NTS 82K/8W

Drilling, Geophysical, Geological, Geochemical Report

ECHO BAY MINES LTD.

81-1070-9829

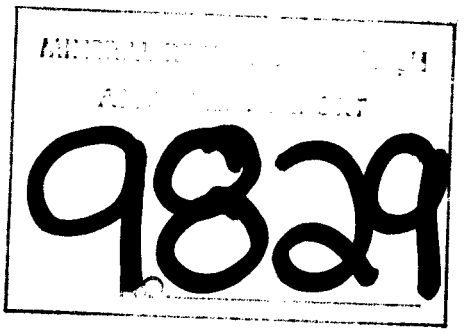
MIN1, MIN2, SMIN1, RED LEDGE 1
AND RED LEDGE 2 MINERAL CLAIMS

EXPLORATION - 1981

GOLDEN MINING DIVISION, BRITISH COLUMBIA

82K/8W
50°19N 116°26W

part 1
of 2



Trigg, Woollett Consulting Ltd.

November, 1981

M.K.O. Vaegler
R.A. Olson

ECHO BAY MINES LTD.

MIN1, MIN2, SMIN1, RED LEDGE 1
AND RED LEDGE 2 MINERAL CLAIMS

EXPLORATION - 1981

GOLDEN MINING DIVISION, BRITISH COLUMBIA

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ECHO BAY MINES LTD.

MIN1, MIN2, SMIN1, RED LEDGE 1 AND RED LEDGE 2 MINERAL CLAIMS

EXPLORATION - 1981

GOLDEN MINING DIVISION, BRITISH COLUMBIA

SUMMARY

Exploration, which consisted of line cutting, topographic surveying, road building, trenching, geological mapping, geophysical surveying, geochemical sampling and drilling, was performed at MIN1, MIN2, SMIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims between May 9 and September 3, 1981.

Folded and faulted Dutch Creek Formation, Mount Nelson Formation and Horsethief Creek Group carbonate and clastic rocks exist within the mineral claims. At least 18 sulphide mineral occurrences and six iron-oxide gossans exist in Dutch Creek Formation or in Mount Nelson Formation within or near the mineral claims. The most important sulphide mineral occurrences exist at and near occurrence 82K80SHM007. Drilling beneath mineral occurrence 82K80SHM007 did not, however, intersect the mineralized zone.

Zones in soil that are geochemically anomalous for lead, zinc, silver and/or cadmium exist, and several such zones are spatially associated with sulphide mineral occurrences. There are a few geochemical anomalies in soil that have not been evaluated. It is improbable, however, that any of the geochemical anomalies in soil are caused by important sulphide deposits.

Several induced polarization, resistivity and very low frequency electromagnetic anomalies exist. These geophysical anomalies generally are attributable to pyrite- or pyrrhotite-rich zones within Dutch Creek Formation argillite or to fault zones.

A total of 1,045.79 m was drilled in ten holes. None of the holes intersected significant zones of sulphide minerals. The cored interval that contains the most abundant lead- and zinc-sulphide minerals is in hole 81MR-7. Split-core samples from this interval contain up to 0.11 per cent lead, 0.14 per cent zinc, 2.06 grams silver per tonne and less than 0.01 per cent copper over 0.9 m.

No further exploration is warranted at this time within MIN1, MIN2, SMIN1, RED LEDGE 1 or RED LEDGE 2 mineral claims. Sufficient assessment from 1981 exploration has been filed to hold mineral claims MIN1, MIN2 and SMIN1 until 1987. Expenditures incurred in 1981 that are not claimed for

assessment on the mineral claims should be filed for portable assessment credit.

INTRODUCTION

Location

MIN1, MIN2, SMIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims are in Golden Mining Division within National Topographic System (NTS) map-sheet 82K/8W and are centered at 50°19'N latitude, 116°27'W longitude (Dwgs. 1101-4 and 1101-4A). The mineral claims cover a total area of 810 ha and are accessible by four-wheel drive vehicle.

History

The area has been geologically mapped at a scale of one inch equals two miles (Walker, 1926), at a scale of 1 cm equals 2.5 km (Reesor, 1957 and 1973) and at a scale of 1 inch equals 1,500 feet (Fyles, 1959).

