor silver vein occurrences also dot the Kitsault River Valley, including the Wolf deposit just north of the Torbit mine.

In the Kitsault Lake area, prospecting, trenching and drifting has been carried out sporadically since 1919 on the Summit-Yukon silver-rich breccia veins. The Ace-Galena silver-rich galena-tetrahedrite shear hosted veins were found in 1929 and between 1930 and 1934, a few short adits and numerous open cuts were excavated to better expose the mineralization. The Ace-Galena veins were drilled in 1951 by Transcontinental Resources Ltd. (8 holes), and in 1963 and 1968 by Silver Butte Mines Ltd., (5 and 8 holes respectively). In 1990, Keewatin crews conducted detailed geochemical, geophysical, prospecting and mapping surveys of the area, leading to the discovery of the stratiform Zn-Pb-Ag Trout horizon. The Trout mineralization is considered to be an extension of the Kits Zn-Pb-Ag horizon on the adjoining Sault claims.

The first Sault claims were staked in 1984 by J.R. Woodcock to cover a barite-realgar showing of the Kits Zn-Ag (-Sn-Ba) horizon that Woodcock and N. Wynchopen located in 1966. Cominco optioned the claims between 1984 and 1989 and completed a variety of geological, geochemical and geophysical surveys, and drilled 4,188.4 feet (1,269.2 metres) in eight holes (Woodcock, 1985a, 1985b; Blackwell, 1986a, 1986b; Jackish, 1987; MacRobbie, 1989). Aber

Resources Ltd. and Oliver Gold Corporation optioned the Sault claims in September of 1989 from J.R. Woodcock. Geochemical sampling, prospecting and a further 3,275 feet (992 metres) of drilling was completed. Minimal work was done on the Sault claims in 1990 prior to their return to Mr. Woodcock.

Several rich silver vein occurrences in the Illiance River valley to the south, and the upper tributaries of Lahte Creek have been repeatedly prospected, trenched, drifted into and drilled since the early 1900's. Assay values are commonly in the range of 1337.0 g/tonne (38 oz/ton Ag), 19.9% Pb, 30.0% Zn and 0.36% Cu across a 0.6 metre (2.0 foot) width (B.C. Minfile 103P-140).

Gold exploration has been largely centred along the highly visible rusty gossanous "Copper Belt" that extends for 14 kilometres (9 miles) along the west bank of the upper reaches of the Kitsault River. The Copper Belt is host to abundant, but variably mineralized gold-silver veins and zones of disseminated copper. Prior to 1939, 1,120 grams (36 ounce) of gold was produced from 8.2 tonnes (9 tons) of presumably hand cobbed ore from the Homestake Ridge showings (Black, 1951). In 1989, Noranda Exploration Co. Ltd. completed a 10,000 foot drill program along the Homestake trend, testing both the high-grade gold vein potential, as well as the low-grade, bulk tonnage Cu-Au potential. Noranda conducted a limited geological mapping and geochemical sampling program in 1990, and have since dropped their option with the property holder, NDU Resources Ltd. of Vancouver, B.C. Dolly Varden Minerals Inc. also conducted a large drill program along Red Point and the Red Point Extension in 1989. In spite of samples assaying up to 15.50 g/t over 1.95 metres (0.452 oz/ton Au over 6.4 feet), Dolly Varden was apparently discouraged by sporadic and generally uneconomic results. During 1989, two new discoveries were made by Bond International Gold in Hazelton Group rocks 25 kilometres (15 miles) to the north of the property area. The Red Mountain discovery at the headwaters of Bitter Creek consists of two zones; the Marc and Brad, which intersect each other on surface. The best drill intersection yielded 66 m of 9.88 g/tonne Au and 49.29 g/tonne Ag (216 feet of 0.28 oz/ton Au and 1.4 oz/ton Ag). A second discovery at the headwaters of Willoughby Creek; 6 kilometres (4 miles) to the east across the Cambria Icefield produced a drill intersection of 67 feet grading 20.5 m of 24.98 g/tonne Au and 184.21

g/tonne Ag (0.73 oz/ton Au and 5.3 oz/ton Ag) (Northern Miner, October 9, 1989). No recent information about these new discoveries has been released.

Molybdenum mineralization associated with Eocene intrusives in the area led to extensive exploration efforts beginning in 1965. The Lime Creek deposit 5 kilometres (3 miles) east of Alice Arm was mined by Kennco Explorations (Canada) Ltd. and B.C. Moly Corp. between 1967 and 1972. Amax of Canada Ltd. milled 4.1 million tonnes (4.5 million tons) of the 9.3 million tonnes (10.2 million tons) of stockpiled ore to produce 10.5 million kilograms (23.2 million pounds) of molybdenum during 1981 and 1982 (B.C. Minfile 103P-120). The mine and mill and Kitsault townsite are now closed indefinitely. The Ajax deposit located on Mount McGuire just southwest of the Jade-Skuch claims has a drill defined reserve of 1143.7 million tonnes (1,162.0 million tons) grading 0.09% molybdenum (Dawson and Alldrick, 1986), making it the largest undeveloped reserve of molybdenum in the province.

The entire Kitsault belt has been the subject of numerous regional reconnaissance geochemical surveys including Newmont (1967) and Cominco (1985). Geological Survey of Canada Regional Geochemical Survey coverage was also conducted in 1978.

2.5 Objectives of the 1991 Work Program

The 1991 work program was intended to focus entirely on the Big Bulk Cu-Au porphyry prospect located on Kinskuch Lake. The objectives of this work were to better establish the areas of known copper mineralization, outline the extent of gold enrichment with the system and map alteration types in relation to mineralization.

3.0 GEOLOGY

The Kitsault area has been the subject of numerous geological studies beginning with preliminary work by Hansen (1935) on the Portland Canal area. The first detailed study was undertaken by Black (1951), but it focused on the Kitsault River area and the Dolly Varden silver camp. Gale (1957) completed a masters thesis study of the Kinskuch Lake area. Campbell (1959) published a detailed study of the Torbit silver mine in 1959 in Economic

Geology. Grove (1971) mapped the area in 1971 as part of his study of the geology of the region extending from Observatory Inlet to the Unuk River, published in 1986. Alldrick et al. (1986) produced an open file map of the entire Kitsault area in 1986. Devlin (1987) completed a masters thesis on the Dolly Varden silver camp. Greig began a doctoral thesis study for the G.S.C. in 1990. His work for the 1990 and 1991 field seasons are reported in preliminary reports both published in this year. Greig's work is to date the most comprehensive regional work of the Lavendar Peak to White Glacier area.

3.1 Regional Geology

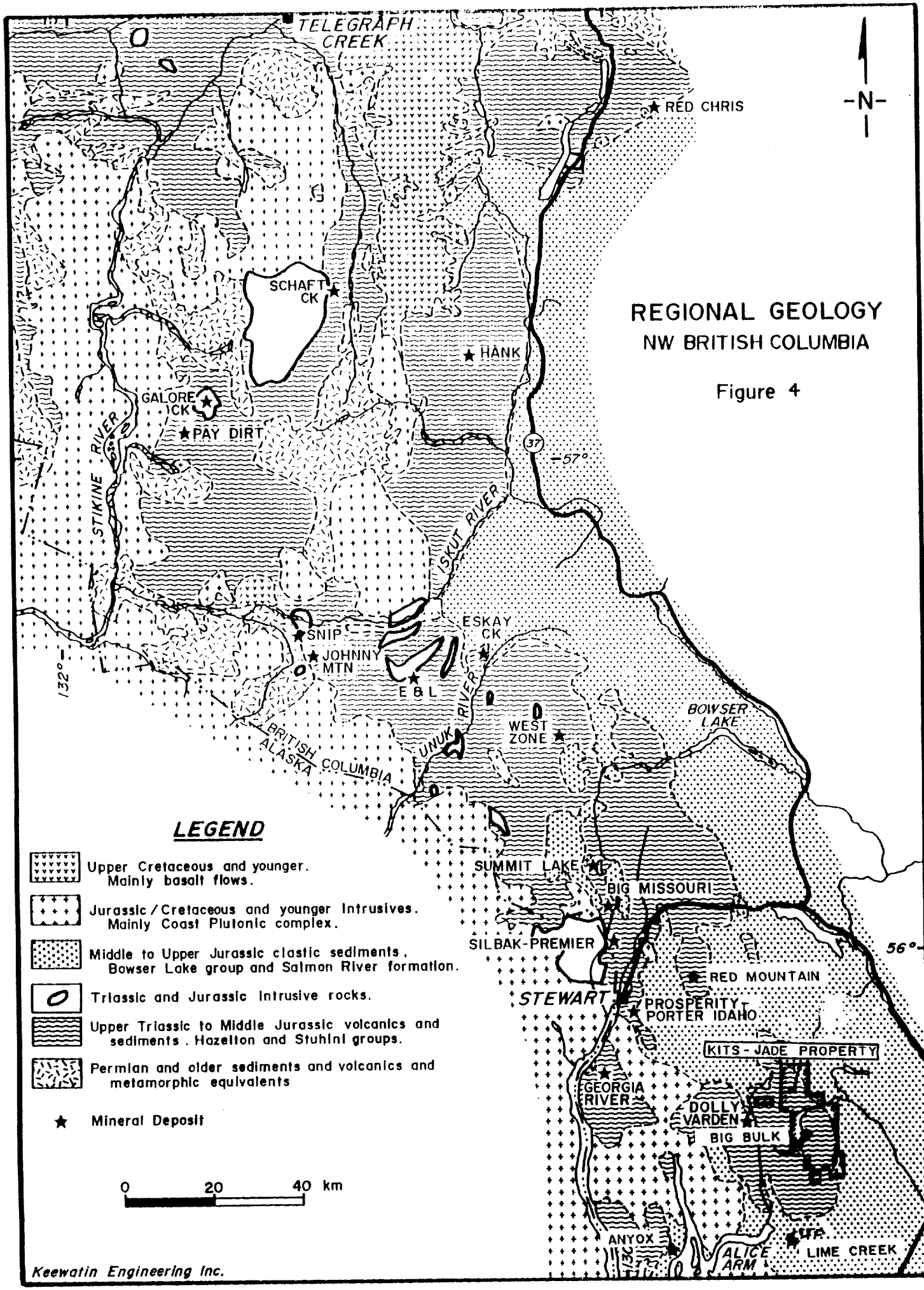
The Kits-Jade project area, within Stikinia terrain, is underlain by Upper Triassic sedimentary rocks of the Stuhini Group and Lower to Middle Jurassic volcanic and sedimentary rocks of the Hazelton Group at the western margin of the Intermontane Tectono-stratigraphic Belt (Figure 4). The Hazelton Belt is bounded to the west by the plutonic complexes of the Early Eocene Coast Mountain Range, and to the east by the thick Middle to Upper Jurassic-Cretaceous Bowser Basin sedimentary package.

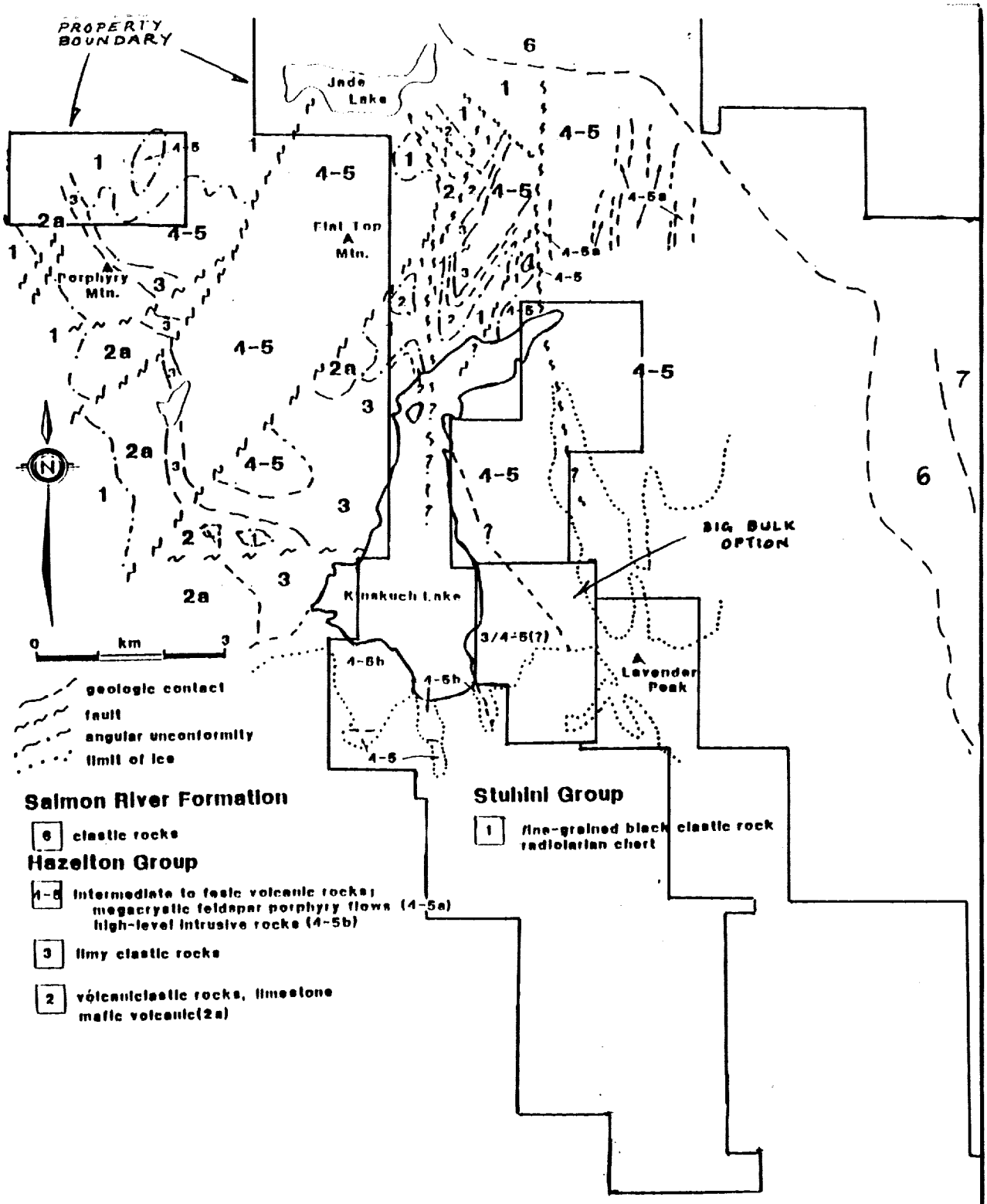
Greig (1991) has elaborated significantly on the work of Alldrick (1986). Greig (1991) identifies six main units in the Kinskuch Lake area (Figure 5).

Stuhini Group: Late Triassic and Older

Unit 1: Fine grained clastic rocks

The Stuhini Group is represented by a package of predominantly black, brown weathering thin bedded siltstone and fine grained sandstone exposed in a north-south trend west of Kinskuch Lake and north of Porphyry Mountain. The unit is also exposed north of Kinskuch Lake, extending to Jade Lake where it is comprised of a greater proportion of siliceous black, pale green and pale grey radiolarian chert. Greig (1991b) reports the identification of Upper Triassic conodonts from discontinuous limy lenses near the top of this unit. The base of Unit 1 is not exposed in the map area.


TELEGRAPH CREEK
RED CHRIS
-N-
REGIONAL GEOLOGY
NW BRITISH COLUMBIA
Figure 4
SCHAFT CK
HANK
GALORE CK
PAY DIRT
STIKINE RIVER
SKUT RIVER
37
57°
SNIP
JOHNNY MTN
ESKAY CK
E & L
WEST ZONE
BOWSER LAKE
UNUK RIVER
132°
BRITISH COLUMBIA
ALASKA
LEGEND
Upper Cretaceous and younger. Mainly basalt flows.
Jurassic / Cretaceous and younger intrusives. Mainly Coast Plutonic complex.
Middle to Upper Jurassic clastic sediments, Bowser Lake group and Salmon River formation.
Triassic and Jurassic intrusive rocks.
Upper Triassic to Middle Jurassic volcanics and sediments. Hazelton and Stuhini groups.
Permian and older sediments and volcanics and metamorphic equivalents
Mineral Deposit
0 20 40 km
SUMMIT LAKE
BIG MISSOURI
SILBAK-PREMIER
56°
RED MOUNTAIN
STEWART
PROSPERITY-PORTER IDAHO
KITS - JADE PROPERTY
GEORGIA RIVER
DOLLY VARDEN
BIG BULK
ANYOX
ALICE ARM
LIME CREEK
Keewatin Engineering Inc.



Geology by C.J. Greig, G.S.C.
1991

OLIVER GOLD CORP.	
KITS / JADE PROJECT KINSKUCH LAKE AREA GEOLOGY	
DATE: NOV. 1991	NTS: 103P/11,14
PROJECT:	PROJ. GEOL.: DWT
SCALE: 1:100,000	
Keewatin Engineering Inc.	MAP No. 5

Hazelton Group: Lower Jurassic

The contact between the Lower Jurassic Hazelton Group rocks and the underlying Stuhini Group rocks is marked by a major angular unconformity and locally distributed limestone breccias and chert bearing clastic rocks.

Unit 2: Mafic volcanic and volcanoclastic rocks and limestone

Unit 2 is principally distinguished by its stratigraphic position at the base of the Hazelton Group; but also by the common presence of pyroxene and angular chert grains and fragments. The unit has two sub-units including a massive pyroxene-bearing pyroclastic (Unit 2a) that extends south-southeast from Porphyry Mountain, and a thinner, mainly sedimentary package occurring west and north of Kinskuch Lake.

Unit 3: Limy clastic rocks

This unit conformably overlies unit 2 where it extends along the west side of Kinskuch Lake and north-northwest to Porphyry Mountain. The lower and upper parts include lahar, considered by Greig (1991b) to be facies equivalents of coarse pyroclastic deposits of units 2 and 4.

Units 4 and 5: Intermediate and felsic pyroclastic rocks and associated flows, clastic rocks and high level intrusive rocks

Units 4 and 5 are locally highly variable in composition, suggestive of regional scale facies changes. These units comprise the thickest local member of the Hazelton Group and conformably overlie unit 3. The most common lithology is a green and locally maroon massive crystal lithic ash tuff occurring at any stratigraphic level within units 4 and 5. At Flat Top Mountain, unit 4 includes massive, coarse lapilli tuff and tuff breccia which grades northward into massive debris flows and siliceous tuffaceous sandstone and siltstone. Northeast of Jade Lake this unit grades upward into and is

interbedded with siliceous siltstones of unit 6. Northeast of Kinskuch Lake, megacrystic potassium feldspar porphyritic flows (unit 4-5a) of probable dacitic composition occur interbedded with pyroclastics of units 4 and 5. At the south end of Kinskuch Lake, high level intrusive rocks (unit 4-5b) have been identified in thin section as a sericite-actinolite-chlorite altered pyroxene potassium feldspar rich granodiorite to quartz-monzodiorite (Leitch; 1991). At its western margin, the unit includes both intrusive and extrusive components, but at its eastern margin, textures are obscured by the intense alteration associated with the Big Bulk mineralization.

Salmon River Formation: Lower Jurassic

Unit 6: Siliceous clastic and volcanoclastic rocks

The base of the Toarcian Salmon River Formation is marked by a thin bedded rusty siltstone which sits paraconformably on silt matrix-rich pyroclastics of the uppermost Hazelton Group. The Salmon River Formation is comprised of predominantly dark grey siltstones with lesser, massive dark green sandstones and pebble conglomerates.

Bowser Lake Group

Unit 7: Pale grey weathering clastic rocks

The Bowser Lake Group conformably overly the Salmon River rocks, which are distinguished by their thinner bedded sandstones and pale weathered colour.

Structure

The structural geology of the region is summarized by Greig (1991b) as follows:

> The eastern margin of the Kinskuch basement culmination is the locus for southwest vergent folds in the cover rocks (Greig, 1991a), and structural trends and vergence conform, in part, to the orientation of the margins of the culmination. In the Kinskuch area, several major reverse faults involve basement rocks; these may in part accommodate some of the shortening observed in cover rocks of the Bowser Lake Group and Salmon River Formation.

Greig (1991) has mapped a number of major structures at the north end of Kinskuch Lake (Figure 5), modifying Alldrick's (1986) interpretation. No significant structures have been mapped in the Big Bulk area.

3.2 Property Geology

The Kits-Jade Project area was acquired by the joint-venture group to include the upper portion of the Hazelton stratigraphy and the overlying Salmon River Formation (Figure 5), based upon Alldrick's (1986) regional geological interpretation.

The Big Bulk area (Figure 6) is underlain by Hazelton Group stratigraphy, as mapped by the author, Greig (1991a, 1991b), and Gale (1957). A package of intermediate to felsic volcanic flows (Leitch, 1991) in, spacial association with a high level granodiorite to quartz monzonite intrusion, hosts the Big Bulk chlorite-pyrite-sericite-carbonate-albite-epidote alteration that has been the focus of this years work. Similar alteration 3 kilometres (1.8 miles) to the southwest has been identified by Keewatin crews (Tupper et al., 1990) on the joint-venture groups Skuch 12 and 13 claims. Known as the Midnight Blue, a 500 metre by 200 metre Cu-Au-Pb-Zn-As soil anomaly outlines the Big Bulk system, the central 3 kilometre portion of which is obscured by glaciers.

3.2.1 Rock Types

The stratigraphy of the Big Bulk area includes four distinct units of the Lower Jurassic Hazelton Group (Figure 6). These include the following:

Unit 1: Limy Clastic Rocks (also unit 3 in Regional Geology legend; Figure 5)

The unit is comprised of rusty weathering, thin bedded dark grey siltstone, limy arkosic wacke and limy bioclastic sedimentary breccia. The unit occurs on the western shoreline of Kinskuch Lake, and possibly as isolated intercalations within unit 2.

Unit 2: Intermediate to Felsic Volcanics Flows(?)

This unit is extensively altered (chlorite-pyrite-sericite-carbonate-epidote), making original composition and diagnostic features difficult to identify. This unit could be part of the overlying unit 3. Petrographic studies (Leitch, 1991; Appendix IV) were conducted on four specimens taken from copper enriched zones in the area. The specimens, KTS91-03, -04 and -05 are from the Marla, Tracey and Twyla Zones, respectfully. Specimen KTS91-06 is from the bottom of the 1982 Tracey Zone drill hole, DDH82A-3 (at approximately 166 metres; 165.2 m to 168.3 m assayed 0.72% Cu; Livingstone, 1982).

Based upon relic quartz phenocrysts in specimens KTS91-03, -04 and -05, this unit is considered to have been comprised of intermediate to felsic (?quartz andesite to rhyodacite) volcanic flows. This is supported, according to Leitch, by the additional presence in specimen KTS91-04 of relic biotite and probable hornblende phenocrysts.

This unit has undergone widespread and varied alteration. A minimum of 1% pyrite is ubiquitous, causing rusty weathering on many outcrops. However, due to relatively recent ablation of glacial ice, large areas of very fresh rock (Bonnie and Marla Zones) do not appear rusty. The unit generally appears dark green, although maroon, pale grey and mottled outcrops are also common.

Unit 3: Green and Maroon Andesite Lapilli Tuff-Breccia

Predominated by green and maroon massive andesite lapilli-tuff-breccias, this mauve and pale green weathering unit grades upward into more heterogenous and more felsic volcanic rocks in the Big Bulk area (Greig, 1991a). Regionally referred to as Unit 4, this unit is in sharp contact with the highly altered underlying unit 2. It is probable that unit 3 was chemically and/or structurally more receptive to the alteration and mineralization, although a stratigraphic break is not entirely ruled out.

Unit 4: High Level Granodiorite to Quartz Monzonite (and extrusive equivalents)

Locally rusty, green-brown weathering, green-grey, medium grained poikilitic, sericite-actinolite-chlorite altered pyroxene and potassium feldspar -rich granodiorite to quartz monzonite (Leitch, 1991) outcrops across the southern shoreline of Kinskuch Lake. Greig (1991b) has mapped this unit as a high level intrusion. To the west, both extrusive and intrusive forms of this unit are found. To the east, the Big Bulk alteration overprints all textures, obscuring contacts and textural variations. Petrographic study of a specimen from the copper and gold-rich Bonnie Zone (Figure 7) suggests an albite-chlorite-sericite altered igneous rock of probable mafic composition (Leitch, 1991).

Unit 5: Late Lamprophyre and Andesite Dykes

Several dark green-brown, metre wide lamprophyre dykes occur in the Big Bulk area. They generally extend hundreds of metres in an east-northeast direction. On the Seabee Zone, a dyke up to 5 metres thick occurs. The lamprophyre dykes are commonly magnetic and display obvious chill margins. Andesite dykes are not common. They weather green, and are distinguished from wall rocks by their fine texture and chill margins.

3.2.2 Metamorphism and Alteration

The regional metamorphic grade in the Kinskuch Lake area is sub-greenschist facies (Alldrick, 1986). Extensive alteration is found in the Big Bulk area, including chlorite-pyrite-sericite-carbonate-albite-epidote related to the Big Bulk copper gold porphyry prospect.

3.2.3 Structure

No notable structures have been identified in the Big Bulk area. A common 080° to 120° vein, joint, foliation and shear orientation has been noted, but has no obvious property scale significance. Further work may reveal an east-west control to the copper mineralized zones.

Kinskuch Lake
±3666 Feet

SEE FIGURE 9a

DDH K96-1 (-55°)

DDH K96-4 (-35°)

91DT092BR001 (1000, 320, 0.3)

DDH K96-1 (-44°)

DDH K96-11 (-40°)

SEE FIGURE 9b

3675

3700

3725

3750

OVB scattered outcrop

OVB

3700E

3725E

91DT092BR006 (998, 1184, 1.4)

91DT092BR007 (168, 60, <0.2)

Quartz-Calcite Veins Py-Cpy-Gph

Baseline 10+00N. 090°

DDH K96-8 (-50°)
DDH K96-9 (-60°)

Kinskuch Lake
±3666 Feet

N

0 10 20 30 40 m.
scale

EXPLANATION

- 5 — Late basic dyke
- 4 — Heavy brown carbonate relatively barren
- 3 — Carbonate, chlorite, pyrite and variable chalcopyrite
- 2 — Sericite, pyrite
- 1 — More abundant epidote, pyrite "Dioritic" in part

SYMBOLS

- Gradational contact
- Fault
- 080 / 50 — Vein attitude
- 070 / 80 — Dyke attitude
- OVB — overburden
- Diamond Drill Hole
- 91DT092BR001 (1000, 320, 0.3) — Grab sample (ppm Cu, ppb Au, ppm Ag)
- Channel sample
- Trench

OLIVER GOLD CORPORATION

KITS/JADE PROJECT
BIG BULK Cu – Au AREA

GEOLOGY MAP

BONNIE ZONE PENNINSULA

DATE: Nov. 1991	NTS: 103 P/11 W.
PROJECT: 052	PROJ. GEOL.: D.W.T.
SCALE: 1:1000	
Keewatin Engineering Inc.	MAP No. 7

3.2.4 Mineralization

The Big Bulk area includes a number of zones of disseminated copper mineralization. Copper mineralization is commonly found in green, sericite-chlorite albite altered rocks with minor rusty weathering. Secondary malachite and azurite are commonly found only on fracture surfaces. The more jarosite and iron stained outcrops are generally less mineralized. The best copper values are obtained from this pyrite chalcopyrite veinlet (1-5 mm) stockwork zones that have a general east-west orientation. Very little quartz and calcite occurs along the mineralized fracture surfaces.

Six notable zones of disseminated copper mineralization are known: the Twyla, Tracey, Metallica, Marla, Bonnie and Seabee (Figure 6).

Twyla Zone

Located just north of the moraine along the east shoreline of Kinskuch Lake, and mineralized Twyla Zone was expanded considerably by prospecting in 1991. The area of known copper mineralization extends over an area of approximately 200 metres by 200 metres (650 feet by 650 feet). Twelve grab samples spread over this area returned values over 1,500 ppm Cu, with a high of 12,362 ppm Cu (sample 91DT052BF014) from a float sample and 6,319 ppm Cu (sample 91AM052BR003) from outcrop. Anomalous gold values are spotty ranging to 698 ppb Au (sample 90EER1). Soil samples collected on grid lines outline the zone with samples ranging up to 1,700 ppm Cu and 370 ppb Au (L34+00E/35+50N).

Zone	Sample No.	Sample Type	Cu (ppm)	Au (ppb)
Twyla	91AM052BR03	grab	6,319	trace
	91AM052BR08	grab	5,763	trace

Petrographic study of specimen KTS91-05 from the zone suggests an intermediate to felsic volcanic rock that has undergone very intense sericite-iron carbonate-chlorite-quartz alteration. The zone has local magnetite-rich zones spatially associated with the copper

mineralization. This correlation is highlighted by a magnetometer anomaly in the vicinity (Amendolagine, 1965).

Tracey Zone

The Tracey Zone is an area approximately 150 metres by 300 metres (500 feet by 1,000 feet) located north of the moraine between elevations of 1,150 metres and 1,460 metres (3,800 feet and 4,800 feet). The Tracey Zone was the focus of exploration efforts in 1980 and 1982 (Livingstone, 1980; Cavey, 1980; Livingstone, 1982), that included 883 metres (2,899 feet) of drilling. Surface sampling in 1991 produced the following results (Figure 8).

Zone	Sample No.	Sample Type	Sample Width (m)	Cu (ppm)	Au (ppb)
Tracey	91AM052BC13	chip	3.0	0.48%	603 ppb
	91AM052BC17	chip	5.0	0.36%	321 ppb
	91AM052BC18	chip	4.0	0.29%	trace
	91AM052BC19	chip	4.0	0.44%	trace
	91AM052BC20	chip	4.0	0.29%	trace
	91AM052BC21	chip	2.0	0.40%	trace
	91AM052BC24	grab		7,677 ppm	trace
	91AM052BC25	chip	4.5	0.59%	trace

Samples taken by Prism Resources Ltd. (Cavey, 1980) produced similar copper values, but generally higher and more consistent gold assays (Figure 8). Three of the five holes drilled by Procan Resources Ltd. suggest that the Tracey Zone trends east-west. These holes, collared from the same, returned the following results:

Zone	Hole No.	Interval (m)	Width (m)	% Cu	Au
Tracey	BB82A-1	7.0 - 148.3	141.3	0.24	trace
	BB82A-2	6.2 - 125.0	118.8	0.31	trace
	BB82A-3	165.2 - 168.3 (abandoned at 168.3 m)	3.1	0.72	not assayed

SAMPLE #	Cu PPM (%)	Au PPB (oz./t)	LENGTH m.
91AM052BC-014	(0.10)	26	2
R-015	3770	37	GRAB
C-017	(0.36)	321	5
C-018	(0.29)	82	4
C-019	(0.44)	63	4
C-020	(0.29)	53	4
C-021	(0.40)	45	2
R-022	4971	45	GRAB
# 511	(0.536)	(0.015)	17
# 512	(0.715)	(0.051)	13
# 513	(0.575)	(0.022)	17
# 514	(0.410)	(0.012)	12
# 515	(0.705)	(0.009)	15

- 1980 SAMPLES - PRISM RESOURCES

OLIVER GOLD CORP.

KITS / JADE PROJECT

TRACEY ZONE

DETAIL SKETCH

DATE: NOV. 1991 | NTS:

PROJECT: 052 | PROJ. GEOL.: D.W.T.

SCALE: 1:1000

Reewatin Engineering Inc. | MAP No. 8

Mineralization is predominantly composed of disseminated pyrite and chalcopyrite, although, pyrite-chalcopyrite fracture coatings can also be found. Chalcopyrite mineralization is reported to increase directly in proportion to the fracture density in the andesites, although abundant chalcopyrite was also found disseminated in a hornblende(?) porphyry dyke (Cavey, 1980). Magnetite was observed locally.

Alteration reported in thin section (KTS 91-04) is predominated by sericite and chlorite, and secondly albite and carbonate. The original composition is considered to have been an intermediate to felsic volcanics flow, as suggested by minor phenocrysts of quartz.

Metallica Zone

The Metallica Zone is located along the northeast edge of the moraine measuring approximately 300 metres (1,000 feet) by 150 metres (500 feet) between the elevations of 1,250 metres and 1,460 metres (4,100 feet and 4,800 feet). Sampling returned the following results:

Zone	Sample No.	Sample Type	Width (m)	Cu (ppm)	Au (ppb)
Metallica	91AM052BR26 91AM052BC27	grab chip	 16.4	3,514 ppm 0.74%	trace trace

The Metallica Zone is crosscut by a quartz-calcite-massive chalcopyrite vein system exposed over 300 metres (1,000 feet) of strike. The vertical dipping vein varies from 0.3 metres (1 foot) to 1 metre (3 feet) in width, striking 120°. Grab samples from the vein assayed up to 31.2% Cu, but generally returned values less than 100 ppb Au.

Marla Zone

The Marla Zone extends approximately 800 metres (2,600 feet) east-west between 1,200 metres (3,900 feet) and 1,500 metres (4,900 feet) in elevation. Samples taken in 1991 include:

Zone	Sample No.	Sample Type	Width (m)	Cu (ppm)	Au (ppb)
Marla	91DT052BR012	grab		3,059 ppm	trace
	91DT052BR027	grab		9,040 ppm	trace
	91DT052BR032	grab		2,312 ppm	trace
	91DT052BR041	grabs		2,599 ppm	trace
	91DT052BR042	(spaced 10		4,846 ppm	trace
	91DT052BR043	metres over a		9,816 ppm	312 ppb
	91DT052BR044	total width of		1,496 ppm	212 ppb
	91DT052BR045	50 metres)		3,523 ppm	trace
	91DT052BR046	grab		11,157 ppm	trace
	91DT052BR047	grab		11,280 ppm	trace
	91AM052BC031	chip	7.5	0.76%	trace

Two holes drilled into the Marla Zone by Kennco in 1956 (reported by Livingstone, 1980; locations reported in Gale, 1957) returned the following results:

Hole No.	Width (m)	Cu%
DDH56A-7	74.1	0.33
DDH56A-12	79.2	0.17

Samples taken of core stored in aluminum trays near the camp site area is considered to date back to the 1956 Kennco drilling. The sections sampled were previously unsplit and unsampled.

Hole No.	Sample No.	Footage	Cu ppm
DDH A-7	91DT052BR-052	0 - 96	1,895
DDH A-7	91DT052BR-053	96 - 200	1,313
DDH A-7	91DT052BR-054	200 - 351	882

The Marla Zone has undergone extensive sericite alteration (55% sericite reported in thin section KTS 91-03). The area around the Marla Zone is very rusty weathered, and locally, highly fractured, suggesting a core of phyllic alteration. Pyrite and chalcopyrite mineralization

is generally confined to fracture surfaces. Zones rich in magnetite were found, notably at lower elevations.

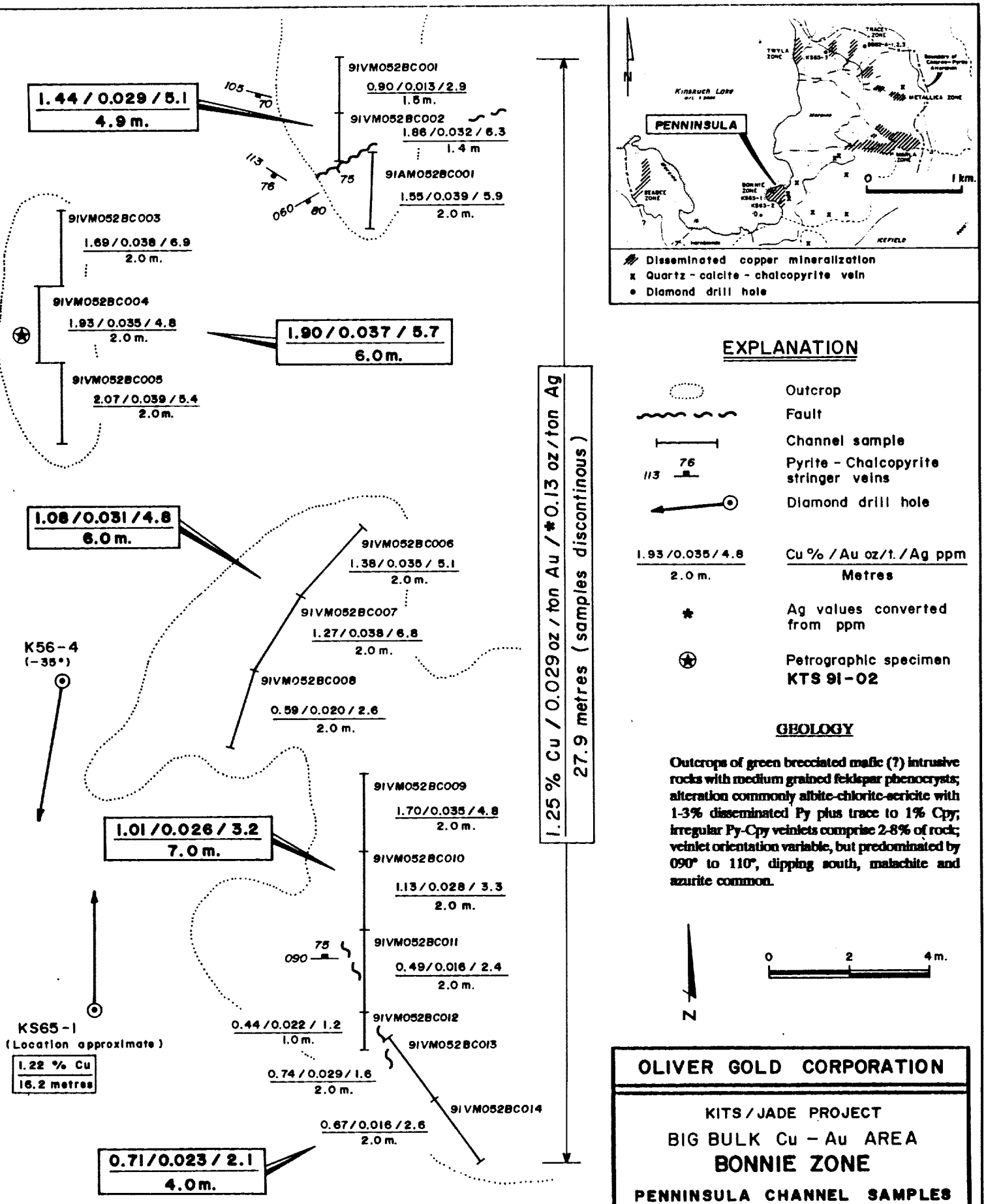
Bonnie Zone

The Bonnie Zone includes much of the rocky peninsula that extends into the southeast corner of Kinskuch Lake (Figure 7). As the original showing on the property, the Bonnie Zone has been repeatedly sampled and drilled. Drilling conducted on the Bonnie Zone in the 1950's (Kennco) and 1960's (Forrest Kerr, Cyprus) returned results of up to 16.2 m (53 feet) assaying 1.22% Cu. Kennco outlined a reserve on the Bonnie Zone of "... a few million tons 0.4% Cu ..." (Livingstone, 1980).

Sampling undertaken in 1991 include a 27.9 metre (91.5 foot) channel sample (Figure 9a) and a 24 metre (78 foot) blasted trench (Figure 9b). The channel sample was taken on the north side of the peninsula, and although not continuous, is considered to be representative of the area. The trench was chip sampled in continuous 2 metre (6.6 foot) samples.