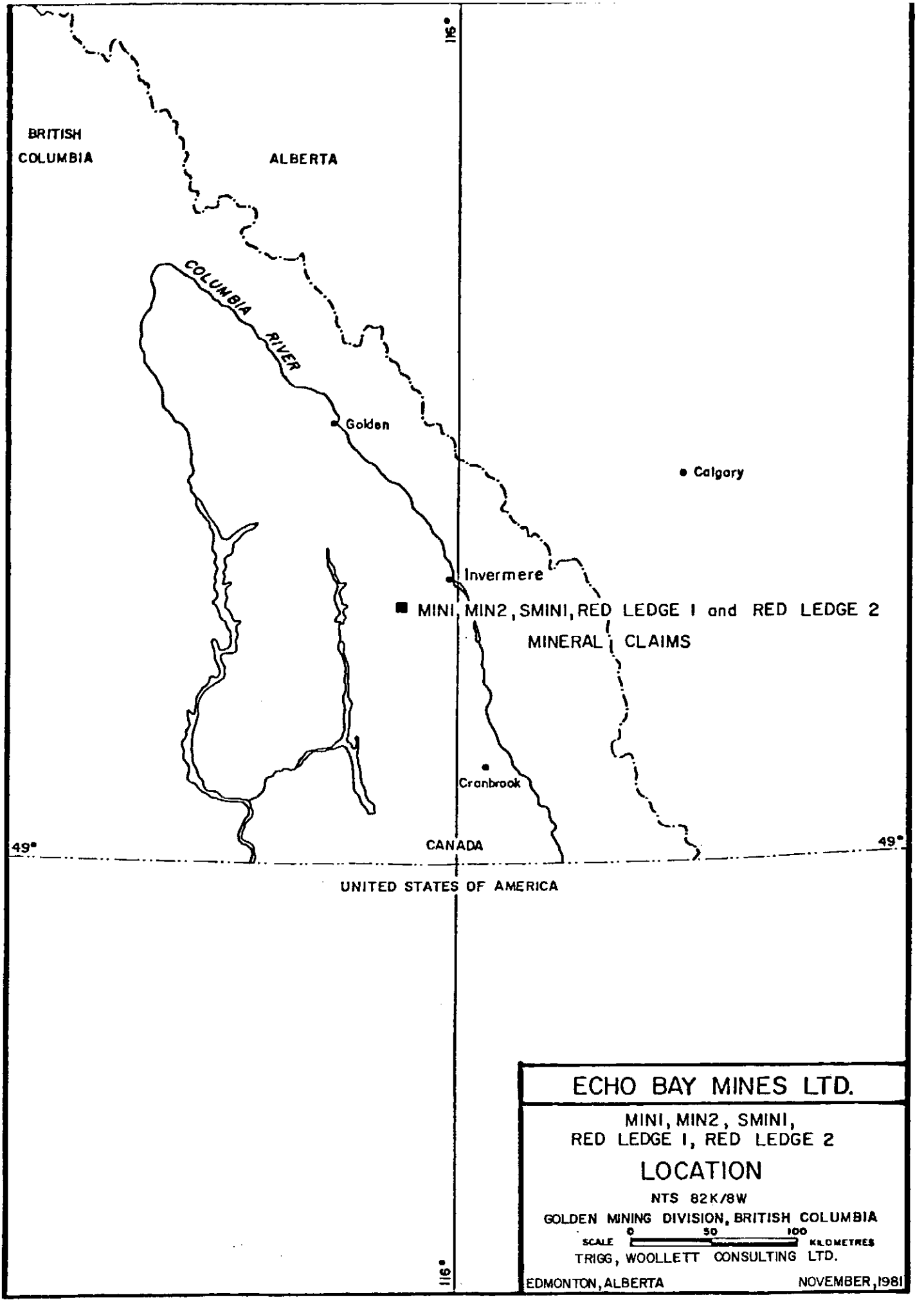
In 1979, Trigg, Woollett Consulting Ltd., on behalf of Echo Bay Mines Ltd., performed reconnaissance and detailed geochemical stream sediment sampling in parts of the area now covered by MIN1 and MIN2 mineral claims. MIN1 and MIN2 mineral claims, bearing record numbers 510 and 511 respectively, were staked on November 10 and 11, 1979 and were recorded on November 23, 1979. SMIN1 mineral claim, bearing record number 773, was staked on July 1 and 2, 1980 and was recorded on July 30, 1980. MIN1, MIN2 and SMIN1 mineral claims were grouped in November 1980. MIN1, MIN2 and SMIN1 mineral claims are held by Echo Bay Mines Ltd.