Zone	Sample No.	Width (m)	% Cu	Au
Bonnie	91VM052BC001 to 014 and 91AM052BC001	27.9	1.25	0.029 oz/ton
	91DT052BC015 to 026	24.0	0.18	trace

Mineralization on the Bonnie Zone is very well exposed due to recent ablation of the glacier, leaving the outcrops glacially polished, completely exposed over about 50% of the area, and relatively unweathered. Stockworks of pyrite-chalcopyrite veinlets comprise between 1 and 5% of the rock. The veins are irregular, although the most predominant orientation is between 080° and 120°. A polished thin section study of specimen KTS91-02 (Leitch, 1991; Figure 9a) notes that the veins are comprised of coarse cubic pyrite (to 3 m across), fine anhedral chalcopyrite (up to 1 mm across), fine muscovite, subhedral quartz grains, elongate calcite and irregular masses of chlorite. The chalcopyrite forms thin veins (probably



OLIVER GOLD CORPORATION

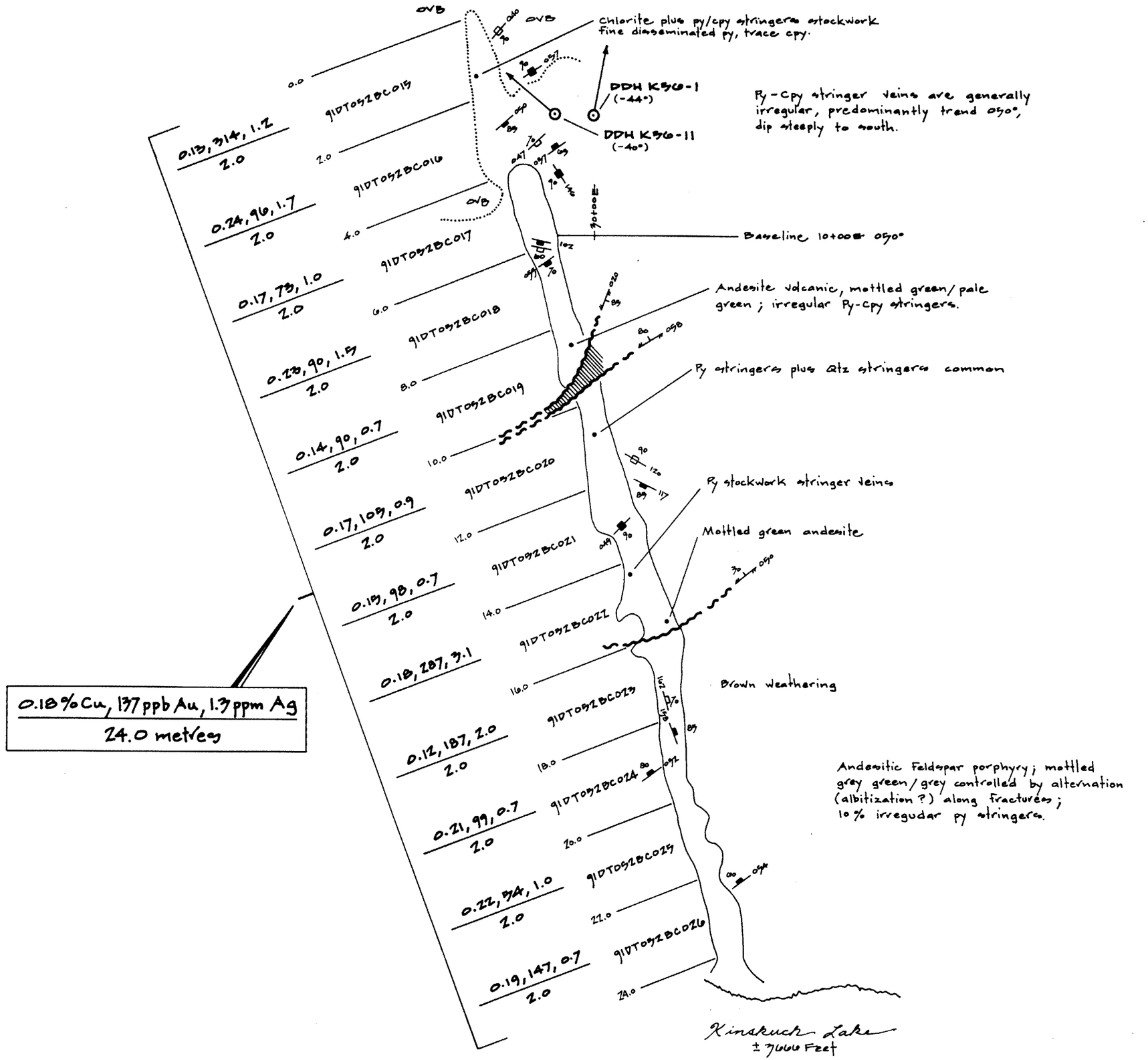
KITS / JADE PROJECT

BIG BULK Cu - Au AREA

BONNIE ZONE

PENNINSULA CHANNEL SAMPLES

DATE: Oct. 1991	NTS: 103P / 11 W.
PROJECT: 052	PROJ. GEOL.: D.W.T.
SCALE: 1:125	
Keewatin Engineering Inc.	MAP No. 9a



OLIVER GOLD CORPORATION

KITS / JADE PROJECT

BIG BULK Cu – Au AREA

L30+00 TRENCH MAP

BONNIE ZONE PENNINSULA

DATE: Nov. 1991	NTS: 103 P / 11 W.
PROJECT: 352	PROJ. GEOL.: D.W.T.
SCALE: 1:100	
Keewatin Engineering Inc.	MAP No. 9b

remobilized) crossing brittle pyrite. Chalcopyrite also occurs disseminated in the wall rock away from the veins in greater proportion than the pyrite. No other sulphides were observed.

The alteration observed in thin section includes predominantly chlorite and secondary alkali feldspar. The original textures are nearly destroyed. The original composition is considered to be a mafic igneous rock. Disseminated hematite imparts a reddish-green appearance.

The area east of the Bonnie Zone peninsula hosts numerous isolated zones of both disseminated pyrite-chalcopyrite and pyrite-chalcopyrite coated fractures and shears, and numerous east-southeast striking quartz-sphalerite-chalcopyrite-galena veins.

Seabee Zone

The Seabee Zone is located on the west side of Kinskuch Lake. Rock samples taken up a creek cut (Hog Creek) produced several anomalous results over 250 lineal metres (750 feet). Results from grab samples include 4,568 ppm Cu (sample 91SH052SR022) and 2,572 ppm (sample 91SH052SR016). Gold values are generally low (below 300 ppb).

The mineralization is disseminated in chloritic volcanics. The structural control of the zone is not understood at this time. The zone appears to follow the northwest trend of the creek.

25
3.3.3 Ore Controls

No major structures have been observed in the Big Bulk area. The predominant vein, fracture, foliation and shear orientation trends 080° to 120°. This is supported by the drill indicated trend of the Tracey Zone and the surface expression of the Marla Zone.

Chalcopyrite mineralization chlorite-albite zones appear to be crosscut by sericite-pyrite shear zones. The shears appear to completely destroy the chalcopyrite mineralization and may divide the mineralized zone into east-west trending zones. Some evidence of this is observed dividing the Twyla, Tracey, Metallica and Marla Zones. The sericitic-pyritic shears also appear to trend into the overlying unaltered maroon and green breccias of unit 3.

The unit hosting the widespread zone of alteration in the Big Bulk area may be the same as the overlying unit 3. If so, the controls on mineralization may be related to structural ground preparation as opposed to chemical receptiveness.

3.3 Economic Potential

In spite of the over 25 diamond drill holes and 11 packsack drill holes completed on the property, there are numerous large areas in which porphyry Cu/Au targets could be developed. These would include the Twyla, Tracey, Metallica and Marla areas, and notably the moraine area between.

The approximately 1 kilometre square (0.4 mile square) moraine area has only been drill tested on its margins. Hole DDH56A-13 drilled in 1956 by Kennco along the south edge of the moraine returned a sludge sample from the bottom of the hole over a total length of 80.5 metres (264 feet). Also, a Kerr Addison hole drilled in 1970, drilled in the moraine area (exact location is not known by the author) reportedly returned an 87.8 metre (288 foot) interval grading 0.22% Cu in a 224 metre (735 foot) hole (Livingstone, 1980). The moraine area provides a very large target for further exploration.

4.0 EXPLORATION AND DEVELOPMENT

The 1991 Kits/Jade work program was a continuation of previous efforts undertaken in the Big Bulk area in 1990 by Keewatin crews. This work also included an initial assessment of the newly acquired Skuch 14 claim. The work program involved a four man crew conducting mapping, prospecting, trenching, channel sampling and limited grid controlled soil sampling surveys.

4.1 Grid Establishment

A total of 1.8 kilometres (1.1 miles) of cut grid dating back to 1965 geophysical work was re-established for the collection of 36 soil samples in the area of the Twyla and Tracey Zones. The original north-south cut lines were established at imperial dimensions. New metric grid

numbers were assigned; 34+00E; 35+25E, 36+50E and 37+75E. An east-west tie-line 34+00N was flagged to give north-south control (Figures 10, 11 and 12).

Map control for plotting geologic and sampling locations were established by the use of air photo and elevation data. A government air photo and 1:50,000 scale map (NTS 103P/11) were enlarged to 1:5,000 scale for this purpose.

4.2 Prospecting

The bulk of the 1991 sampling work was based upon prospecting. Samples collected included 40 chip samples, 114 grab samples, 2 float samples and 8 reconnaissance soil samples.

4.2.1 Program

Prospecting was undertaken in conjunction with geological mapping. Traverses were undertaken primarily on the east side of Kinskuch Lake on the Big Bulk claims. Mapping and sampling traverses were also conducted to the south and west of the Lake on the Skuch 14 claim (Figure 10). The only area not investigated in 1991 is the area east of the Bonnie Zone peninsula. However this area was sampled in some detail in 1990.

Analysis was done by Bondar-Clegg and Company Limited of 130 Pemberton Avenue, North Vancouver, B.C. Sample analytical procedures are described in Appendix VII.

4.2.2 Results

The Cu and Au results of the 1990 and 1991 sampling programs are shown on Figures 11 and 12. The 1991 work greatly enlarges the area of known copper mineralization at the Twyla, Tracey, Marla and Seabee Zones. The new Metallica Zone was outlined this past field season.

The 1991 rock sample results from the Twyla, Tracey, Metallica, Marla, Bonnie and Seabee Zones are described in Section 3.3 of this report. All the samples are described in detail with

Cu, Au, Ag and Mo assay results in Appendix V. Complete assay results are recorded in Appendix VI.

The prospected soil samples taken to the south of the lake indicate a string of low Cu anomalies ranging to 438 ppm (sample 91SH052SS004), probably caused by a north-south linear sericitic shear.

4.3 Geological Mapping

4.3.1 Program

Mapping is often limited to the identification of alteration and mineralization in the Big Bulk area. The 1991 program focused on the area that rims the moraine on the Big Bulk claims. Areas also mapped were the ridge to the south of the lake and the west to southwest shore lines. Traverses were random in orientation, there being no major controlling stratigraphy or structures to delineate.

Petrographic studies were done of six specimens from the various mineralized zones and the intrusive rocks to the south. These provided valuable insights not easily gained from hand specimens. Future work should include more detailed petrographic studies. This work is described in greater detail in section 3.2.

4.4 Geochemistry

An old grid was used as the basis for the collection of 36 soil samples in the Twyla and Tracey Zones.

4.4.1 Program

Fifty metre (160 foot) spaced soil samples were collected on four approximately 125 metre (400 foot) spaced north-south lines (Figure 11 and 12). The samples were collected from north of the moraine area to the base of the cliffs (between 250 and 400 metres). Samples

Fifty metre (160 foot) spaced soil samples were collected on four approximately 125 metre (400 foot) spaced north-south lines (Figure 11 and 12). The samples were collected from north of the moraine area to the base of the cliffs (between 250 and 400 metres). Samples of B horizon soil were collected in brown kraft paper soil bags. Samples were taken by shovel. Analysis was done by Bondar-Clegg and Company Limited of 130 Pemberton Avenue, North Vancouver, B.C. Sample analysis is described in Appendix VII.

4.4.2 Results

There are coincident Cu and Au anomalies that extend along the most westward line across the Twyla Zone. Sample 35+00N on line L34+00E returned 1,700 ppm Cu and 370 ppb Au. The anomalous Cu and Au samples also outline a trend east across the three westernmost lines (approximately 250 metre (800 feet)) just north of the moraine.

All samples are described in Appendix V. Complete assays are recorded in Appendix VI.

4.4.3 Interpretation

An east-west trending Cu-Au anomaly was delineated by the soil geochemistry survey, possibly suggesting some continuity between the Tracey and Twyla Zones.

4.5 Trenching

On the Bonnie Zone, a single trench was blasted in bedrock and a series of 14 discontinuous channel samples were taken (Figure 7, 9a and 9b).

4.5.1 Program

Continuous chip samples were taken over 24 lineal metres (78.7 feet) of blasted trench on the south side of the Bonnie Zone peninsula. The weighted average over the entire trench was 0.18% Cu and 137 ppb Au. A series of discontinuous channel samples were taken to test a 27.9 metre (91.5 foot) linear section of well copper mineralized outcrop on the north side of

the peninsula. The samples were taken by chipping into a single 2.5 cm (1 inch) deep rock saw cut. Both zones are open on both ends. The samples averaged 1.25% Cu and 1.0 g/tonne (0.029 oz/ton) Au. The work is described in greater detail in section 3.2.4 in this report.

5.0 CONCLUSIONS

The Big Bulk area of the Kits-Jade property hosts an altered and mineralized (gold and copper) zone that extends over an area 2 kilometres by 3.5 kilometres (6,500 feet by 11,000 feet). The alteration can be largely classified as propylitic and phyllic with smaller zones of potassic alteration, as used to describe alkalic, volcanic hosted copper-gold porphyry deposit systems. The area surrounding the moraine on the east side of the lake (Twyla-Tracey-Metallica-Marla Zones) are dominantly propylitically altered (chlorite - pyrite - carbonate plus variable chalcopyrite). Phyllic alteration occurs locally. To the northeast, sericite-pyrite phyllic zones are controlled by east-northeast(?) trending shears and are considered to be later. Adjacent to the Marla, a large area of sericite-pyrite alteration weakly anomalous in copper occurs. The Bonnie Zone possibly occurs in the shell of the intrusive core, where potassic alteration has been noted.

The mineralized zones appear to trend east-northeast, divided by later sericitic-pyritic shears. This east-west trend is also thought to be important on the outcrop scale where pyrite-chalcopyrite veinlets predominantly trend between 080° and 120°. Gold mineralization is more sporadic, with the best grades found on the Bonnie Zone. Gold enrichment of zones within the system is considered highly probable. Grades of 0.3 g/tonne to 0.5 g/tonne (0.009 to 0.014 oz/ton) Au are indicated locally by surface sampling to date.

The contact between overlying unaltered breccias and the mineralized alteration zone appears shallow dipping in the north. This suggests that the zone may extend further north under the breccias, providing further exploration potential. Also, the alteration is expected to extend across the lake to the west. The immediate exploration target area is the moraine. Surrounded by copper mineralization, only drilled on the edges and the most likely site in

physiographic terms for open pit mining, this area would be the best site for more advanced exploration efforts. The Midnight-Blue area to the south also requires further work.

6.0 RECOMMENDATIONS

The Kits-Jade Project is highly recommended for further work. A proposed work program designed to further define geological controls and outline drill targets in the moraine area with a modern geophysical survey would be the best approach. A grid controlled geochemical soil survey on the Twyla-Tracey-Metallica areas, and possibly the Seabee zone, may also be useful in defining copper mineralization.

The following are recommended for a proposed work program:

1. Develop good mapping control with 1:2,500 and 1:5,000 scale orthophoto coverage.

2. Establish a picketed grid over area east of Kinskuch Lake.

3. Map alteration of the mineralized zones at 1:2,500 scale.

4. Conduct a detailed petrographic study.

5. Conduct detailed induced polarization and magnetometer geophysical surveys over the entire area on the east side of lake.

6. Possibly conduct a geochemical soil survey of the north area and Seabee Zone.

7. Trench zones (Bonnie) clear of overburden with high powered water pump for mapping and sampling.

8. Drill five 200 metre (700 foot) NQ diamond drill holes into best geophysical targets in moraine area.

A 40 to 60 day field season beginning late June employing a geological crew of 5 and a 3 man geophysical crew would be required.

Respectfully submitted,

KEEWATIN ENGINEERING INC.

Dave W. Tupper, B.Sc.

7.0 PROPOSED BUDGET (Phase I & II included)

Pre-Field				
Personnel				
Project Supervisor	1 days @ $425/day	$ 425.00		
Project Geologist	7 days @ $375/day	2,625.00		
Office	2 hrs @ $ 30/hour	60.00		
Maps, Orthophotos		7,900.00		**$ 11,010.00**
Field Program				
Personnel				
Project Supervision	2 days @ $425/day	$ 850.00		
Project Geologist	50 days @ $375/day	18,750.00		
Geologist	50 days @ $310/day	15,500.00		
Field Assistants	2 x 50 days @ $250/day	25,000.00		
Cook	50 days @ $250/day	12,500.00	$ 72,600.00	
Camp Support				
Food & Accommodation	250 man days @ $ 60/day	$15,000.00		
Equipment Rental	250 man days @ $ 30/day	7,500.00		
Delivery, Courier		4,000.00		
Expediting		3,000.00		
Travel		5,000.00		
Fuel		2,000.00		
Trenching		1,500.00	$ 38,000.00	
Geochemistry				
Soils/Silts	200 samples @ $12.00 ea.	$ 2,400.00		
Rocks	600 samples @ $15.00 ea.	9,000.00	$ 11,400.00	
Geophysics				
Magnetometer Survey (approx. 20 km)		$10,000.00		
Induced Polarization (approx. 20 km)		45,000.00	$ 55,000.00	
Drilling				
NQ Diamond Drilling	1,000 metres @ $120/metre		$120,000.00	
Transportation				
Truck	10 days @ $ 55/day	$ 550.00		
Fixed Wing		20,000.00		
Helicopter	40 hrs @ $800/hour	32,000.00	$ 52,550.00	
Contingency (6%)			$ 20,500.00	**$370,050.00**
Post-Field				
Personnel				
Project Supervision	1 days @ $425/day	$ 425.00		
Project Geologist	19 days @ $375/day	7,125.00		
Geologist	17 days @ $310/day	5,270.00		
Drafting	200 hrs @ $ 30/hour	6,000.00		
Office	4 hrs @ $ 30/hour	120.00		**$ 18,940.00**
TOTAL PROPOSED BUDGET:				**$400,000.00**

8.0 REFERENCES

Alldrick, D.J., Dawson, G.L., Bosher, J.A. and Webster, I.C.L., 1986. Geology of the Kitsault River area (NTS 103P). British Columbia Ministry of Energy, Mines and Petroleum Resources, Open File Map 1986/2.

Amendolagine, E., Nicholls, E.B., 1965. Assessment Report #712; Report on Geological and Geophysical Surveys, Kinskuch Lake, B.C., Sulmac Exploration Services Limited.

Black, J.M., 1951. Geology and Mineral Occurrences of the Upper Kitsault Valley: British Columbia Ministry of Energy, Mines and Petroleum Resources Ann. Rept., 1951, p. A76-A83.

Blackwell, J.D., 1986a. Assessment Report: Geology, Geochemistry and Geophysics of Sault 1, 3, 4 and 5 Mineral Claims. Cominco Ltd.

Blackwell, J.D., 1986b. Assessment Report: Geology and Geochemistry of Sault 1, 3, 4, 5, 7 and 8 Mineral Claims. Cominco Ltd.

Campbell, F.A., 1959. The Geology of Torbit Silver Mine: Econ. Geol., v. 54, p. 1461-1495.

Carter, N.C., Bapty, H., 1964. Annual Report of the British Columbia Minister of Mines, 1964, p. 45.

Carter, N.C., 1965. Annual Report of the British Columbia Ministry of Mines, 1965, p. 65.

Carter, N.C., Bapty, H., 1966. Annual Report of the British Columbia Ministry of Mines, 1966., p. 44, 47.

Carter, N.C., 1967. Annual Report of the British Columbia Minister of Mines, 1967, p. 42.

Carter, N.C., 1968. Annual Report of the British Columbia Minister of Mines, 1968, p. 56-58.

Cavey, G., 1980. Assessment Report 8785; Report on the Big Bulk Claims, Prism Resources Limited.

Dawson, G.L., and Alldrick, D.J., 1986. Geology and Mineral Deposits of the Kitsault Valley (103P/11,12): British Columbia Ministry of Energy, Mines and Petroleum Resources, Paper 1986-1, p. 327-330.

Devlin, B.D., and Godwin, C.I., 1986a. Geology of the Dolly Varden Camp, Alice Arm Area (103P/11,12): British Columbia Ministry of Energy, Mines and Petroleum Resources, Paper 1986-1, p. 327-330.

Devlin, B.D., 1987. Geology and Genesis of the Dolly Varden Silver Camp, Alice Arm Area, Northwestern British Columbia. M.Sc. Thesis, University of British Columbia, unpublished.

Gale, R.E., 1957. Geology of the Kinskuch Lake Area, B.C., M.Sc. Thesis, University of British Columbia, unpublished.

Grove, E.W., 1986. Geology and Mineral Deposits of the Unuk River-Salmon River-Anyox Area: British Columbia Ministry of Energy, Mines and Petroleum Resources, Bull, 63, 152 p.

Geological Survey of Canada, 1978. Regional Stream Sediment and Water Accelerated Geochemical Survey, B.C.; NTS 103P and Part of 103O; RGS-2-1978.

Greig, C.J., 1991a. Stratigraphic and Structural Relations Along the West-Central Margin of the Bowser Basin, Oweegee and Kinskuch Areas, Northwestern B.C., Department of Geoscience, University of Arizona, Preliminary Doctoral Thesis Report.

Greig, C.J. 1991b. Fieldwork in the Oweegee and Snowslide ranges and Kinskuch Lake Area, Northwest, B.C., Department of Geosciences, University of Arizona; Preliminary Doctoral Thesis Report.

Hanson, G. 1935. Portland Canal Area, B.C., Memoir 175, GSC.

Jackisch, I., 1987. Report on UTEM and Magnetic Surveys on the Kit Option, Stewart Area. Cominco Ltd., Internal Report.