RED LEDGE 1 and RED LEDGE 2 mineral claims, bearing record numbers 192 and 193 respectively, were recorded on October 13, 1977 and October 31, 1977 respectively, and are held by Arthur Louie of Wilmer, British Columbia. RED LEDGE 1 and RED LEDGE 2 mineral claims were optioned by Echo Bay Mines Ltd. in August 1980. The option agreement for these mineral claims was terminated by Echo Bay Mines Ltd. in September 1981.

1981 Exploration

A total of 846 man-days of field work, which consisted of line cutting, topographic surveying, geological mapping, geophysical surveying, geochemical sampling, trenching, road building and drilling, was performed at MIN1, MIN2, SMIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims between May 9 and September 3, 1981. The personnel who performed the field work are tabulated in Appendix I.

Exploration on the mineral claims during 1981 comprised (a) establishing a total of 6.9 km of grid within and near MIN1, MIN2, SMIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims, (b) performing a total of 6.2 line-km of topographic surveying, (c) geological mapping along new roads at a



ECHO BAY MINES LTD.

MINI, MIN2, SMINI,
RED LEDGE 1, RED LEDGE 2

LOCATION

NTS 82K/8W

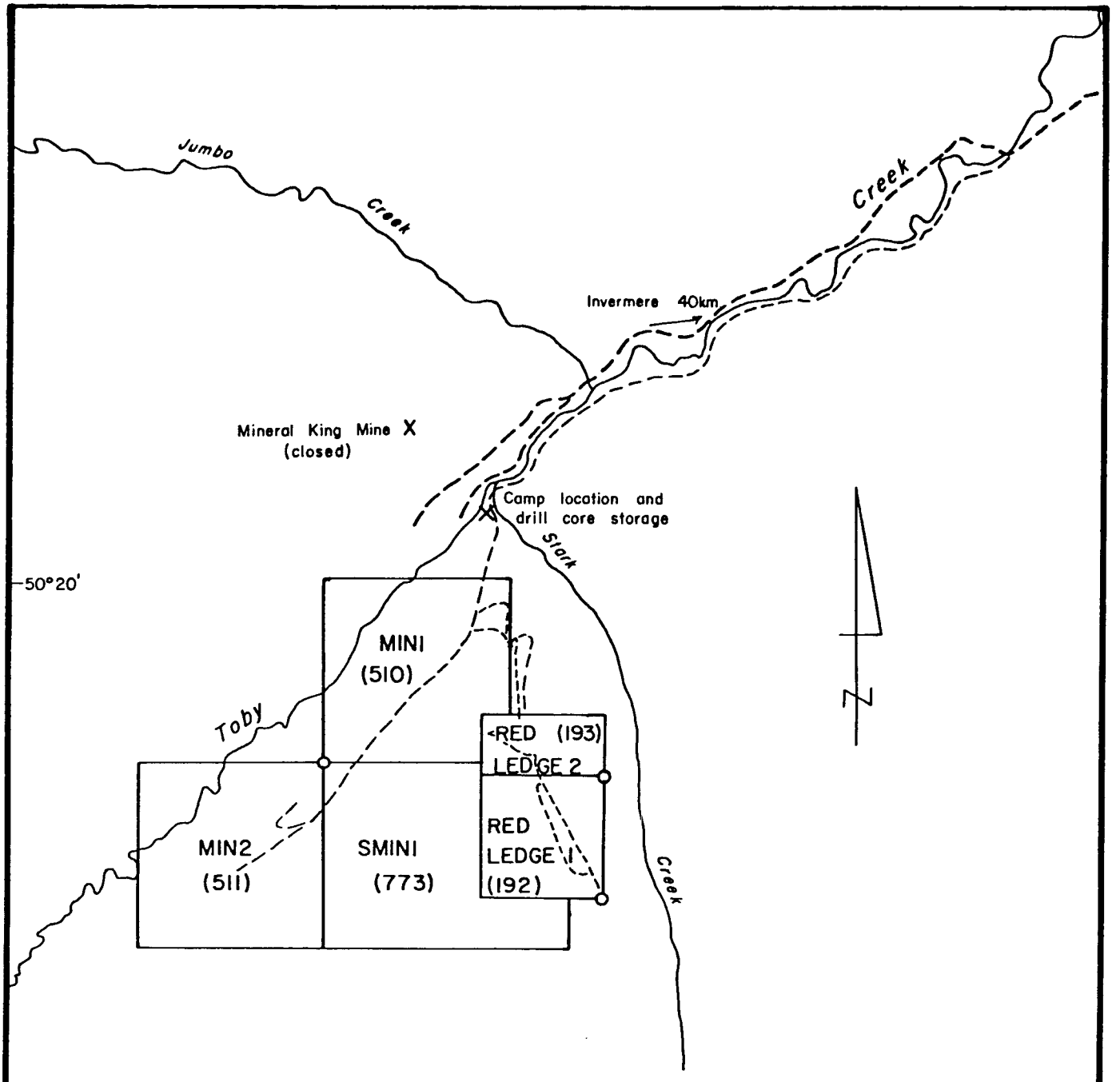
GOLDEN MINING DIVISION, BRITISH COLUMBIA

SCALE 0 50 100 KILOMETRES

TRIGG, WOOLLETT CONSULTING LTD.

EDMONTON, ALBERTA NOVEMBER, 1981

DWG. 1101 - 4



ECHO BAY MINES LTD.

MINI, MIN2, SMINI,
RED LEDGE 1, RED LEDGE 2

LOCATION

NTS 82K/8W

GOLDEN MINING DIVISION, B.C.

SCALE 0 500 1000 METRES

TRIGG, WOOLLETT CONSULTING LTD.
EDMONTON, ALBERTA NOVEMBER, 1981

DWG. 1101-4A

scale of 1 cm equals 50 m or 1 cm equals 10 m, (d) performing totals of 3.15 line-km of very low frequency electromagnetic and 15.89 line-km of induced polarization/resistivity surveys, (e) collecting 401 geochemical soil samples, (f) building or refurbishing a total of 14.55 km of road, and (g) drilling a total of 1,045.79 m in ten holes. In addition, five sulphide mineral occurrences which were discovered during road building within RED LEDGE 2 or MIN1 mineral claims, were stripped and trenched by a caterpillar tractor. A camp was constructed at Stark Creek to facilitate exploration of the mineral claims.

The total cost of exploration performed during 1981 within MIN1, MIN2 and SMIN1 mineral claims is estimated at $140,000, and within RED LEDGE 1 and RED LEDGE 2 mineral claims is estimated at $150,000. The amount claimed for assessment purposes for MIN1, MIN2 and SMIN1 mineral claims is $21,600 (Appendix II).

LINE CUTTING, ROAD BUILDING

A total of 6.9 line-km of crossline was established by chain and compass. This total comprises 1.65 line-km, 0.65 line-km, 3.0 line-km and 1.6 line-km established within mineral claims MIN1, MIN2, RED LEDGE 1 and RED LEDGE 2 respectively. A total of 14.55 km of road was built or refurbished. This total comprises (a) approximately 2.75 km of new roads which provide access to MIN1, MIN2 and SMIN1 mineral claims and to drill sites, (b) 1.9 km of access road to RED LEDGE 1 which was refurbished, and (c) 9.9 km of roads which were refurbished within or adjacent to the mineral claims (Dwgs. 1101-4A and 1101-5). All roads were built to four-wheel drive standards using a D-7 caterpillar tractor contracted from and operated by O.W. Braisher Contracting of Parson, British Columbia. In addition to road building, the caterpillar tractor was used to construct a total of 16 drill pads, not all of which were used, and to perform stripping and trenching at selected locales.

GEOLOGY

Within MIN1, MIN2, SMIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims the two upper formations of Helikian Purcell System and Hadrynian Horsethief Creek Group of Windermere System are present (Dwg. 1101-5).

The two upper formations of Purcell System are Dutch Creek Formation, which comprises mainly argillite, siltstone and quartzite and lesser amounts of carbonate rocks, and Mount Nelson Formation, which comprises mainly dolostone and lesser amounts of quartzite, limestone, slate, argillite and conglomerate. Windermere System, which unconformably overlies Purcell System, comprises Toby Formation conglomerate and overlying Horsethief Creek Group, a diverse sequence of quartz pebble conglomerate, grit, argillite and minor dolomitic limestone. Toby Formation is not present within the mineral claims.

Three units of massive and finely laminated, buff weathering, cream dolostone of Dutch Creek Formation exist within and near MIN2 mineral claim (Dwg. 1101-5). The western contact of the central dolostone is gradational, comprising dolostone interbedded with fine grained quartzite and argillite, overlain by argillite and siltstone. The contact relationships of the other dolostone units are uncertain (Jansen and Olson, 1980). Dark green, chloritic, intrusive rocks exist locally within Dutch Creek Formation.