James, A.R.C., 1956. Annual Report of the British Columbia, Minister of Mines, p. 21.

Leitch, C.H.B., 1991. Petrographic Report on Six Thin Sections from Big Bulk Property near Kinskuch Lake, B.C., included in Tupper 1991.

Livingstone, K.W., 1980. Assessment Report 8375; Big Bulk Property, Report on the Geology and Rock Geochemistry, Prism Resources.

Livingstone, K.W., 1982. Assessment Report 10798; Diamond Drill Report, Big Bulk Property, Kinskuch Lake.

MacRobbie, P.A., 1988. Geological-Geochemical Report on the Kit Option, Stewart Area, B.C. Cominco Ltd.

Sinclair, A.J., 1981. Applications of Probability Graph in Mineral Exploration: Assoc. of Exploration Geochemists, Special Volume No. 4.

Sirola, W.M., 1970. Assessment Report 2538; Report on Magnetic and Induced Polarization Survey, Kinskuch Lake, B.C.

Tupper, D.W., McCartney, I.D., 1990. Geological, Geochemical and Diamond Drilling Report on the Kits-Jade Project. Kitsault Lake Area, B.C.

Tupper, D.W., Tucker, T.L. and Sandberg, T. (1991). Geological, Geophysical and Geochemical Report on the Kits-Jade Project, Kitsault Lake Area, B.C.

Woodcock, J.R., 1985a. Assessment Report: Geology and Geochemistry, Sault Claims.

Woodcock, J.R., 1985b. Geology and Geochemistry, Sault Claims. Report to Cominco Ltd.

APPENDIX I

Statement of Qualifications

STATEMENT OF QUALIFICATIONS

I, DAVID W. TUPPER, of 1047 Leyland Street, West Vancouver, British Columbia, do hereby certify that:

1) I am a consulting geologist.

2) I was under subcontract to Keewatin Engineering Inc. of 800 - 900 West Hastings Street, Vancouver, B.C. for the duration of time I worked on this project.

3) I worked on the Kits Property from August 26 to September 10, 1991.

4) I am a graduate of the University of British Columbia (1985) with a Bachelor of Science degree.

5) I have practised my profession continuously since graduation, largely on a contractual basis.

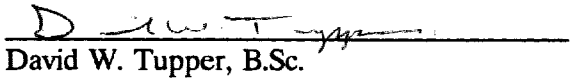
6) I have been employed in mineral exploration since 1979.

5) I am the author of the report entitled "Geological and Geochemical Report on the Big Bulk Copper-Gold Porphyry Prospect, Kinskuch Lake, British Columbia, Skeena Mining Division", dated November 29, 1991.

6) I do not own or expect to receive any interest (direct, indirect or contingent) in the property described herein nor in the securities of Aber Resources Ltd., Oliver Gold Corporation or Tanqueray Resources Ltd., in respect of services rendered in the preparation of this report.

Dated at Vancouver, British Columbia this 29th day of November, 1991.

Respectfully submitted,



David W. Tupper, B.Sc.

APPENDIX II

Summary of Field Personnel

SUMMARY OF FIELD PERSONNEL

Name	Position	Sampler Code	Man Days
Ron Nichols	Project Supervisor		1.5
David Tupper	Project Geologist	DT	16.0
Sara Howson	Prospector/Geographer	SH	16.0
Andrew Muirhead	Prospector	AM	16.0
Vaun Malo	Field Assistant	VM	16.0

APPENDIX III

Statement of Expenditures

STATEMENT OF EXPENDITURES

Pre-Field (Maps, Reports, Permitting)		**$ 2,713.77**
Field Program		
Personnel	$19,345.00	
Supervision	212.50	
Camp Costs (64 man days)	9,661.81	
Transportation		
Fixed Wing and Travel	7,928.77	
Truck	275.00	
Helicopter	394.63	
Geochemical Analyses (44 soils, 148 rocks)	3,207.05	**$41,024.76**
Post-Field		**$ 8,831.13**
TOTAL EXPENDITURES:		**$52,569.66**

APPENDIX IV

1991 Petrographic Study; C. Leitch

PETROGRAPHIC REPORT ON SIX THIN SECTIONS FROM THE BIG BULK PROPERTY NEAR KINESKUCH LAKE, BRITISH COLUMBIA

Report for: David Tupper
Keewatin Engineering Ltd.
800-900 W. Hastings Street
Vancouver, B.C.

Invoice attached

November 13 1991

Samples submitted: KTS91-01 to 06.

KTS91-01: POIKILITIC, SERICITE-ACTINOLITE-CHLORITE ALTERED PYROXENE K-FELDSPAR RICH GRANODIORITE TO QUARTZ MONZONITE

Pale green, medium-grained intrusive composed of about 50% dark mafic crystals and 50% sericitized plagioclase. Minor amounts of pink ?K-feldspar are present. The rock is strongly magnetic, but does not appear to be altered (texture is not destroyed). In thin section, the modal mineralogy is:

Sericite (after plagioclase)	25%
Amphibole (actinolite?)	20%
K-feldspar	15%
Relict clinopyroxene	10%
Chlorite	10%
Epidote (?)	10%
Quartz	5%
Opaque (?magnetite)	2%
Apatite	2%
Sphene	1%

In thin section, this rock is actually quite altered. Former euhedral 2 mm plagioclase phenocrysts are saussuritized (psuedomorphed by fine scaly sericite and semi-opaque grains of ?epidote); this imparts their pale green colour in hand specimen. Former mafic crystals consist of remnants of euhedral 1-2 mm clinopyroxene (c^Z=45 degrees) that have been altered to dark green fibrous secondary amphibole with c^Z about 15 degrees (?actinolite) and bright green chlorite (Fe-rich, pennine).

Both plagioclase and clinopyroxene relics are set in a matrix of very coarse-grained K-feldspar (?orthoclase) that forms large subhedral crystals up to 4 mm long poikilitically enclosing the other minerals. This does not look like secondary K-spar; it is probably primary or late-magmatic. There is minor interstitial quartz, as small subhedral grains associated with the K-feldspar. It is also probably primary or late-magmatic rather than secondary.

Accessory minerals include rather abundant apatite as euhedral crystals up to 0.5 mm long, magnetite as subhedral grains up to 0.5 mm diameter, and minor associated sphene as subhedral grains to 0.2 mm long.

In summary, this is a rather unusual pyroxene granodiorite to quartz monzonite containing abundant coarse K-feldspar, that has undergone moderate ?deuteric alteration to secondary amphibole-chlorite and sericite-epidote.

KTS91-02 (Bonnie Zone): ALBITE-CHLORITE-SERICITE ALTERED ?MAFIC IGNEOUS ROCK, CUT BY PYRITE-CHALCOPYRITE STRINGERS

Dark green, highly altered rock cut by stringers of coarse pyrite and lesser fine chalcopyrite. The specimen is not magnetic, but reacts vigorously to cod dilute HCl. In polished thin section, the mineralogy is approximately:

Chlorite	35%
Secondary alkali feldspar (?albite)	30%
Sericite (muscovite)	15%
Pyrite	5%
Chalcopyrite	5%
Carbonate (calcite)	5%
Epidote (?)	3%
Quartz (?secondary)	2%
Sphene, rutile	<1%

Very little remains of the original texture of this rock. It is now essentially composed of remnant subhedral 1-2 mm phenocrysts of plagioclase set in a matrix of fine-grained secondary alkali feldspar, chlorite and sericite. The rock is cut by irregular veinlets of pyrite, chalcopyrite, sericite and minor quartz.

The former plagioclase phenocrysts are now composed of what appears to be secondary feldspar, probably albite to judge by the refractive index below that of quartz and extinction angle X^001 of 17 degrees. It is dusted by fine particles of ?clay and hematite. Most of the matrix feldspar is probably of similar composition, although in such small, andhedral (0.02 mm) grains that it is not possible to be sure. There does not appear to be significant quartz in this secondary matrix. Only staining with sodium cobaltinitrite would distinguish any K-feldspar present in this rock.

Chlorite forms fine scales of about 0.02-0.03 mm diameter, partly mixed with sericite of similar size and partly as coarser, more euhedral ?pseudomorphs of former mafic grains that were up to 0.5 mm across. The chlorite is as in KTS91-01: a moderately Fe-rich variety with bright green pleochroism and anomalous interference colours.

Minor amounts of very fine (0.01-0.02 mm), anhedral carbonate crystals are found both scattered with the sericite and chlorite (possibly after former mafics; in places the sericite is mixed with minor fine ?epidote as seen in KTS91-01). Rare subhedral sphene crystals are up to 0.2 mm long; rutile crystals are mainly < 0.02 mm.

The veins consist of coarse cubic pyrite to 3 mm across, fine anhedral chalcopyrite up to 1 mm across, fine muscovite as subhedral flakes to 0.05 mm diameter, subhedral quartz grains up to 0.5 mm diameter, elongate calcite grains to 0.5 mm and irregular masses of chlorite up to 0.25 mm thick. Chalcpyrite forms thin veins, probably remobilized, crossing the more britlle pyrite, and it also tends to be more disseminated in the wallrock away from the veins. No other sulfides were observed, but minor sphene is associated with the pyrite and chalcopyrite.

KTS91-03 (Marla Zone): SERICITE-CHLORITE-QUARTZ SCHIST (?AFTER QUARTZ-FELDSPAR AND FELDSPAR-?HORNBLENDE PORPHYRY)

Light to dark green, layered and somewhat foliated rock with distinctive pale grey ?plagioclase pseudomorphs aligned parallel to the foliation. The rock is not magnetic, but it does react to cold dilute HCl along a thin quartz vein separating the light from the dark green portions of the rock. In thin section, the modal mineralogy is:

Sericite (muscovite)	55%
Chlorite	20%
Quartz (partly secondary)	15%
Relict feldspar (?albite)	5%
Carbonate (calcite)	2%
Opaque (?mainly pyrite)	2%
Apatite	1%
Sphene, rutile	1%

There are two portions to this specimen: pale green, lacking obvious relict mafic phenocrysts, and dark green, with abundant relict mafics. They are separated by a zone of thin quartz-calcite-pyrite stringers.

In both portions the major phenocryst phase was plagioclase, forming euhedral crystals up to 2 mm long that are strongly aligned paralell to the foliation. They are now mainly pseudomorphed by very fine-grained sericite, although in some places there appear to be remnants of alkali feldspar (?albite) as fine ((<0.1 mm) anhedral grains composing patches up to 1 mm across that could have been former plagioclase grains. An unusual feature of both portions, although more common in the dark green areas, is the presence of relatively large (up to 0.5 mm) sub- to euhedral crystals of ?apatite. These appear to be primary, but if this is true they imply an uncommon composition to the rock.

In the light green portion, there are patches of quartz up to 0.5 mm across that could have originally been "eyes" or phenocrysts. They now consist of recrystallized anhedral quartz grains up to 0.2 mm across.

In the dark green portion, relict mafic crystals up to 2 mm long (partly due to stretching along the foliation) have euhedral outlines that are more suggestive of amphibole than of pyroxene. They are mostly pseudomorphed by a deep green pleochroic, anomalous blue (Fe-rich) chlorite and fine opaques, but also in places by sericite and minor quartz and carbonate. The opaques may include both sulfide (?pyrite) and lath-like or skeletal rutile and sphene, probably after former ilmenite.

This appears to have been an interlayered feldspar $\pm$ quartz and feldspar-amphibole porphyry or possibly a tuff, which has undergone significant alteration to sericite and chlorite, with minor quartz and carbonate $\pm$ pyrite. The original composition, inferred from the possible quartz and amphibole phenocrysts, may have been more felsic than KTS91-01.

KTS91-04 (Tracey zone): SERICITE-CHLORITE-CALCITE ALTERED PLAGIOCLASE-?HORNBLENDE-BIOTITE PORPHYRY

Dark green, fine-grained, mafic porphyry characterized by small dark mafic relict phenocrysts and buff-coloured TiO_2 relics. Minor sulfides are magnetic and look like pyrrhotite; minor reaction to cold dilute HCl indicates calcite. In thin section, the mineralogy is:

Sericite	30%
Chlorite	30%
Relict feldspar (?albitic)	15%
Carbonate (clacite)	15%
Relict biotite	5%
Quartz (secondary?)	2%
Sphene, leucoxene	2%
Opaque (pyrrhotite?)	1%
Apatite	<1%

This rock consists of euhedral relict phenocrysts of plagioclase (30%), ?amphibole (20%) and biotite (5%) set in a very fine matrix of altered, rather indeterminate nature. Plagioclase pheneocrysts were up to 2.2 mm long and are intensely replaced by very fine sericite, chlorite, carbonate, and minor quartz. Portions that remain look to be alkalic (albite) feldspar (extinction on 010 about 15 degrees). Rare very small (0.25 mm) euhedral quartz phenocrysts are present, and there are also some micro-phenocrysts of apatite upto 0.2 mm long.

There are two distinct mafic relics, one with strongly elongate outlines up to 2.5 mm long and the other as books up to 1 mm across. The former is replaced by chlorite, calcite and very minor fine opaques; these appear to have been an amphibole such as hornblende originally, as suspected in KTS91-03. The other consists of biotite with dark brown pleochroism interleaved by chlorite and minor rutile or sphene. There are also relics of former TiO_2 grains as microphenocrysts up to 0.25 mm diameter, now consisting of very fine (10 micron) grains of sphene and ?leucoxene.

The groundmass is so fine (average about 5-10 micron) and altered that it is difficult to identify with certainty, but it probably consists mostly of relict feldspar (?), quartz, sericite and chlorite plus minor opaque Fe-Ti oxides.

The composition of this rock may have been similar to that of KTS91-03 prior to strong sericite-chlorite-calcite alteration, i.e. an intermediate to felsic (?quartz andesite to rhyodacite) volcanic, probably a flow. This is suggested by the presence of minor quartz as a phenocryst phase, and biotite as well as ?hornblende as phenocryst phases.

KTS91-05 (TWYLA zone): SERICITE-FE CARBONATE-CHLORITE-?QUARTZ ALTERED ?INTERMEDIATE TO FELSIC VOLCANIC

Medium green, fine to medium grained, strongly altered ?volcanic rock characterized by clotty white and buff-coloured relict phenocrysts in a chloritic matrix. Irregular patches of sulfide appear to include coarse (0.5 mm) pyrite and fine (0.1 mm) ?pyrrhotite (slightly magnetic). The rock reacts to cold dilute HCl only in the oxidized orangey margins of the specimen, suggesting Fe-calcite or Fe-dolomite (ankerite). In thin section, the mineralogy is:

Sericite (muscovite)	30%
Carbonate (ferroan calcite or dolomite)	20%
Quartz (?partly secondary)	20%
Chlorite	15%
Relict feldspar (?albitic)	10%
Opaque (pyrite and ?pyrrhotite)	3%
Sphene, leucoxene	1%
Apatite	1%

Quartz, which could be in large part primary, is abundant in this specimen. It forms sub- to euhedral grains and aggregates up to 1.5 mm long that look to have originally been quartz "eyes". They are composed of subhedral grains of about 0.5 mm diameter, and are cross-cut and altered by minor sericite and carbonate.

Patches of fine-grained sericite (10-20 microns) and somewhate coarser carbonate (25-50 microns) have very irregular outlines. In places there are relicts remaining of anhedral feldspar, probably alkalic (?albite) although its composition cannot be determined. This suggests that there may have been plagioclase phenocrysts present, although they do not appear to have been euhedral as in KTS91-04. However, this could be due to texture-destructive carbonate alteration.

Patches of chlorite, carbonate and minor sericite may have been mafic crystals, but again their shapes are fuzzy perhaps due to alteration. Fine anhedral opque grains in these areas may be pyrrhotite; pyrite forms coarse euehdral to subhedral grains separately, some with haloes of chlorite and secondary quartz. The chlorite in these areas is especially pleochroic and anomalous blue, indicating Fe-rich compositions.

Apatite forms euhedral phenocrysts up to 0.5 mm long (apparently primary), indicating a link to the other rocks of this suite. The original composition may have been an intermediate-felsic volcanic likeKTS91-04. Alteration is of similar type (sericite-chlorite-carbonate) but is stronger, the carbonate is ferroan and more abundant, and sulfides are more abundant.

KTS91-06 (DDH82A-3): SERICITE-QUARTZ-CHLORITE-?ALBITE ALTERED ?VOLCANIC PORPHYRY WITH MINOR PYRITE

Light green to buff strongly altered ?igneous rock (texture largely destroyed). The rock is cut by fractures along which some pyrite is distributed and which react vigorously to cold dilute HCl; the rest of the rock also reacts moderately. The rock is not magnetic. In thin section, the mineralogy is approximately:

Sericite	35%
Relict feldspar	20%
Quartz (largely secondary?)	15%
Carbonate (calcite)	15%
Chlorite	10%
Pyrite	3%
Rutile	2%

There are vague remnants of a porphyritic texture evident in thin section: euhedral outlines of former ?plagioclase phenocrysts, quartz eyes, and probable mafic crystals set in an altered groundmass. The plagioclase crystals were up to about 1 mm long; they are pseudomorphed by very fine flakey sericite and coarser (up to 0.05 mm) calcite. In places remnants of feldspar occur behind a blur of alteration minerals (quartz, calcite and sericite); this is probably mainly secondary alkali feldspar of albitic nature, but it is impossible to be sure without staining tests.

Quartz occurs as sub- to euhedral single crystals or aggregates of grains up to 0.5 mm across that may have been phenocrysts, and as larger aggregates with calcite that are clearly secondary. The largest secondary grains are about 0.5 mm in diameter.

Patches of calcite, chlorite and minor opaque oxides may represent the sites of former mafic crystals up to about 1.5 mm long. Their outlines are blurred by alteration but they may have been euhedral. It is not possible to guess their former identity. The opaque oxides appear to be mainly rutile (very fine, <10 micron needles clustering together to form aggregates up to 0.1 mm across).

In some places, especially where relict phenocrysts are visible, remnants of a fine quartzo-feldspathic (?) groundmass remain, composed of subhedral grains averaging about 20 microns long.

Fractures and irregular veins up to 0.5 mm thick of chlorite, calcite, pyrite and some quartz cross the slide. This is a highly quartz-sericite-calcite altered rock, and contains significant sulfide (mainly pyrite) accompanying the hydrothermal alteration.

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APPENDIX V

Rock/Soil/Silt Sample Descriptions

KEEWATIN ENGINEERING INC.

Project: Kits-Jade (052) Results Plotted By:

Area (Grid): Seabee Map: NTS: 103P/11W

Collectors: DWT Date: Aug 24/91 Surface: ✓ Underground:

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91DT052SR002	El. 3666; Seabee peninsula, N.	Skuch 14	Py Shear	GRAB rusty andesite(?); shear w 2-3% Py, Gyp dike, sericite	123		131	0.4	<1
91DT052SR003	Seabee Cove (Seabee Camp)	Skuch 14	Fels. Porph	Prob. 1965/66 Forrest Kerr; DDH#5 CORE: 180' to 237'; carb. alt'd fold. porph. andesite	706		68	<0.2	4
91DT052SR004	Seabee Cove (Seabee Camp)	"	Vlc. Breccia	Hole unknown; 25' to 45'; random sample; CORE: siliceous volcanic breccia with 1-5cm veinlettes, 1-3% disseminated Py Tr. Cpy (incl 5cm Py, Cpy Veinlette.)	3718		881	4.9	7
91DT052SR005	Seabee Cove	"	Sericitic Andesite?	CORE: random sample from unknown hole (prob 1965/66); unknown interval; sericite/chlorite altered andesite(?) with 3% med grained Py; plag phenocrysts.	614		48	<0.2	5
Aug 28/91									
91DT052SR039	El. 3800'; SW corner of lake	Skuch 14	Vlc(?)	GRAB: carb. altered and sheared vlc(?) w Py stockwork. NW of monzodiorite intrusive	100		21	<0.2	11

KEEWATIN ENGINEERING INC.

Project: Kits-Jade (052) — Results Plotted By: _____

Area (Grid): Big Bulk — Map: _____ NTS: 103P/11W

Collectors: DWT — Date: Aug 24/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91DT052BR001	El. 3670'; Peninsula; ~29+94E/10+56N	SKUCH 14	Mass Py Vein	GRAB massive Py shear vn. w qt/calc; 1 to 10cm 110°/45°S	1000		320	0.3	5
Aug 24/91									
"	El. 3673'; btwn Peninsula & cliff	SKUCH 14	Vein	GRAB: Qt-Calc-Py-Sph-tr Cpy; 3-10cm	398	0.039	1184	1.4	30
91DT052BR006				hosted in med. grained andesite with 1-2% Py			(0.039)		
				+ Epidote + Chlorite ± Carb.; 3% Py stringers					
91DT052BR007	" " "	"	Vein	GRAB: sample of andesite host +	168		60	<0.2	11
				Py stringer veins (1 to 2cm);					
				stringers along variably orient. joints.					
91DT052BR008	El. 3690'; N. of peninsula 30m	SKUCH 14 BIG BULK	Vein	GRAB: Qt. - Calc - Py (20%) Vein	48		1938	2.0	4
				5 to 30cm x 10m.			(0.069)		
91DT052BR009	El. 3710'; N. of peninsula 80m.	SKUCH 14 BIG BULK	Sericite Shear	GRAB: Qt-Calc-Py-Cpy Vein; Cpy in	15300		336	5.5	4
				clots to 10cm.; hosted in sericite shear					
91DT052BR010	El. 3800; S. of Moraine	BIG BULK	Vein Stockwork	GRAB: Qt-Calc-Py-tr Cpy Stockwork	15041		124	3.1	778
				(~30 x 100m); Vns 1 to 50cm; Cpy ~1%					
				in 5cm Vns; hosted Carb altn.					
91DT052BR011	El. 3810; S. of Moraine	BIG BULK	Vein Stockwork	GRAB as for 91DT052BR010.	>20000	2.94	152	4.7	1465

(1)

KEEWATIN ENGINEERING INC.

Project: Kits-Jade (052) — Results Plotted By: _____

Area (Grid): Big Bulk — Map: _____ NTS: 103P/11W

Collectors: D.W.T. — Date: Sept. 3/91 — Surface: ✓ — Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91DT052BR012	El. 3840'; ~25m S of ark. junction	Big Bulk	Py Vns	GRAB: Py vein stockwork (Qt-Calc-Py-Cpy Veins) irreg. orientation.	3059		58	<0.2	223
91DT052BF013 Aug. 25/91	El. 3635'; as above	Big Bulk	Py Veins	FLOAT: v. close to source; as above.	384		<5	<0.2	15
91DT052BF014 Aug. 26/91	On lakeshore, Twyla. 200m N of Camp	Big Bulk	Volcanic	FLOAT: carb. altered volc. ± fine Epy-Qt-Calc veinlettes; Cpy 1%.	12362		408	5.5	24
91DT052BC015	Trench, Baynie Peninsula L30+00E / Starts 6m N of 10+00N	Sketch 14	Volcanic (Andesite?)	CHIP/2m: sampled from N to S; chloritic ± 3-5% Py disseminated, tr Cpy Py also in stringers.	967	0.13	314	1.2	2
91DT052BC016	" " "	"	"	CHIP/2m: as above.	2239	0.24	96	1.7	2
91DT052BC017	" " "	"	"	CHIP/2m: as above; hematite along fractures; Py stringers generally irregular but ave. trend 050/85S Py stringers 0.3 cm wide, spaced 5 to 10 cm	1461	0.17	73	1.0	3
91DT052BC018	" " "	"	"	CHIP/2m: as above (C017); more mottled green/pale green; ?ser-albitization	1865	0.23	90	1.5	2

KEEWATIN ENGINEERING INC.

Project: KITS/JADE (052) Results Plotted By: _____

Area (Grid): BIG BULK Map: _____ NTS: 103 P/11W

Collectors: DWT Date: Sept 3/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91DT052BC019	Trench; Bonnie Penninsula	SKUKK14	Volcanic (Andesite)	CHIP/2m; (sampled N to S);	812	0.14	90	0.7	8
				as above (C018); mottled grn					
				~ 3-5% disseam. Py + 1.5m		-			
				section of well foliated Py shear					
				(Py 60%) 0.2 to 1.0m width.					
91DT052BC020	" " "	"	"	CHIP/2m; as above (C018); mottled	1268	0.17	105	0.9	5
				green/grey green; irreg. Py					
				stringers (5%) + Qt.					
91DT052BC021	" " "	"	"	CHIP/2m; as above (C018)	1259	0.15	98	0.7	29
91DT052BC022	" " "	"	"	CHIP/2m; as above (C018)	1376	0.18	287	3.1	2
91DT052BC023	" " "	"	"	CHIP/2m; as above (C018)	983	0.12	187	2.0	2
91DT052BC024	" " "	"	"	CHIP/2m; as above (C018)	1511	0.21	99	0.7	5
91DT052BC025	" " "	"	"	CHIP/2m; mottled appearance controlled	1843	0.22	54	1.0	5
				by fracture which, - are				0	
				pale green/green around grey;					
				2-5% Py					

(3)

KEEWATIN ENGINEERING INC.

Project: Kits/Jade (052) — Results Plotted By: _____

Area (Grid): Big Bulk — Map: _____ NTS: 103P/11W

Collectors: DWT — Date: Sept 3/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91DT052BC026	Trench; Bonnie Peninsula	SKUCH 14	Volcanic (Andesite)	CHIP/2m: as above (C025)	1666	0.19	147 ??	0.7	2
Aug. 27/91									
91DT052BR027	Bonnie Creek; from Aug 24 traverse (Gale Showing)	Big Bulk	Andesite	GRAB: andesite ~ 0.5% Cpy/malachite throughout/along fractures.	9040		97	<0.2	27
91DT052BR028	El. ~3500'; Gale Showing.	"	Malachite	GRAB: above falls in creek; malachite azurite (chrysocolla?) coated fracture to 2cm thick; magnetite in andesite host.	4660		16	<0.2	33
91DT052BR029	Elev. 4015'; Gale Creek. (3m from 91SH052BR011)	"	Qt-Cpy Vn	GRAB: qt-calc vein with coarse Cpy (to 5cm); vein brecciated to 30cm.	>20000	11.77	432	17.8	<1
91DT052BR030	Elev. 4180' Gale Cr.	"	Andesite	GRAB: mottled green grey andesite(?) ~ 0.2 to 1.0% malachite stain on c/c; cpy along fractures/disseminated.	1480		9	0.3	6
91DT052BR031	Elev. 4150', Gale Cr. (30m E of R030)	"	"	GRAB, as above (R030)	1080		15	<0.2	8

KEEWATIN ENGINEERING INC.

Project: KITS/JADE 052.
Area (Grid): BIG BULK.
Collectors: D.W.T.

Results Plotted By: _____
Map: _____ NTS: 103 P/11 W.
Date: AUG. 27. Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91DT.052. B-R031	· samples taken · every 20m. starting 91DT052. B-R031. DOWNSTREAM GALE CK.		SERICITE SHEAR.	GRAB. - QTZ. SERICITE SCHIST. 3-8% diss + STRINGERS OF. py. shear 145° DIP 70W.	1080		15	<0.2	8
91DT 052. B-R032	" " " "		PORPH. PLAG. AND	GRAB: well foliated, 5-8% · FRACTURE FILLS cpy/py SULPHIDE. STRINGERS. 112° DIP 69°N	2312		15	<0.2	8
91DT 052 B-R033.	" " " "		PORPH. PLAG. AND.	GRAB: CALCAREOUS. CARBONATE STOCKWORK. -5% diss py/cpy	695		17	0.6	11
91DT052 B-R034	" "		AND.	- GRAB - f.g. green. AND. mon - 2mm QTZ/CARB VNING 15% diss + FRACTURE CONTROLLED. py.	144		8	<0.2	<1
91DT 052 B-R035			PLAG. PORPH AND	- GRAB. Fractured, f.g. pale GREEN AND; · 2-5% diss + FRACTURE CONTROLLED. py/cpy	378		7	<0.2	10

KERR WADDELL ENGINEERING INC.

Project: KITS / JADE 052.

Area (Grid): BIG BULK.

Collectors: DWT.

Results Plotted By: _____

Map: _____ NTS: 103 P/11W.

Date: AUG. 27. Surface: ✓ Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91DT052.	20m intervals.		PLAG.	GRAB: QTZ/CARB. VNING	151		19	<0.2	10
B-R036.	GALE CK.		PORPH AND	VERY FRACTURED.					
				3-5% diss + FRACTURE py					
91DT052	" "		PLAG.	GRAB: FRACTURED, ~ 1.5m.	663		25	<0.2	17
B-R037	" "		PORPH. AND.	DYKE. 5-10% d. ss py/cpy					
				TR. MAL. STAINING					
91DT052	" "		PLAG.	GRAB: - SAME AS ABOVE.	522		<5	<0.2	5
B-R038	" "		PORPH AND	1-2% DISS. py / cpy					
				TR. MAL STAIN.					

(6)

KEEWATIN ENGINEERING INC.

Project: Kits/Jude (052) — Results Plotted By: _____

Area (Grid): Big Bulk. — Map: _____ NTS: 103P/11W

Collectors: DWT — Date: Sept 3/91 Surface: ✓ Underground: ____

Aug. 29/91 SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91DT052BR040	El. ~4500; below Marla	Big Bulk	Plag. Porph	GRAB: well foliated plag. inclase porphyry andesite(?); green mottled tn – 0.5% Py + Cpy (minor malachite).	587		8	<0.2	4
91DT052BR041	Elev. ; below Marla	"	Andesite	GRAB: composite chip over 2.5m; med. green ± brown stain, well foliated (1-5cm partings); 0.5 to 1% disseminated malachite stain; 2-5% py-cpy along fractures; below 9055 contour sample line; c/c surrounded by sericite Py alteration.	2599		32	0.6	<1
91DT052BR042	Elev. ; below Marla (~5m E of R041)	"	"	GRAB; as above (R041)	4846		123	1.0	<1
91DT052BR043	El. ; below Marla (10m W of 9055R162; ~5m E of BR042)	"	"	GRAB; as above (R041); Py-Cpy along multiple irreg. fracture surfaces.	9816		312	2.4	<1

(7)

KEEWATIN ENGINEERING INC.

Project: Kite/Jade (052)
Area (Grid): Big Bulk.
Collectors: DWT

Results Plotted By: _____
Map: _____ NTS: 103P/11W
Date: Sept 3/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91DT052BR044	Elev. ; below Marla ~80 to 100m E of BR041	Big Bulk	Andesite	GRAB: Py-Cpy (?) stockwork in carb. altered andesite w malachite; veinlettes irreg.	1496		212	1.1	<1
91DT052BR045	El. ; below Marla sit of 905SR161	"	"	GRAB: (as above BR044)	3523		113	0.4	2
91DT052BR046	Elev. ; Marla (E of BR045)	"	"	GRAB: Qt-calc veins + Cpy + Malachite; lw fracture; Py Cpy dissem. in andesite host.	11157		67	<0.2	3
91DT052BR047	Elev. ; Marla (50m E of BR044)	"	"	GRAB: Qt-calc zone w abundant malachite/azurite	11280		73	<0.2	3
91DT052BR048	Marla Zone.	"	"	GRAB	2693		75	0.5	4
Aug 30/91									
91DT052BR049	Camp; Old Core	"	"	CORE: DDH65(?)A4; 388' to 390'; random sample of core; 2 to 8% Py w qt-carb-py-epid-chl.; not previously sampled.	10445		568	2.0	13
91DT052BR050	Camp; Old Core	"	"	CORE; DDH65(?)A-4; 461'-475' (as above. BR049).	919		66	0.4	8

(8)

KEEWATIN ENGINEERING INC.

Project: Kits/Jade (052) — Results Plotted By: _____

Area (Grid): Big Bulk. — Map: _____ NTS: 103P/11W.

Collectors: DWT — Date: Sept 3/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
Sept 3/91									
91DT052BR051	Camp, old core	BigBulk	Andesite	CORE: DDH 65(?) A-3; andesite w epid. replacing plagioclase phenocrysts; Py dissem. to 2-4% + stringer veins; chlorite; previously sampled. 105' to 129'; random sampled.	460		59	<0.2	1
91DT052BR052	" "	"	"	CORE: DDH 65(?) A-7; 0'-96' v. poor recovery; broken.; not sampled; ~50/box; chl. py altered andesite ⇒ abundant malachite stain throughout.	1895		53	0.9	<1
91DT052BR053	" "	"	"	CORE: DDH 65(?) A-7; 96' to 200' as above (BR052)	1313		30	0.3	<1
91DT052BR054	" "	"	"	CORE: DDH 65(?) A-7; 200'-351'; as above	882		17	<0.2	2
91DT052BR055	" "	"	"	CORE: DDH 65(?) A-1; 494'-500'; malachite + carb alteration.	2380		67	0.4	15

KEEWATIN ENGINEERING INC.

Project: Kits/Jade (052)
Area (Grid): Big Bulk.
Collectors: DWT / VHM

Results Plotted By: _____
Map: _____ NTS: 103P/11W
Date: Sept 3/91 Surface: ✓ Underground: ___

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Au (oz/ton)	Au g/tonne
Sept 1/91	Bonnie Peninsula	Sketch 14	Andesite	CHIP/1.5m: sampled N to S; cont. to BC002 to S; begin semi-continuous series of samples in N-S direction; volc. breccia, mottled green w Py (3-10%) stringers 0.05 cm to 0.5 cm; generally trending 110/75S; dissem. Tr. to 1.0% Cpy in stringers & dissem.; hematite dissem. along stringers; stringers spaced 3 cm.	9321	0.90	348	0.002	2.9
91VM052BC001	approx 30+19E/10+78N to 10+76N								
91VM052BC002	" "	"	"	CHIP/1.4m; as above, Py 3-5%. stringers spaced 10 cm; cut by shear; 91AM052BC001 continues 1.1 m E from fracture to S.	>20000	1.86	811	0.032	6.3
	30+19E/10+76N to 10+79N								
91VM052BC003	" "	"	"	CHIP/2m; as above (BC001) stringers irreg.	18105	1.69	932	0.038	6.9
	approx 30+15E/10+74E to 10+72E	"	"						
91VM052BC004	" "	"	"	CHIP/2m; as above (BC003)	>20000	1.93	1013	0.035	4.8
	approx 30+15/10+72E to 10+70E	"							

KEEWATIN ENGINEERING INC.

Project: Kits / Jack (052) — Results Plotted By: ____

Area (Grid): Big Bulk. — Map: ____ NTS: 103 P/11W

Collectors: VHM / DWT — Date: Sept 3/91 — Surface: ✓ — Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Ag (ppb)	Au	As (ppm)
~~91VM052BC004~~									
91VM052BC005	Bonnie Peninsula	Skwch14	Andesite	CHIP/2m: as above (BC004)	>20000	2.07	1119	0.039	5.4
	approx 30+15E/10+72N to 10+68N								
91VM052BC006	" "				14149	1.38	927	0.035	5.1
	~ 30+23E/10+66N to 10+64N	"	"	CHIP/2m; as above (BC004)					
91VM052BC007	" "	"	"	CHIP/2m; as above (BC006)	12901	1.27	875	0.038	6.8
	~30+21E/10+64N to 10+62N								
91VM052BC008	" "	"	"	CHIP/2m; as above (BC007)	5718	0.59	387	0.020	2.6
	~30+20E/10+62N to 10+60N								
91VM052BC009	" "	"	"	CHIP/2m; as above (BC008)	19099	1.70	1010	0.035	4.8
	~30+23E/10+60N to 10+58N								
91VM052BC010	" "	"	"	CHIP/2m; as above (BC009); ~~2-4%~~	12257	1.13	639	0.028	3.3
	~30+23E/10+58N to 10+56N								
91VM052BC011	" "	"	"	CHIP/2m; as above BC010); 2-4%	5154	0.49	454	0.016	2.4
	~30+23E/10+56N to 10+54N			Py in carb alt'n in last metre.					
91VM052BC012	" "	"	"	CHIP/1m; as above (BC011)	4667	0.44	399	0.022	1.2
	~30+23E/10+54N to 10+53N								
91VM052BC013	~30+23E/10+53N to 10+51N	"	"	CHIP/2m; as above (BC012)	7769	0.74	569	0.029	1.6
	" "								
91VM052BC014	" "	"	"	CHIP/2m; as above (BC013)	6949	0.67	430	0.016	2.6
	~30+22E/10+51N to 10+49N	"							

(2)

KEEWATIN ENGINEERING INC.

Project: KITS/JADE 052.
Area (Grid): BIG BULK. CLAIM
Collectors: SHH.

Results Plotted By: _____
Map: _____ NTS: 103P/11W.
Date: AUG. 22/91 Surface: ✓ Underground: ___

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052. BR001	30m east of Twyla Zone on CREEK		ANDESITE	GRAB. Well fractured, f.g. DK. green. 2% diss. py poss. cpy. MALACITE STAINING TR. GALENA.	1909		24	0.3	70
91SH052. BR002.	20m upstream from BR001		ANDESITE.	GRAB. ALT'D. f.g., DK. grey. Foliation HBL, discontinuous. CAL. Veins. 6-10cm wide.; 5% diss. py + in FRACTURES., TR. MAL. STAINING 3-4m away from SERICITE/py SHEAR	4050		110	0.3	14
91SH052. BR003	50m NORTH OF D.D.H. "B"		ANDESITE.	GRAB f.g. ALT'D. ANDESITE; LIGHT BOSSANOUS. W CAL Vns. 5% · diss py/cpy., MAL. · AUZURITE STAINING.	5489		498	0.6	6
91SH052. BR004.	20m NORTH OF. D.D.H. "A".		ANDESITE.	GRAB GOSS. W 4cm CAL. Vn. 40% py/cpy diss AND FRACTURE CONTROLLED.	3376		97	1.0	4
AUG. 25/91 91SH052. BR005	±4m East of. 25+50N. TWYLA		ANDESITE	GRAB FRACTURED. o/c. W PLAG. PORPH. AND. W 2% diss py/cpy MALACITE TAUZURITE STAINING	386		74	X0.2	3

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KEEWATIN E GINEERING INC.

Project: KITS / JADE .. 052.

Area (Grid): SEA BEE CLAIM

Collectors: SHH.

Results Plotted By: _____

Map: _____ NTS: 103 P/11 W.

Date: AUG. 23/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052. S-R001	GOSS. PENINSULA TRAV. W DWT. AUG. 23/91.		ANDESITE	GRAB : GOSS, SHEARED. AND. ALT'D L.T. GREEN W/ mm QTZ/CHL. VNING ; 5% diss + FRACTURE CONTROLLED. py/cpy ; MAL STAIN.	802		39	<0.2	4
AUG. 24. 91SH052. S-R002.	5000' TRAVERSE. S/C. LONG. WEST SLOPE OF GLACIER.		BRECCIA	GRAB : GOSS. FELD/HBL. BRECCIA 1% diss py.	227		33	0.8	<1
91SH052. SR003.	" "		FELD/HBL AND.	GRAB : GOSS. FELD/HBL AND. DK. green / f.g. 1% DISS. py	274		20	0.3	3
91SH052. S-R004	" " " "		FELD/HBL AND	GRAB : GOSS. FELD/HBL. AND. BRECCIATED. TR-1% DISS py TR. MAL. STAIN.	611		7	<0.2	4
91SH052 S-R005	" "		FELD/HBL AND.	GRAB : GOSS. FELD/HBL. AND SERICITE. 2% diss py	421		50	0.5	4
91SH052. SR006.	" "		FELD/HBL AND.	GRAB : SAME AS ABOVE. 3% diss py.	54		326	0.6	25

KEEWATIN ENGINEERING INC.

Project: KITS/JADE 052 — Results Plotted By: _____

Area (Grid): SEA BEE CLAIM. — Map: _____ NTS: 103 P/11W

Collectors: SHH. — Date: AUG.24 — Surface: ✓ — Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052.	4500' TRAVERSE.		SERICITE.	GRAB: GOSS SERICITE SHEAR.	358		34	<0.2	10
S-R007	O/C. WEST SIDE OF.		SHEAR	ABOVE SOIL SAMPLE 91SH052 5500					
	GLACIER			TR-1% DISS py.					
91SH052.	" "		FELD/HBL	GRAB: MED. GRAINED, GOSS	468		79	<0.2	10
S-R008.	" "		AND.	FELD/HBL ANDESITE					
				3% disspy					

RR.

KEEWATIN ENGINEERING INC.

Project: KITS/JADE 052.

Area (Grid): O/C SOUTH OF BONNIE CK. BIG BULK. CLAIMS.

Collectors: SHH.

Results Plotted By: _____

Map: _____ NTS: 103 P/11W.