Mount Nelson Formation conformably overlies Dutch Creek Formation rocks within MIN1, MIN2, SMIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims. Near the northern boundary of MIN1 mineral claim, Mount Nelson Formation dolostone is the host for the sulphide deposit which existed at the now closed Mineral King mine (Fyles, 1959).

The basal unit of Mount Nelson Formation is a massive and thin- to thick-bedded, fine- to medium-grained white and pale green quartzite which contains lesser amounts of interbedded dolostone and argillite. The basal quartzite grades upward through interbedded quartzite and dolostone to massive and laminated, medium- to thick-bedded, buff- to brown-weathering, grey dolostone. This dolostone unit commonly contains interbeds of green, grey and black argillite, and locally contains grit and matrix-supported pebble conglomerate consisting of quartz clasts in an argillaceous matrix. The dolostone unit is in fault contact with Dutch Creek Formation rocks which exist to the east (Dwg. 1101-5).

Horsethief Creek Group quartz pebble conglomerate and grit, with lesser amounts of argillite and dolomitic limestone, exist in the southern portion of RED LEDGE 2 and SMIN1 mineral claims.

Rocks within and near the mineral claims are folded and faulted; structures within the rocks indicate there were at least three phases of deformation. Within MIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims, the main structure is a subsidiary fold that plunges about 20 degrees to the north-northwest (Dwg. 1101-5). The axis of this subsidiary fold lies within Mount Nelson Formation; the fold is transected to the east by a subvertical, north-northwesterly trending fault or fault zone that is downthrown about 1,200 m on the west side (Fyles, 1959). This subsidiary fold is a drag fold that formed on the east limb of a large anticline, the axis of which exists west of the mineral claims. The east limb of this large anticline generally dips steeply east-northeasterly; locally, however, it may be overturned and dip steeply west-southwesterly.

Within MIN2 mineral claim there are no clearly definable medium- to large-scale folds. The presence of minor folds and the local variations in bedding and foliation attitudes indicate, however, that such folds are present (Jansen and Olson, 1980).

MINERAL OCCURRENCES

Seven sulphide mineral occurrences were discovered in 1981 within RED LEDGE 1, RED LEDGE 2 and MIN1 mineral claims (Dwgs. 1101-5 and 1101-6). The mineral occurrences are composed of one or more of galena, tetrahedrite and sphalerite within Mount Nelson Formation dolostone and quartzite.

Within RED LEDGE 1 mineral claim, occurrences 82K81MVM004 and 82K81MVM005 consist of small, irregularly-shaped patches of galena within Mount Nelson Formation dolostone. Occurrence 82K81MVM003 consists of small pods of galena in a quartz vein which cuts Mount Nelson Formation dolostone.

Within RED LEDGE 2 mineral claim, three mineral occurrences, 82K81MVM001, 82K81MVM002 and 82K81JSM002, were discovered near previously discovered occurrence 82K80SHM007 (Dwgs. 1101-5 and 1101-6). All three of the occurrences are in or near quartz veins within Mount Nelson Formation dolostone. Occurrence 82K81MVM001 consists of a thin vein of massive galena and minor amounts of tetrahedrite and sphalerite in a quartz vein that strikes 030 degrees and dips 85 degrees northwesterly. Occurrences 82K81MVM002 and 82K81JSM002 consist of isolated, small pods of galena that are in or near quartz veins.

An ore microscopy study of two selected samples from occurrence 82K80SHM007 was performed by Dr. J. Payne of Vancouver Petrographics Ltd. (Appendix III). Payne states that the samples contain greater amounts of galena and tetrahedrite, lesser amounts of pyrite and sphalerite, and trace amounts of pyrrhotite, chalcopyrite, native gold and, possibly, native silver. Payne concludes that the average grade of 17.75 ounces silver per ton obtained at surface at this occurrence (Jansen and Olson, 1981), may be due in part to the enrichment of silver in the non-reflective secondary minerals, which possibly are silver-halides.

Within MIN1 mineral claim, occurrence 82K81CRM001 was discovered up slope from a geochemically anomalous zone in soil. This occurrence comprises small amounts of galena and tetrahedite in Mount Nelson Formation quartzite.