Date: AUG. 26, 1991 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052. B-R006.	O/C. SOUTH OF BONNIE CK. 3900'		PLAG. AND.	GRAB: P.g. DK. GREEN, ALT'N. CHLOR. PLAG AND.; CAL. VNING 3% DISS. py. TR cpy.	386		74	<0.2	3
91SH052. BR007	" " " "		CAL. VEIN.	GRAB. 4-6 cm wide QTZ/CAL Vn. 066° DIP 75°W. WHITE/PINK W CHLOR INCLUSIONS, TR Ay/cpy GALENA	828		29	<0.2	4
91SH052 B-R008	" " " "		PLAG/HBL AND.	GRAB: FRACTURED, DK GREEN, F.g. PLAG/HBL AND. ALT'N CHLOR. 3% DISS + FRACTURE CONTROLLED py/cpy. TR. MAL.	2683		46	0.2	17
91SH052. B-R009	" " " " 4220'		PLAG/HBL AND.	GRAB: SAME AS ABOVE. PLAG ALT'D. TO EP.	765		64	0.2	3
91SH052. B-R010	" " " "		VEIN	GRAB: 60 cm wide QTZ Vn. IN PLAG/HBL AND. VNTRENDS. 160° DIPS 55°E. 3% py 2% cpy. MAL./AUZ. STAINING	>20000	4.58	77	7.2	1

KEEWATIN ENGINEERING INC.

Project: KITS/JADE 052. Results Plotted By: _____

Area (Grid): BIG BULK. Map: _____ NTS: 103. P/11W.

Collectors: SHH. Date: AUG. 27. Surface: ✓ Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052.	GALE CK.		PLAG.	GRAB: ALT'D. PLAG. AND?	304		23	<0.2	<1
B-R011.	4020'		AND.	LT. GREY., FRACTURED.					
				8% diss py. poss TR CPY.					
91SH052.	GALE CK.		VEIN	GRAB: QTZ./BA Vn 10cm wide.	>20000	3.65	64	6.7	10
B-R012.	4100'			134° DIP 46°W. LOCALLY MASSIVE.					
				CPY/PY					
91SH052.	" "		PORPH.	GRAB: well foliated, green/	3167		25	0.4	28
B-R013	" "		PLAG AND.	grayish., fine grained.					
				PORPH. PLAG. AND., ALT'N TRACE					
				3-5% diss py. TR CPY.					

KEEWATIN ENGINEERING INC.

Project: KITS / JADE 052.
Area (Grid): SEABEE CLAIMS
Collectors: S.H.H.

Results Plotted By: _____
Map: _____ NTS: 103 P/11 W.
Date: AUG. 28/91 Surface: ✓ Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052.	HOG CK.		ANDES	GRAB - F.g. DK. green.	1332		28	<0.2	2
S-R014			fg. HBL.	2% DISS py / cpy, TRACE STAIN.					
91SH052.	" "		ANDES	GRAB - SAME AS ABOVE.	1660		139	1.3	3
S-R015.				m-m. DISSEMINATED CARB VNING.					
				8% DISS py/cpy. TR. MAL.					
91SH052.	" "		ANDES	GRAB. SAME AS ABOVE.	2572		88	0.5	20
S-R016.			PLAG/HBL.	3-5% DISS. + FRACTURE py/cpy					
				Tr of MAL. STAINING					
91SH052	HOG CK. START OF.								
S-R017.	10m INTERVAL		ANDES	GRAB. - AND - SAME AS ABOVE. 126° DIP 70° NE.	342		93	0.4	8
	SAMPLING - DOWN-			W SERICITE / py SHEAR; CARB.					
	STREAM.			ALT'N., 3-5% py DISS + FRACTURE					
				FILLS, TR cpy.					
91SH052.	" "		ANDES.	GRAB - SAME AS ABOVE.	241		22	<0.2	<1
S-R018	" "			3-5% DISS py/cpy; TR: MAL.					
91SH052.	" "		ANDES.	GRAB - SAME AS ABOVE. W.	1644		135	<0.2	8
S-R019	" "			CARB VN. 3-5% DISS py/cpy, MAL STAIN.					

KEEWATIN E[illegible]INEERING INC.

Project: KITS / JADE 052.

Area (Grid): SEA BEE CLAIMS.

Collectors: SAH.

Results Plotted By: _____

Map: _____ NTS: 103 P/11W.

Date: AUG. 28/91 Surface: ✓ Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Cu (ppm)		Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052.	HOG CK. 10m.		ANDES	GRAB; SAME AS 91SH052S-R019.	329		29	<0.2	2
S-R020	INTERVAL. SAMPLING			CARB. ALT'N. 5-8% diss-FRACT.					
				py/cpy.					
91SH052.	" "		ANDES	GRAB - SAME AS ABOVE.	96		8	<0.2	<1
S-R021	" "			-CHLORITIC. 2% comm CARB.					
				minor 3% diss py.					
91SH052	" "		ANDES	GRAB - SAME AS ABOVE.	4568		129	0.6	<1
S-R022				5-8% diss-FRACT. py/cpy.					
				MAL. STAIN.					
91SH052	" "		ANDES	GRAB - SAME AS. ABOVE.	657		38	<0.2	<1
S-R023				1-2% DISS. py/cpy.					
				TR. MAL. STAINING.					

KEEWATIN E GINEERING INC.

Project: KITS./JADE 052.

Area (Grid): BIG BULK.

Collectors: SHH.

Results Plotted By: _____

Map: _____ NTS: 103 P/11W.

Date: AUG. 29/91 Surface: L Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)		Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052. B-R024	BOTTOM OF CK. EAST OF TRACEY CK.		SERICITIZED BY FOLIATION.	GRAB - SERICITE / PY. SCHIST LT GREY, F.G. 1% DISSEMINATED CARB VNING. 5% DISS PY.	126		<5	<0.2	<1
91SH052 B-R025	30m up stream.		ANDES	GRAB: F.G. LT. GREEN, CARB ALT'N. 0% DISS + FRACTURE CONTROLLED PY / CPY - MAL. STAIN.	298		N/A	<0.2	<1
91SH052. B-R026	20m up stream from R025.		ANDES	GRAB - SAME AS R025. CHLOR. ALT'N. 3-5% DISS + FRACTURE FILLED PY/CPY., TRACE.	449		7	<0.2	<1
91SH052 B-R027	30m up stream from R026.		SHEAR.	GRAB - SERICITE / PY. SCHIST W. CARB ALT'N. 8-10% DISS + FRACTURE FILL. PY/CPY. MALACHITE STAININGS.	1767		23	<0.2	3

KEEWATIN ENGINEERING INC.

Project: KITS / JADE. 052.

Area (Grid): BIG. BULK.

Collectors: SHH.

Results Plotted By: _____

Map: _____ NTS: 103 P/11W.

Date: AUG. 30/91 Surface: ✓ Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)		Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052. B-R028	RESAMPLE CORE FROM D.D.H. "A-1" 107.9 to 110.4 m.		ANDESITE	Lt green, f.g. PLAG-HBLD. ANDESITE. CHLOR ALT'N. 1-2% DISRUPTED. CAL. VNING 1-2% diss. + FRACTURE FILLED. py - TR DISS, cpy.	3236		85	0.2	29
91SH052 B-R029	D.D.H. "A-1" 110.4 m to 113.5 m.			same as R-028. 2-3% py/cpy.	3784		104	0.4	35
91SH052. B-R030	D.D.H. "A-1" 113.5 to 116.6 m			same as R-028. 1-2% diss, py/cpy, TR MAL STAIN.	5361		121	0.4	14
91SH052 B-R031	D.D.H. "A-1" Box 23 121.0 to 122.6 m.			same as R-028. 2-4% diss. + FRACTURE FILLS py/cpy - LOOKS MORE INTRUSIVE THAN R028.	4824		146	0.4	31
91SH052. B-R032	D.D.H "A-2" Box 2. 11.9 to 14.9 m.		ANDES TUFF?	Lt green to BUFF, f g, w mm. PHENOS OF ROUNDED-ANGULAR HORNBLD. - 1.5 cm CALC Vn W MAG. ASSOC W Vn. 1-3% diss. + FRACTURE FILLED. py TR cpy.	4643		147	0.4	28

KEEWATIN E[illegible]GINEERING INC.

Project: Kits/Jade

Area (Grid): BIG BULK.

Collectors: SHH.

Results Plotted By: _____

Map: _____ NTS: 103 P/11W

Date: AUG. 30/91 Surface: C Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Cu (ppm)		Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052.	D.D.H "A-2" Box 3		ANDES	SAME AS. R032.	3727		81	0.6	4
B-R033	14.9 - 17.9 m.			1-2% diss + FRACTURE FILL PY/CPY					
91SH052	D.D.H. "A-2" Box 17		DIORITE	LT. GREY, F.g. W/ HAND & ALTD	4197		202	0.4	<1
B-R034	79.7. to 82.5 m.			TO CHLOR., 1-3% diss py/cpy					
				WK MAL. STAIN., 3% mm to					
				1cm. QTZ/CARB VNING.					
				MAL ASSOC W/ VNING.					
91SH052.	D.D.H. "A-2" Box 8		DIORITE	SAME AS. R034.	5289		251	0.5	<1
R-R035	82.5 to 86.9 m			2% diss py. 1% diss py					

KEEWATIN E(GINEERING INC.

Project: KITS/JADE 052.

Area (Grid): BIG BULK.

Collectors: SHH.

Results Plotted By: _____

Map: _____ NTS: 103 P/11W.

Date: AUG 31/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052. B-R036	BONNIE CK.		VOLC? AND?	-GRAB - F.g. GRCY. CARBONATE ALT'N; .5-8% diss + STRINGERS PY/CPY; TRMAL STAINING	257		16	<0.2	10
91SH052. B-R037	" "		SERICITE SCHIST	GRAB - BRICK RED GOSS; F.g WHITE YELLOW, CARB ALT'N. 10% diss py.	388		16	<0.2	1
91SH052. B-R038	" "		PUNK/ANDS.	-GRAB - F.g. dk green. mm to 3cm CAL VNING 1-3% diss + FRACTURE FILLER py. NO VIS. CPY BUT TR. MAL. STAINING	566		148	0.5	2
91SH052. B-R039	" "		ANDRS	GRAB. F.g. DK green/purple Andrite. 5 mm to 4cm. cal. Vning. 1% diss + Fracture filled. py. TR cpy.	656		46	0.5	<1

KEEWATIN E GINEERING INC.

Project: KITS/JADE 052.
Area (Grid): SEA BEE.
Collectors: SHH.

Results Plotted By: _____
Map: _____ NTS: 103 P/11W.
Date: Sept 1/91. Surface: ✓ Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052	HOG CK - 10m		ANDES	GRAB - f.g. GOSS, WKLY	1021		259	0.3	2
S-R040	INTERVAL SAMPLES			SHEARED, lt grey. VOLC					
	TAKEN DOWNSTREAM.			(ANDESITE?).					
	STARTING JUST ABOVE			3-5% dISS py/cpy, TR.					
	DYKE.			MAL. STAINING.					
91SH052	HOG CK "		ANDES.	GRAB - f.g. - DK green	1207		39	<0.2	<1
S-R041	" "		PLAG/HORN.	porphyritic plag phenos.					
				1-3% py/cpy; TR mal.					
				MAGNETIC.					
91SH052.	" "		ANDES	SAME AS ABOVE.	594		38	<0.2	3.
S-R042				1-2% diss py.					
91SH052	" "		ANDES.	SAME AS ABOVE	180		40	<0.2	7
S-R043									
91SH052.	" "		ANDES	SAME AS ABOVE.	1319		55	0.3	11
S-R044.				- TR. MAL.					
91SH052	" "		ANDES.	SAME AS ABOVE	439		15	<0.2	<1
S-R045									

KEEWATIN ENGINEERING INC.

Project: KITS/JADE 052.

Area (Grid): SEABEE.

Collectors: SMH.

Results Plotted By: _____

Map: _____ NTS: 103 P/11W

Date: SEPT. 1/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)		Au (ppb)	Ag (ppm)	Mo (ppm)
91SH052.	HOG CR. TC		ANDES	SAME AS 91SH052R045	31		44	<0.2	2
S-R046	2m. INTERVAL								
	SAMPLING.		"						
91SH052.	" "		ANDES.	SAME AS ABOVE.	67		25	<0.2	<1
S-R047				TR-10% DISSOY					

KEEWATIN ENGINEERING INC.

Project: KITS

Area (Grid): BIG BULK.

Collectors: MUIRHEAD

Results Plotted By: _____

Map: _____ NTS: 103 P/11 W.

Date: AUG 23/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Cu (ppm)	Cu (%)	Au (ppb)	Au oz/ton	Ag (ppm)
91AM052	10+73N/20+20E	Skuck14	AND	2m CHANNEL SAMPLE	14589	1.55	799	0.039	5.9
B/C-001			TUFF/	ORIENTED @ 010° FROM LOC'N.					
			LAP TUFF	MED-DK GREEN, MED. GRAINED					
				ANDESITIC TUFFS/BRECCIAS					
				MOD.-STRONG CHL. ALT'N					
				COMMON 2-5 mm. QTZ/CARB.					
				Volts/STRINGERS w/ 1-3% CPy					
				BLEBS (≈3% OF ROCK)					
				+ Py>CPy Volts FRACTURE					
				CONTROLLED 3-8 mm THICKNESS.					
				PREFERRED ATTITUDE 080°-100°/					
				STEEP NORTH w/ CROSS CUTTING.					
				NARROW VOLTS 060°/STEEP SOUTH					
				—THESE COMPRISE AN AVG. OF					
				10-12% OF ROCK					
				TOTAL SULPHIDES ≈ 8-9% Py,					
				2% CPy + minor BORNITE,					
				MALACHITE, AZURITE, CHALCOCITE.					

KEEWATIN E GINEERING INC.

Project: KITS - JADE (052)

Area (Grid): BIG BULK

Collectors: AJM.

Results Plotted By: _____

Map: _____ NTS: 103P/11W

Date: AUG 25/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91AM052 B/R-002	LAKE SHORE ≈40m N OF "TWYLA"		CHL-ALT AND.	MOD CHLORITIC PORPH AND. TUFF	2568		120	0.7	37
				0.5-1% DISS. CPY + SMALL Carb/					
				Ba. VNLTS IN BLEB CPY.					
91AM052 B/R-003	10m ABOVE SHORE ≈ 30m N OF 002.		" SHR.	Fe/CARB SHR ZONE ≈5m WIDE	6319		170	1.4	27
				CARB/CHL ALT'D AND. ≈3% Py					
				TR-0.5% V.F.G. CPy + Mal, Az.					
				STAINS. C110°/80°ND.					
91AM052 B/R-004	≈40m N.E OF R-003		?	CLAY ALT'D FOSS AND	1464		25	0.7	5
	33+90E/25+25N			TR CPy + MINOR Mal.					

KEEWATIN E(GINEERING INC.

Project: KITS - JADE (052)

Area (Grid): BIGBULK

Collectors: AJM.

Results Plotted By: _____

Map: _____ NTS: 103 P/11N

Date: Aug 26/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)		Au (ppb)	Ag (ppm)	Mo (ppm)
91 AM 052 B/R-005	≈ 25 TOON @		AND?	GRAB/CHIP. ROUGH CHIP OVER 2.5m OF	1078				
	LAKE SHORE.		PORPH	WK. SHR. ZONE (120°/76°S)					
				MOD. SER./CARB ALT'N - TO 4-					
				6% Py, PATCHY Mal, Az STAIN.					
				OCC'L VNLTS/SWEATS CARB.					
91 AM 052 B/R-007	SOUTH SIDE OF SHEAR ZONE @ AM-R-003		SHR. AND.	GRAB. WK CARB SHEAR. FELDS. PORPH. AND. 1-1.5% F-Gr. DISS CPy Mal STAINS. 2-6% Py DISS & FRACT (110°/80°N).	2979		77	0.8	10
91 AM 052 B/R-006	≈ 25 m E. OF AM R-002.		AND. xtal T	GRAB. CARB ALT'D WEAK SHEAR (WIDTH) TR-0.25% F.Gr. & BLEB CPy MINOR Mal STAIN 2-4% F.Gr. DISS Py WK-MOD SER.	1042		31	0.4	4
91 AM 052 B/R-008	≈ 24+85N/34+10 E.		AND TUFF?/ PORPH.	GRAB. WKLY FOL'D @ 110°/65°N PATCHY ARGIL ALT'N 2-4% Py, 0.5-1.5% VEG & MINOR BLEB CPy ABUNDANT Mal MAGNETIC.	5763		51	1.2	3

KEEWATIN ENGINEERING INC.

Project: KITS-JADE (052) | Results Plotted By: _____

Area (Grid): BIG BULK. | Map: _____ | NTS: 103 P/11N

Collectors: AJM. | Date: AUG 26/91 | Surface: ✓ | Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)		Au (ppb)	Ag (ppm)	Mo (ppm)
91 AM 052 B/R-009	±24+85N/38+95E		AND PORPH.	COMPOSITE GRAB. 3 SUB-CROPS OVER 20m² AREA VARIABLE ALT'N CARB/SER/ARGIL. MOD MAG. TR-1% VFG CPy -3-4% Py Mal STAINS.	2849		64	0.5	6
91 AM 052 B/R-010	634+00E/24+85N.		"	GRAB. 4-6% MT., 0.5%-1% CPy 2-4% V.F.G. Py MED-DK GREEN - MOD SILIC.	2302		58	0.3	6
91 AM 052 B/R-011	±40m. ENE. OF 91 AM R-004		SER. SHR.	GRAB BLEACHED SER. SHEAR WELL FRACT'D, FRIABLE ±10% Py / JAROSITE TR-1% CPy OCC'L Mal + BORNITE TR-0.5%	493		23	<0.2	7
91 AM 052 B/R-012	37+75E/25+46N		"	GRAB - AS ABOVE SHR @ 115°/80°S V. MINOR CPy ± Mal.	301		6	<0.2	4

KEEWATIN ENGINEERING INC.

Project: KITS - JADE (052)

Area (Grid): BIG BULK.

Collectors: AJM.

Results Plotted By: _____

Map: _____ NTS: 103B/11W.

Date: AUG 27/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91 AM 052 B/G-013	≈39+60E/24+60N		DIORITE ? / ANDESITE	3m CHIP NEAR INTRUSIVE CONTACT MOD. CARB ALT'N TO 2% CPy FRACT'S & VNLTS + TR-0.3% DISS CPy ABUND. Mol STAINS	4974	0.48	603	<0.2	11
91 AM 052 B/G-014	ELEV. ≈4250' @ TRACY		AND	2m CHIP WKLY CARB ALT'D AG 0.3-0.5% VFG CPy	999	0.10	26	<0.2	13
91 AM 052 B/R-015	ELEV ≈4200' @ TRACY CRK.		AND ? RHYOLITE DYKE	CARB ALT'D MOD MAGNETIC TR-1% CPy + Mol STAINS	3770		37	<0.2	1

KEEWATIN ENGINEERING INC.

Project: KTS-JADE (052)
Area (Grid): BIG BULK
Collectors: MUIRHEAD / MALO

Results Plotted By: _____
Map: _____ NTS: 103P/11W
Date: AUG 28/91 Surface: ✓ Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91AM052 B/C-016	≈4200' 38+60E/54+60N		DIORITE	2m CHIP CARB ALT'D HBL DI FINE EPIDOTE ICPY FRACT'S TR-0.25% VFG DISS CPY WK MAG. RARE Mal	1588	0.17	88	<0.2	3
91AM052 B/C-017	≈4200' @ TRACY		AND?	5m CHIP - CARB ALT'D, WKLY MAG, RED WEATHERING UP TO 8% QTZ CARB STKWK. W 1-3% CPY ± Mal. TR-0.5% DISS, BLEBS FRACT CPY ORIENTED @ 135°	3647	0.36	321	<0.2	<1
91AM052 B/C-018	"								
	IN CRK.		DI?	GHP 4m. SHRD, FOL'D @ 125°/60° NE CARB & MINOR CLAY ALT'N COMMON Mal STAINS. TR-0.3% AVG CPY	2834	0.29	82	<0.2	<1
91AM052 B/C-019	"		"	AS ABOVE 4m CHIP	4366	0.44	63	<0.2	<1
91AM052 B/C-020	"		"	" "	2876	0.29	53	<0.2	1
91AM052 B/C-021	"		"	" 2m CHIP.	4199	0.40	44	<0.2	3

KEEWATIN E(GINEERING INC.

Project: KITS - JADE (052).
Results Plotted By:
Area (Grid): BIG BULK.
Map:
NTS: 103 P/11 W
Collectors: AM / VM.
Date: AUG 28/91
Surface: ✓
Underground:

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Cu (ppm)		Au (ppb)	Ag (ppm)	Mo (ppm)
91 AM052 B/R022	4200'-20m		?	FRACT'D CHL ≈1% CPY	4971		45	<0.2	3
	E OF TRACY CRK			FRACTS MoI STAINS					

KEEWATIN ENGINEERING INC.

Project: KITS-JADE (052)

Area (Grid): BIG BULK.

Collectors: AM

Results Plotted By: _____

Map: _____ NTS: 103 P/11W

Date: AUG 29/91 Surface: ✓ Underground: ____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (oz)	Au (ppb)	Ag (ppm)	Mo (ppm)
91AM052 B/C-023	± 3900' 3 CRKS		AND	2m CHIP 0.5%-0.8% CPy	1886	0.19	16	<0.2	5
	E OF TRACY		xtal T	+ Mal FRACT'S Bx'd					
				FELDS ALT'N CARB & VNLTS.					
91AM052	"		"	SERICITE/QTZ SHEAR TR-1%	7667		159	1.7	4
B/B-024				CPy + Mal, 6-12% Py Poss					
				AsPy					
91AM052 B/C-025	"		"	4.5m CHIP (@ 2m SHEAR	5983	0.59	122	0.9	4
				WIDTH). SERICITE/CARB SHEAR					
				W QTZ/CARB STKWK.					
				ABUND Mal. SECT'S TO 6% CPy					
				AVG 1-2% CPy					

KEEWATIN ENGINEERING INC.

Project: KITS-JADE (052) — Results Plotted By: _____

Area (Grid): BIG BULK. — Map: _____ NTS: 103 P/11 W.

Collectors: AM. — Date: AUG 30/91 Surface: ✓ Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91 AM 052 B/R-026	ELEV ≈ 3850'		CONGL.	GRAB — WK MALACHITE	3514		6	<0.2	<1
	METALLICA/TRACY			STAINING ON ALBITIZED?					
	CREEK.			CHERT PEBBLE CONGLOMERATE.					
91 AM052 B/C-027	ELEV ≈ 4600'		AND.	5m CHIP MODERATELY SHEARED	7450	0.74	63	0.4	<1
	METALLICA			CARB/SERICITE ALT'D ANDESITE.					
				(135°/75°NE) TO 5-8% CPy					
				AVG 2% ABUNDANT MALACHITE					
				ON FRACTURES & PERVASIVE					
				IN AREAS. SOME CARB VALTS					
91AM052 B/R-028	ELEV'N ≈ 4100'		CPy	GRAB. MASSIVE CPy ≈ 16cm x 1.5m	<20000	31.20	109	>50.0	<1
	METALLICA			FROM QTZ/CARB STKWK/					
				VEIN @ 120°/VERT					
91 AM052 B/R-029	"		VEIN.	GRAB. VEIN FROM ABOVE 2-4%	9876		18	2.5	4
				BLEB CPy + Mal.					
				VUGGY CARB/QTZ VEIN					
				120°/VERT.					

KEEWATIN ENGINEERING INC.

Project: KITS - JADE (052) Results Plotted By: _____

Area (Grid): BIG BULK Map: _____ NTS: 163 P/11 W

Collectors: MUIRHEAD Date: 31 AUG/91 Surface: ✓ Underground: _____

SAMPLE NUMBER	LOCATION NOTES	CLAIM NAME/# OR NTS	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Cu (ppm)	Cu (%)	Au (ppb)	Ag (ppm)	Mo (ppm)
91 AM 052 B/~~B~~C-030	AT LOCATION OF		ANDES	GRAB/CHIP OVER 11m.	6811	0.67	30	<0.2	<1
	91 AM C-027			AS C-027. ≈1% CPy					
	5m TO SOUTH			+ Mal. FRACT'S @ 000°/80°W					
				& 140°/70°NE "ROD LIKE"					
				FRAGMENTS.					
91 AM 052 B/C-031	20m @ 320°			7.5 m CHIP.	7476	0.76	141	1.6	33
	FROM UPPER MARIA		"	AS ABOVE + SMALL					
	DDH.			CARB VNLTS. 3-5% CPy.					
91 AM 052 B/C-032	SITE OF 90-55 B		"	3m CHIP OF WALL ROCK	252	0.05	19	<0.2	<1
	-172			TO VEIN SIMILAR TO 91 AM					
				B-029 MODERATELY SERICIT					
				OVER PROPYLITIC					
				8-10% Py BLEBS.					

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Kits / Jade (052)
Area (Grid): Seabee
Collectors: DinT

Results Plotted By:
Map: N.T.S.: 103P/11 W.
Date Sept 3/91

Sample Number	Sample Location		Notes	Topography				Vegetation						Soil Data						
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development: Good	Horizon Development: Poor	Parent Material: Drift	Parent Material: Bedrock	Colour
91DT052SS001			on Lake; Seabee Penninsula		N				✓			✓		B	1cm	✓				R-B
91DT052SS002			on Lake; Seabee Penninsula		E				✓			✓		B	1cm	✓				R-B

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: KITS/JADE

Area (Grid): SEA BEE CLAIM.

Collectors: SHH.

Results Plotted By:

Map: N.T.S.: 103P/11W.

Date AUG. 23, 1991

Sample Number	Sample Location		Notes	Topography				Vegetation						Soil Data						
																Horizon				
AUG. 23/91	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Good	Poor	Drift	Bedrock	Colour
91SH052 S-S001 HOG GOUGE	HOG GOUGE.		PROSPECTING SOIL TAKEN AT GOSS. C/C. TUFF. W. QTZ/CAL VNING; LOCALLY 3% DISS. PY IN C/C.		N	✓						✓		B			✓			B.
AUG. 24/91																				
91SH052 S-S002			PROSPECTING SOIL. TAKEN AT GOSS. FELD./HBL. SHEARED - SERICITIC C/C. 1% DISS. PY. IN C/C. TAKEN DOWNSLOPE FROM ROCK		N	✓						✓		B			✓			B.
91SH052 S-S003			" " "																	
			" " "																	
			GOSS. ALONG CLIFF FACE		N	✓						✓		B			✓			B.
91SH052 S-S003			PROSPECTING. SOIL TAKEN BELOW SERICITE /PY. SHEAR		N	✓						✓		B			✓			B.
91SH052 S-S004			PROSPECTING SOIL TAKEN BELOW GOSS. SERICITE /PY SHEAR.		N	✓						✓		B			✓			B.
91SH052 S-S005			PROSPECTING SOIL TAKEN. 85m. NORTH OF ROCK.		N	✓						✓		B			✓			B
91SH052 S-S006			PROSPECTING SOIL TAKEN BASE OF CLIFF W SERICITE PY SHEAR.		N	✓						✓		B			✓			B

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: 052 Jade-Kits — Results Plotted By: _____

Area (Grid): Big Bulk — Map: _____ N.T.S.: 103 P/11 W

Collectors: Vaun Malo — Date Aug. 27/91

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
91VMOS2BS	34+00E	22+00N	N/S flats																	
↓	↓	22+50N	N/S "																	
		23+00N	N/S "																	
		23+50N	5cm grey horizon above B-horizon	10°	S				X					B	35		X	X	X	OB
		24+00N	" " " " " "	2°	W				X					B	25	X				MB
		24+50N	below outcrop/rusty rocks in hole	35°	W			X						B	35		X		X	MRB
		25+00N	" rusty outcrop/60% angular frags.	55°	NW			X						B	35		X		X	MB
		25+50N	" " " /80% " "/sandy	20°	W				X					B	30		X		X	MRB
		26+00N	N/S talus slope																	
	↓	26+50N	Thick black A-horizon/grey clay texture	15°	W				X						10		X		X	Gray
	35+25E	22+50N	N/S swamp																	
		23+00N	5cm grey horizon above B-horizon	5°	SW			X						B	30		X		X	MRB
		23+50N	" " " " " "	15°	SW			X						B	30		X			MRB
		24+00N		2°	W				X					B	30	X			X	MB
		24+50N	NO A-horizon	5°	S				X					B	30		X		X	MB
		25+00N	below outcrop/5cm grey-brn above B-hor.	5°	NW				X					B	30		X		X	MRB
		25+50N	5m E of station/10cm " " " " "	5°	W				X					B	35		X		X	MB
		26+00N	below outcrop/5cm " " " " "	35°	W			X						B	30		X		X	MRB
↓	↓	26+50N	N/S on cliff (no soil development)																	

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: 052 Jade - Kits — Results Plotted By: _____

Area (Grid): Big Bulk — Map: _____ N.T.S.: 103 P/11 W

Collectors: Vanna Malo — Date Aug. 29/91

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
91VMS2235	36+50E	22+00N		15°	SW			X						B	30	X		X		MB
		22+50N		35°	SW			X						B	30	X		X		MB
		23+00N	Sm grey-brn horizon above B-hor/below outcrop	25°	SW			X						B	30		X		X	MRB
		23+50N	5m NW of station	5°	E				X					B	30		X		X	MRB
		24+00N		20°	SW				X					B	35	X		X		MB
		24+50N		5°	SW									B	25	X			X	MB
		25+00N	10cm grey horizon above B-horizon				X	X						B	15		X	X	X	MB
		25+50N		5°	S			X						B	30	X			X	MB
	↓	26+00N	50% angular frags / small talus slope	20°	SW				X					B	35		X		X	MB
	37+75E	22+00N	5cm grey horizon above B-horizon	20°	S			X						B	30		X			LB
		22+50N	" " " " " "	15°	S			X						B	30		X			MRB
		23+00N	" " " " " " 1/2 A-hor	10°	E				X					B	30		X			MB
		23+50N		5°	SW				X					B	30	X			X	MB
		24+00N	between two creeks	5°	SW			X						B	30	X			X	MB
		24+50N		15°	SW			X						B	30		X		X	MB
		25+00N	5cm grey horizon above B-horizon	25°	SW			X						B	30		X		X	MB
↓	↓	25+50N	on outcrop/middle of cliff/exposed soil	50°	SW				X					B	10		X		X	MB

APPENDIX VI

Rock/Soil/Silt Sample Results

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
V7P 2R5
(604) 985-0681 Telex 04-352667

BONDAR-CLEGG

A DIVISION OF INCHCAPE INSPECTION & TESTING SERVICES

Geochemical Lab Report

DATE PRINTED: 17-SEP-91

REPORT: V91-01315.0 (COMPLETE)

PROJECT: 052 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	As PPM	Sb PPM	Mo PPM
91 AM 052 B C 001		799	5.9	14589	6	54	51	<5	5
91 AM 052 B R 002		120	0.7	2568	23	47	<5	<5	37
91 AM 052 B R 003		170	1.4	6319	14	47	25	<5	27
91 AM 052 B R 004		25	0.7	1464	9	84	11	<5	5
91 AM 052 B R 005		49	0.2	1078	7	60	<5	<5	11
91 AM 052 B R 006		31	0.4	1042	6	54	<5	<5	4
91 AM 052 B R 007		77	0.8	2979	8	96	8	<5	10
91 AM 052 B R 008		51	1.2	5763	8	107	<5	<5	3
91 AM 052 B R 009		64	0.5	2849	15	142	<5	<5	6
91 AM 052 B R 010		58	0.3	2302	19	242	<5	<5	6
91 AM 052 B R 011		23	<0.2	493	11	55	25	<5	7
91 AM 052 B R 012		6	<0.2	301	15	83	7	<5	4
91 DT 052 B R 001		320	0.3	1000	54	10	<5	<5	1
91 DT 052 S R 002		131	0.4	123	128	211	114	<5	<1
91 DT 052 S R 003		68	<0.2	706	8	56	7	<5	4
91 DT 052 S R 004		881	4.9	3718	114	186	337	11	7
91 DT 052 S R 005		48	<0.2	614	9	29	<5	<5	5
91 DT 052 B R 006		1184	1.4	398	128	131	154	<5	30
91 DT 052 B R 007		60	<0.2	168	20	70	<5	<5	11
91 DT 052 B R 008		1938	2.0	48	75	61	130	<5	4
91 DT 052 B R 009		336	5.5	15300	12	<1	49	<5	4
91 DT 052 B R 010		124	3.1	15041	19	25	44	15	778
91 DT 052 B R 011		152	4.7	>20000	17	75	<5	9	1465
91 DT 052 B R 012		58	<0.2	3059	165	13	<5	5	223
91 DT 052 B F 013		<5	<0.2	384	18	16	<5	<5	15
91 DT 052 B F 014		408	5.5	12362	113	181	<5	<5	24
91 DT 052 B C 015		314	1.2	967	24	106	96	<5	2
91 DT 052 B C 016		96	1.7	2239	32	296	59	<5	2
91 DT 052 B C 017		73	1.0	1461	19	71	59	<5	3
91 DT 052 B C 018		90	1.5	1865	19	107	68	<5	2
91 DT 052 B C 019		90	0.7	812	9	493	36	<5	8
91 DT 052 B C 020		105	0.9	1268	8	65	10	<5	5
91 DT 052 B C 021		98	0.7	1259	9	54	5	<5	29
91 DT 052 B C 022		287	3.1	1376	9	57	20	<5	2
91 DT 052 B C 023		187	2.0	983	41	393	14	<5	2
91 DT 052 B C 024		99	0.7	1511	12	82	<5	<5	5
91 DT 052 B C 025		54	1.0	1843	39	210	28	6	5
91 DT 052 B C 026		147	0.7	1666	16	119	72	<5	2
91 DT 052 B R 027		97	<0.2	9040	7	89	<5	<5	27
91 SH 052 B R 001		41	0.2	2885	6	47	<5	<5	16

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PROJECT: 052 PAGE 2

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	As PPM	Sb PPM	Mo PPM
91 SH 052 B R 002		24	0.3	1909	6	35	<5	<5	70
91 SH 052 B R 003		110	0.3	4050	5	24	<5	<5	14
91 SH 052 B R 004		498	0.6	5489	30	14	<5	<5	6
91 SH 052 B R 005		97	1.0	3376	9	24	<5	<5	4
91 SH 052 B R 006		74	<0.2	386	91	716	12	<5	3
91 SH 052 B R 007		29	<0.2	828	10	58	6	<5	4
91 SH 052 B R 008		46	0.2	2683	7	70	<5	<5	17
91 SH 052 B R 009		64	0.2	765	18	113	114	<5	3
91 SH 052 B R 010		77	7.2	>20000	22	21	24	<5	1
91 SH 052 S R 001		39	<0.2	802	9	58	<5	<5	4
91 SH 052 S R 002		33	0.8	227	46	123	20	<5	<1
91 SH 052 S R 003		20	0.3	274	15	78	53	<5	3
91 SH 052 S R 004		7	<0.2	611	44	112	<5	<5	4
91 SH 052 S R 005		50	0.5	421	65	1074	26	<5	4
91 SH 052 S R 006		54	0.6	326	8	78	34	<5	25
91 SH 052 S R 007		34	<0.2	358	10	76	<5	<5	10
91 SH 052 S R 008		79	<0.2	468	22	26	26	<5	10

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BONDAR-CLEGG

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Geochemical Lab Report

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PROJECT: 052 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	As PPM	Sb PPM	Mo PPM
91 AM 052 B C 0113		603	<0.2	4974	10	61	59	<5	11
91 AM 052 B C 0114		26	<0.2	999	4	52	40	<5	13
91 AM 052 B R 0115		37	<0.2	3770	<2	67	33	<5	1
91 AM 052 B C 0116		88	<0.2	1588	<2	40	35	<5	<1
91 AM 052 B C 0117		321	<0.2	3647	<2	65	46	<5	3
91 AM 052 B C 0118		82	<0.2	2834	<2	56	43	<5	<1
91 AM 052 B C 0119		63	<0.2	4366	3	59	43	<5	<1
91 AM 052 B C 0120		53	<0.2	2876	5	61	45	<5	<1
91 AM 052 B C 0121		44	<0.2	4199	5	63	48	<5	1
91 AM 052 B R 0122		45	<0.2	4971	16	64	51	<5	3
91 AM 052 B C 0123		16	<0.2	1886	6	57	58	<5	5
91 AM 052 B R 0124		159	1.7	7667	16	56	65	<5	4
91 AM 052 B C 0125		122	0.9	5983	<2	95	52	<5	4
91 AM 052 B R 0126		6	<0.2	3514	8	64	29	<5	<1
91 AM 052 B C 0127		63	0.4	7450	10	179	52	<5	<1
AM 052 B R 0128		109	>50.0	>200000	223	<1	470	85	<1
91 AM 052 B R 0129		18	2.5	9876	6	12	31	<5	4
91 AM 052 B R 0130		30	<0.2	6811	5	183	70	<5	<1
91 AM 052 B C 0131		141	1.6	7496	41	221	63	<5	2
91 AM 052 B C 0132		19	<0.2	252	4	62	74	<5	<1
91 DT 052 B R 0128		16	<0.2	4660	2	87	106	<5	33
91 DT 052 B R 0129		432	17.8	>200000	87	168	218	26	<1
91 DT 052 B R 0130		9	0.3	1480	5	52	60	<5	6
91 DT 052 B R 0131		15	<0.2	1080	16	20	69	<5	8
91 DT 052 B R 0132		15	<0.2	2312	9	66	58	<5	8
91 DT 052 B R 0133		17	0.6	695	9	110	159	164	11
91 DT 052 B R 0134		8	<0.2	144	10	70	68	<5	<1
91 DT 052 B R 0135		7	<0.2	378	4	54	45	<5	10
91 DT 052 B R 0136		19	<0.2	151	9	<1	50	<5	10
91 DT 052 B R 0137		25	<0.2	663	5	28	59	<5	17
91 DT 052 B R 0138		<5	<0.2	522	7	29	35	<5	5
91 DT 052 B R 0139		21	<0.2	1000	3	30	61	<5	11
91 DT 052 B R 0140		8	<0.2	587	6	155	54	<5	4
91 DT 052 B R 0141		32	0.6	2599	<2	105	43	<5	<1
91 DT 052 B R 0142		123	1.0	4846	17	221	53	<5	<1
91 DT 052 B R 0143		312	2.4	9816	28	242	87	<5	<1
DT 052 B R 0144		212	1.1	1496	41	137	124	<5	<1
91 DT 052 B R 0145		113	0.4	3523	3	113	48	<5	2
91 DT 052 B R 0146		67	<0.2	11157	68	262	50	<5	3
91 DT 052 B R 0147		73	<0.2	11280	7	56	46	<5	3

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Geochemical Lab Report

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REPORT: V91-01370.0 (COMPLETE)

PROJECT: 052 PAGE 2

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	As PPM	Sb PPM	Mo PPM
91 DT 052 B R 0148		75	0.5	2693	4	68	37	<5	4
91 DT 052 B R 0149		568	2.0	10445	4	77	97	<5	13
91 DT 052 B R 0150		66	0.4	919	22	70	85	<5	8
91 DT 052 B R 0151		59	<0.2	460	6	63	65	<5	1
91 DT 052 B R 0152		53	0.9	1895	9	106	57	<5	<1
91 DT 052 B R 0153		30	0.3	1313	3	66	35	<5	<1
91 DT 052 B R 0154		17	<0.2	882	4	68	47	<5	2
91 DT 052 B R 0155		67	0.4	2380	<2	41	48	<5	15
91 SH 052 B R 0111		23	<0.2	304	15	55	80	<5	<1
91 SH 052 B R 0112		64	6.7	>200000	45	<1	105	19	10
91 SH 052 B R 0113		25	0.4	3167	7	49	41	<5	28
91 SH 052 S R 0114		28	<0.2	1332	3	52	48	<5	2
91 SH 052 S R 0115		139	1.3	1660	<2	53	104	<5	3
91 SH 052 S R 0116		88	0.5	2572	<2	51	25	<5	20
91 SH 052 S R 0117		93	0.4	342	49	64	81	<5	8
SH 052 S R 0118		22	<0.2	241	<2	31	41	<5	<1
91 SH 052 S R 0119		135	<0.2	1644	<2	29	59	<5	8
91 SH 052 S R 0120		29	<0.2	329	5	71	54	<5	2
91 SH 052 S R 0121		8	<0.2	96	<2	74	43	<5	<1
91 SH 052 S R 0122		129	0.6	4568	<2	64	46	<5	<1
91 SH 052 S R 0123		38	<0.2	657	<2	66	40	<5	<1
91 SH 052 B R 0124		<5	<0.2	126	34	99	49	<5	<1
91 SH 052 B R 0125		14	<0.2	298	12	103	87	<5	<1
91 SH 052 B R 0126		7	<0.2	449	<2	160	47	<5	<1
91 SH 052 B R 0127		23	<0.2	1767	9	41	63	<5	3
91 SH 052 B R 0128		85	0.2	3226	3	28	26	<5	29
91 SH 052 B R 0129		104	0.4	3784	4	51	42	<5	35
91 SH 052 B R 0130		121	0.4	5361	3	61	40	<5	14
91 SH 052 B R 0131		146	0.4	4824	5	25	23	<5	31
91 SH 052 B R 0132		147	0.4	4643	4	36	28	<5	28
91 SH 052 B R 0133		81	0.6	3727	5	31	31	<5	4
91 SH 052 B R 0134		202	0.4	4197	7	49	46	<5	<1
91 SH 052 B R 0135		251	0.5	5289	11	42	45	<5	<1
91 SH 052 B R 0136		16	<0.2	257	6	<1	42	<5	10
91 SH 052 B R 0137		16	<0.2	388	7	14	109	9	1
91 SH 052 B R 0138		148	0.5	566	7	124	70	<5	2
SH 052 B R 0139		46	0.5	656	6	45	84	<5	<1
91 SH 052 S R 0140		259	0.3	1021	7	90	80	<5	2
91 SH 052 S R 0141		39	<0.2	1207	4	64	46	<5	<1
91 SH 052 S R 0142		38	<0.2	594	6	117	54	<5	3

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REPORT: V91-01370.0 (COMPLETE)

PROJECT: 052 PAGE 3

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	As PPM	Sb PPM	Mo PPM
91 SH 052 S R 0143		40	<0.2	180	<2	136	57	<5	7
91 SH 052 S R 0144		55	0.3	1319	2	68	48	<5	11
91 SH 052 S R 0145		15	<0.2	439	4	143	37	<5	<1
91 SH 052 S R 0146		44	<0.2	31	<2	72	39	<5	2
91 SH 052 S R 0147		25	<0.2	67	3	33	54	<5	<1
91 VM 052 B C 0001		348	2.9	9321	2	75	164	<5	25
91 VM 052 B C 0002		811	6.3	>200000	<2	88	158	<5	10
91 VM 052 B C 0003		932	6.9	18105	3	76	141	<5	12
91 VM 052 B C 0004		1003	4.8	>200000	<2	94	159	<5	6
91 VM 052 B C 0005		1119	5.4	>200000	<2	92	198	<5	13
91 VM 052 B C 0006		927	5.1	14149	7	76	174	<5	6
91 VM 052 B C 0007		875	6.8	12901	9	77	134	<5	20
91 VM 052 B C 0008		387	2.6	5718	7	56	155	<5	5
91 VM 052 B C 0009		1010	4.8	19099	<2	95	155	<5	58
91 VM 052 B C 0010		639	3.3	12257	<2	87	139	<5	42
VM 052 B C 011		454	2.4	5154	7	88	132	7	18
91 VM 052 B C 0012		399	1.2	4667	6	63	111	17	5
91 VM 052 B C 0013		569	1.6	7769	6	91	177	26	8
91 VM 052 B C 0014		430	2.6	6949	12	1001	335	97	15

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Glacier - Ruth

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Certificate of Analysis

A DIVISION OF INSPECTAPEL INSPECTION & TESTING SERVICES

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DATE PRINTED: 11-OCT-91

PROJECT: 0152 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Cu PCT
91 AM 052 B C 013			0.48
91 AM 052 B C 014			0.10
91 AM 052 B C 016			0.17
91 AM 052 B C 017			0.36
91 AM 052 B C 018			0.29
91 AM 052 B C 019			0.44
91 AM 052 B C 020			0.29
91 AM 052 B C 021			0.40
91 AM 052 B C 023			0.19
91 AM 052 B C 025			0.59
91 AM 052 B C 027			0.74
91 AM 052 B R 030			0.67
91 AM 052 B C 031			0.76
91 AM 052 B C 032			0.05
91 VM 052 B C 001		0.013	0.90
M 052 B C 002		0.032	1.86
91 VM 052 B C 003		0.038	1.69
91 VM 052 B C 004		0.035	1.93
91 VM 052 B C 005		0.039	2.07
91 VM 052 B C 006		0.035	1.18
91 VM 052 B C 007		0.038	1.27
91 VM 052 B C 008		0.020	0.59
91 VM 052 B C 009		0.035	1.70
91 VM 052 B C 010		0.028	1.13
91 VM 052 B C 011		0.016	0.49
91 VM 052 B C 012		0.022	0.44
91 VM 052 B C 013		0.029	0.74
91 VM 052 B C 014		0.016	0.67

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PROJECT: 052 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Cu PCT
91 AM 052 B C 0001		0.039	1.55
91 DT 052 B C 015			0.13
91 DT 052 B C 016			0.24
91 DT 052 B C 017			0.17
91 DT 052 B C 018			0.23
91 DT 052 B C 019			0.14
91 DT 052 B C 020			0.17
91 DT 052 B C 021			0.15
91 DT 052 B C 022			0.18
91 DT 052 B C 023			0.12
91 DT 052 B C 024			0.21
91 DT 052 B C 025			0.22
91 DT 052 B C 026			0.19

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PROJECT: 052 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Cu PCT
91 DT 052 B R 011		2.94
91 SH 052 B R 0110		4.58

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PROJECT: 052 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au OPT	Cu PCT	Cu PCT
91 AM 052 B R 028		1.64	>10.00	31.74
91 DT 052 B R 029			>10.00	11.77
91 SH 052 B R 017			3.65	

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PROJECT: 052 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	As PPM	Sb PPM	Mo PPM
91 VM 052 B S 34+00E26+50N		8	0.4	57	28	123	44	<5	7
91 VM 052 B S 34+00E25+50N		370	1.8	1700	39	56	95	<5	12
91 VM 052 B S 34+00E25+00N		93	0.4	<1	<2	<1	<5	<5	<1
91 VM 052 B S 34+00E24+50N		411	0.4	<1	<2	<1	<5	<5	<1
91 VM 052 B S 34+00E24+00N		44	0.4	414	8	96	29	<5	8
91 VM 052 B S 34+00E23+50N		211	1.0	385	12	42	<5	<5	7
91 VM 052 B S 35+25E26+00N		6	0.5	24	27	49	50	<5	<1
91 VM 052 B S 35+25E25+50N		7	0.4	43	33	94	54	<5	2
91 VM 052 B S 35+25E25+00N		10	<0.2	45	24	66	66	<5	2
91 VM 052 B S 35+25E24+50N		11	0.3	80	38	140	25	<5	1
91 VM 052 B S 35+25E24+00N		<5	1.1	63	11	76	27	<5	1
91 VM 052 B S 35+25E23+50N		38	0.3	293	11	58	36	<5	6
91 VM 052 B S 35+25E23+00N		184	0.6	407	13	64	66	<5	23
91 VM 052 B S 36+50E26+00N		6	<0.2	43	5	105	20	<5	<1
91 VM 052 B S 36+50E25+50N		6	0.3	58	17	51	36	<5	3
91 VM 052 B S 36+50E25+00N		6	0.2	42	24	65	55	<5	6
91 VM 052 B S 36+50E24+50N		11	0.5	254	18	112	48	<5	6
91 VM 052 B S 36+50E24+00N		13	0.3	126	7	75	21	<5	2
91 VM 052 B S 36+50E23+50N		48	1.0	261	11	67	53	<5	4
91 VM 052 B S 36+50E23+00N		160	0.2	367	24	64	86	<5	5
91 VM 052 B S 36+50E22+50N		24	0.3	199	5	63	40	<5	8
91 VM 052 B S 36+50E22+00N		19	0.3	134	6	54	16	<5	2
91 VM 052 B S 37+75E25+50N		9	<0.2	273	21	70	96	<5	2
91 VM 052 B S 37+75E25+00N		18	<0.2	169	17	69	52	<5	3
91 VM 052 B S 37+75E24+50N		7	0.3	222	10	74	27	<5	3
91 VM 052 B S 37+75E24+00N		35	0.2	259	13	98	87	<5	4
91 VM 052 B S 37+75E23+50N		16	0.2	272	15	92	46	<5	3
91 VM 052 B S 37+75E23+00N		41	<0.2	194	12	58	56	<5	11
91 VM 052 B S 37+75E22+50N		8	0.3	84	8	63	52	<5	2
91 VM 052 B S 37+75E22+00N		20	1.5	45	10	33	<5	<5	2

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PROJECT: 052 PAGE 1

SAMPLE NUMBER	ELEMENT UNITS	Au PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	As PPM	Sb PPM	Mo PPM
91 DT 052 S S 0001		314	2.4	299	938	5000	198	<5	4
91 DT 052 S S 0002		1800	1.5	545	55	32	38	<5	9
91 SH 052 S S 0001		318	0.5	198	18	59	14	<5	2
91 SH 052 S S 0002		191	0.3	299	174	247	31	<5	2
91 SH 052 S S 0003		39	0.3	327	62	306	30	<5	5
91 SH 052 S S 0004		82	0.9	438	250	321	56	<5	6
91 SH 052 S S 0005		86	0.5	349	123	263	74	<5	6
91 SH 052 S S 0006		77	0.5	392	96	219	35	<5	6

APPENDIX VII

Analytical Techniques

ANALYTICAL PROCEDURES USED BY BONDAR-CLEGG AND COMPANY LIMITED

Sample Preparation

Silt and Soil

Dry and sieve through 80 mesh screens. Gold values are determined on 30 gram, representative sample of minus 80 fraction by fire assay with AA finish; remaining elements are determined using 0.6 gram sample of minus 80 fraction by hot aqua regia digestion followed by ICP.

Rocks

Dry and crush to minus 150 mesh; analysis made on minus 150 fraction by methods described above.

Geochemical Analysis

Gold is determined on a test sample of 30 g using Fire Assay Lead Collection pre-concentration. The bead is dissolved in nitric acid and hydrochloric acid and run by Atomic Absorption.

Mercury is determined on a test sample of 0.6 g. The sample is digested by aqua regia and bulked to 12 ml. The solution is then run by ICP.

Fire Assay Procedure for Au

A prepared sample of one assay ton (29.166 grams) is mixed with a flux which is composed mainly of lead oxide. The proportions of the flux components (the litharge, soda, silica, borax glass and flour) are adjusted depending upon the nature of the sample. Silver is added to help collect the gold. The samples are fused at 1950°F until a clear melt is obtained. The 30-40 gram lead button that is produced contains the precious metals. It is then separated from the slag. Heating in the cupellation furnace separates the lead from the noble metals. The normal-sized precious metal beads that are produced are transferred to test tubes and dissolved with aqua-regia. This solution is analyzed using Atomic Absorption by comparing the absorbance of these solutions with that of standard solutions. In the case of high grade samples, the precious metal bead is parted to separate the silver and the remaining gold is weighed.

Comments

As part of the routine quality control, we run a duplicate analysis for about 12% of the samples. Also, all samples which are over 0.20 opt on the original fusion are run again to verify the results. If a sample gives erratic results, such as 0.10, 0.020, 0.30, we will indicate this on the report. We suggest that a new split should be taken from the reject for preparation and analysis by our metallics sieve procedure. These assay results will always be signed by the registered assayer.

Contamination Prevention

The test tubes and cupels are used only once so that there is no possibility of cross contamination. The fusion crucibles are cleared before re-use by discarding any which had high samples in them. During the analysis a blank solution is run between each sample to ensure that there is no carry over.

Determination of Arsenic by Borohydride Generation

Samples of 0.5 grams in weight are digested in borosilicate glass test tubes, with concentrated nitric and hydrochloric acids. These tubes are heated in a 90°C water bath for two and on-half hours. The sample is then diluted with 14% HCl and mixed. A 0.5 ml aliquot is taken from this solution and HCl, deionized water, and potassium iodide are added. The resulting mixture is allowed to sit for one hour, after which it is run through a hydride generation system. In this system, the solution is reduced with sodium borohydride, releasing arsenic in arsine gas. The arsine gas is then swept into a quartz furnace mounted on a flame AA unit. The absorbance is recorded and compared to a standard series to determine the amount of arsenic present.

Quality Control

Standards, repeats and blanks are run with each batch of samples. These are carefully checked and reweighs of samples are ordered if necessary. High arsenic results are also checked by running the original solution by flame AA and comparing the results from the two procedures.

The lower detection limits for the elements analyzed are listed below:

Element	Lower Detection Limit
Au Gold 30 grams	5 ppb
Ag Silver	0.2 ppm
Cu Copper	1 ppm
Pb Lead	2 ppm
Zn Zinc	1 ppm
As Arsenic	5 ppm
Sb Antimony	5 ppm
Mo Molybdenum	1 ppm
Hg Mercury	0.010 ppm

KINSKUCH LAKE
W/L 3666'±

Tracy Zone
Twyla Zone
Metallica Zone
Marla Zone
Seabee
Bonnie Zone
KTS91-01
KTS91-02
KTS91-03
KTS91-04
KTS91-05

SKUTCH 4
SKUTCH 5
SKUTCH 14
SKUTCH 6
SKUTCH 12
BIG BULK 1
BIG BULK 2
JADE 36
JADE 37
ICEFIELD
ICEFIELD
ICEFIELD

4000
4500
5000
Not Mapped
Not Mapped
Not Mapped

LITHOLOGY

5 Late Lamprophyre and Andesite Dykes
4 High-Level Granodiorite to Quartz Monzonite (includes extrusive equivalents)
3 Green and Maroon Andesite Lapilli-Tuff-Breccia
2 Intermediate to Felsic Volcanic (?) Flows
1 Limy Clastics

ALTERATION TYPES

Chlorite - Pyrite (- Carbonate) + Variable Chalcopyrite
Carbonate (- Pyrite)
Epidote - Pyrite (Diorite)
Sericite - Pyrite (Gossanous)
Big Bulk Alteration Zone: Generally Chlorite - Pyrite - Albite (also includes: Carbonate - Sercite - Epidote + Variable Chalcopyrite)

KEY

geological contact
alteration boundary
contact
foliation
joint
shear
vein
dyke
outcrop
moraine
glacier boundary
petrographic sample
1991 sample
1989-90 sample

GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,915

OLIVER GOLD CORP.

BIG BULK - MIDNIGHT BLUE ZONES
GEOLOGY MAP

DATE: NOV. 1990	NTS: 103P/11W
PROJECT: KITS	BY: D.J.T.
SCALE: 1:5000	
Keewatin Engineering Inc.	MAP No. 6

KINSKUCH LAKE
W/L 3666'±

SKUTCH 4

SKUTCH 5

SKUTCH 14

SKUTCH 12

SKUTCH 6

ICEFIELD

ICEFIELD

ICEFIELD

BIG BULK 1

BIG BULK 2

JADE 36

JADE 37

1981 DRILL CORE
91SHOS2DR-028 TO 031

Old Core

Old Core

FOR SAMPLES
91AM052 BC-001 AND
91VM052 BC-001 TO BC-014
SEE FIGURE 8

FOR SAMPLES
91DT052 BC-011 TO BC-026
SEE FIGURE 9

4000

4500

5000

LEGEND

- Limit of Ice
- Moraine
- Area of Outcrop

1990 SAMPLES

Rocks 90DT052R-050*

Soils 90DT052S-048

Silts 90DT052L-004

1991 SAMPLES

Rocks 91DT052R-112*

Soils 91DT052S-010

Silts 91DT052L-003

* chip samples- C-013

GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,915

OLIVER GOLD CORP.

BIG BULK - MIDNIGHT BLUE ZONES
1990 & 1991
SAMPLE LOCATIONS

DATE: NOV. 1990	NTS: 103P/11W
PROJECT: KITS	BY:
SCALE: 1:5,000	
Keewatin Engineering Inc.	MAP No. 10

KINSKUCH LAKE

W/L 3666' ±

SKUTCH 4

SKUTCH 5

SKUTCH 14

SKUTCH 6

SKUTCH 12

ICEFIELD

ICEFIELD

ICEFIELD

BIG BULK 1

BIG BULK 2

JADE 36

JADE 37

5000

4500

1965(?) DRILL CORE (CAMP)

Hole No.	Sample No.	Footage	Cu ppm
DDH A-4	91DT052BR-049	388 - 390	10,445
DDH A-4	91DT052BR-050	461 - 475	919
DDH A-3	91DT052BR-051	105 - 129	660
DDH A-7	91DT052BR-052	0 - 96	1,895
DDH A-7	91DT052BR-053	96 - 200	1,313
DDH A-7	91DT052BR-054	200 - 351	882
DDH A-1	91DT052BR-055	494 - 500	2,380

1992 DRILL CORE (TRACHY ZONE)

Hole No.	Sample No.	Meterage	Cu ppm
DDH A-1	91SH052BR-028	107.9 - 110.4	3,226
DDH A-1	91SH052BR-029	110.4 - 113.5	3,784
DDH A-1	91SH052BR-030	113.5 - 116.6	5,361
DDH A-1	91SH052BR-031	121.0 - 122.6	4,824
DDH A-2	91SH052BR-032	11.9 - 14.9	4,643
DDH A-2	91SH052BR-033	14.9 - 17.9	3,727
DDH A-2	91SH052BR-034	79.7 - 82.5	4,197
DDH A-2	91SH052BR-035	82.5 - 86.8	5,289

OLD CORE

Hole No.	Sample No.	Footage	Cu ppm
5	91DT052SR-003	180 - 237	706
?	91DT052SR-004	25 - 95	3,718
?	91DT052SR-005	?	614

FOR SAMPLES 91AM052 BC-001 AND 91VM052 BC-001 TO BC-014 SEE FIGURE 8

FOR SAMPLES 91DT052 DC-045 TO BC-026 SEE FIGURE 9

LEGEND

- Limit of Ice
- Moraine
- Area of Outcrop

1965-66 Forrest Kerr Geophysical Survey

Anomalous Areas

Magnetometer

Resistivity I.P.

Chargeability I.P.

Rocks

Cu △ >1,500 ppm; △ 900 - 1,500 ppm; △ <900 ppm — △△△ 1990 SAMPLES; ▲▲▲ 1991 "

Soils

Cu ◯ >350 ppm; ◯ 200 - 350 ppm; ○ <200 ppm — ○○○ 1990 SAMPLES; ●●● 1991 "

Silts

Cu □ >400 ppm; □ 250 - 400 ppm; □ <250 ppm — □□□ 1990 SAMPLES; ■■■ 1991 "

Chip Sample — Cu ppm/Length m

GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,915

OLIVER GOLD CORP.

BIG BULK - MIDNIGHT BLUE ZONES

1990 & 1991

Cu GEOCHEMISTRY

&

GEOPHYSICS (1965)

DATE: NOV. 1990	NTS: 103P/11W
PROJECT: KITS	BY:
SCALE: 1:5000	
Keewatin Engineering Inc.	MAP No. 11

KINSKUCH LAKE

W/L 3666'±

SKUTCH 4

SKUTCH 5

SKUTCH 14

SKUTCH 6

SKUTCH 12

ICEFIELD

ICEFIELD

ICEFIELD

BIG BULK 1

BIG BULK 2

JADE 36

JADE 37

4000

4500

5000

1982 DRILL CORE (TRACEY ZONE)

Hole No.	Sample No.	Metreage	Au ppb
DDH A-1	91SH052BR-028	107.9 - 110.4	85
DDH A-1	91SH052BR-[illegible]9	110.4 - 113.5	104
DDH A-1	91SL-[illegible]52BR-0[illegible]	113.5 - 116.6	121
DDH A-1	91SH052BR-03[illegible]	121.0 - 122.6	146
DDH A-2	91SH052BR-032	11.9 - 14.9	147
DDH A-2	91SH052BR-033	14.9 - 17.9	81
DDH A-2	91SH052BR-034	79.7 - 82.5	202
DDH A-2	91SH052BR-A-5	82.5 - 86.8	251

1985(?) DRILL CORE (CAMP)

Hole No.	Sample No.	Footage	Au ppb
DDH A-4	91DT052BR-049	388 - 390	568
DDH A-4	91DT052BR-050	461 - 475	66
DDH A-3	91DT052BR-051	105 - 129	59
DDH A-7	91DT052BR-052	0 - 90	53
DDH A-7	91DT052BR-053	90 - 200	30
DDH A-7	91DT052BR-054	200 - 351	17
DDH A-1	91DT052BR-055	494 - 500	67

OLD CORE

Hole No.	Sample No.	Footage	Au ppb
5	91DT052SR-003	180 - 237	68
7	91DT052SR-004	25 - 95	881
7	91DT052SR-005	?	48

FOR SAMPLES
91AM052 BC-001 AND
91VM052 BC-001 TO BC-014
SEE FIGURE 8

FOR SAMPLES
91DT052 BC-015 TO BC-026
SEE FIGURE 9

LEGEND

- Limit of Ice
- Moraine
- Area of Outcrop

Rocks

Au △ >350 ppb; △ 200 - 350 ppb; △ <200 ppb — △△△ 1990 SAMPLES; ▲▲▲ 1991 "

Soils

Au ○ >150 ppb; ○ 80 - 150 ppb; ○ <80 ppb — ○○○ 1990 SAMPLES; ●●● 1991 "

Silts

Au □ >200 ppb; □ 90 - 200 ppb; □ <90 ppb — □□□ 1990 SAMPLES; ■■■ 1991 "

Chip Sample — Au ppb/Length m

GEOLOGICAL BRANCH
ASSESSMENT REPORT

21,915

OLIVER GOLD CORP.

BIG BULK - MIDNIGHT BLUE ZONES

1990 & 1991

Au GEOCHEMISTRY

DATE: NOV. 1990	NTS: 103P/11W
PROJECT: KITS	BY:
SCALE: 1:5,000	
Keewatin Engineering Inc.	MAP No. 12