GEOCHEMICAL SURVEYS

Four hundred and one geochemical soil samples were collected within and near MIN1, MIN2, SMIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims (Dwg. 1101-7). The majority of the samples were collected from the B soil horizon. The cards that describe each sample and sample site are in Appendix IV. All geochemical soil samples were dried and sieved for the -80 mesh fraction at the field base camp and were analyzed for lead, zinc, silver and cadmium by Bondar-Clegg & Company Ltd., Vancouver, British Columbia (Appendix V). The 1981 geochemical results for lead, zinc, silver and cadmium in soil are compiled on drawing 1101-8. Also compiled on this drawing are the lead, zinc, silver and cadmium results for soil and stream sediment samples that were collected prior to 1981.

Several geochemically anomalous zones exist within the mineral claims. Metal concentrations present in soil samples collected in 1981 range up to 2,400 parts per million (ppm) lead, 1,340 ppm zinc, 14 ppm silver and 3.9 ppm cadmium. The majority of the geochemically anomalous zones are underlain by, or are near, Dutch Creek Formation dolostone or Mount Nelson Formation quartzite and dolostone. A few of the geochemically anomalous zones are near or down slope from known sulphide mineral occurrences.

GEOPHYSICAL SURVEYS

During 1981, 3.15 line-km of very low frequency electromagnetic (VLF-EM) and 15.89 line-km of induced polarization/resistivity (IP) surveys were conducted within MIN1, MIN2, SMIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims. The VLF-EM survey was performed by Trigg, Woollett Consulting Ltd. and the IP survey was performed by Phoenix Geophysics Ltd., Vancouver, British Columbia. The VLF-EM and IP data were interpreted by Phoenix Geophysics Ltd. (Cartwright and DiSpirito, 1981; Appendix VI).

The 1981 IP geophysical survey extended six previously delineated anomalous zones of IP and/or resistivity and discovered thirteen new anomalous zones (Dwg. 1101-9). Cartwright and DiSpirito (1981) conclude, in general, that the majority of the IP and/or resistivity anomalies are caused by shallow-seated sources and that these sources probably are faults or zones of disseminated sulphide minerals in Dutch Creek Formation argillite. The IP anomalous zones that exist in areas underlain by Mount Nelson Formation, for example, zones F, F1, F2, R1, R2 and, in part, H1, commonly are characterized by low resistivity and low polarizability readings. Cartwright and DiSpirito conclude that these zones probably are caused by faults or geological contacts and are not due to the presence of significant concentrations of metallic minerals.

The 1981 VLF-EM survey extended two previously delineated anomalous zones of VLF-EM and discovered four new anomalous zones. Cartwright and DiSpirito attribute the relatively few, and generally poor quality, VLF-EM anomalies to the poor orientation of the VLF-EM transmitter stations with respect to the trend of the axes of the VLF-EM anomalous zones.

DIAMOND DRILLING

A Boyles Bros. BBS-25A drill was used to recover a total of 1,045.79 m of BQ and NQ core from ten diamond drill holes. Drilling was performed under contract by Connors Drilling Ltd. of Kamloops, British Columbia between July 6 and September 3, 1981. A D-7 caterpillar tractor, contracted and operated by O.W. Braisher Contracting, Parson, British Columbia, or a John Deere caterpillar tractor supplied by Connors Drilling Ltd. were used to move the drill between holes 81MR-1 to 81MR-8. Bell 204C, 412 and 206B helicopters under contract from Alpine Helicopters Ltd. of Kelowna, British Columbia or Shirley Air Services Ltd. of Edmonton, Alberta

were used to move the drill to and from site 81MR-9/81MR-10 and to supply the drill while at this site. Drilling is summarized in Table I and drill hole locations are shown on drawing 1101-5. Sections that illustrate the geology intersected in each hole are plotted on drawings 1101-10 to 1101-15, inclusive. The drill core from all ten holes is stored in Dymotape-labelled core boxes in a core rack constructed at the Stark Creek camp.

The drill core was logged geologically (Appendix VII). Seven selected intervals of core from holes 81MR-5, 81MR-7 and 81MR-8 were split and sampled. The samples were sent to Bondar-Clegg & Company Ltd. of Vancouver, British Columbia for assay for one or more of lead, zinc, silver and copper (Appendix VIII). The assays are tabulated in the logs in Appendix VII. A total of four thin- and polished thin-sections were prepared by Vancouver Petrographics Ltd. from selected samples taken from core from holes 81MR-6, 81MR-7 and 81MR-8. The thin- and polished thin-sections were examined by Trigg, Woollett Consulting Ltd. personnel; the petrographic reports which summarize the results of this examination are in Appendix IX.

Lithology and Structure

Drilling intersected Dutch Creek Formation argillite, limestone and dolostone, and Mount Nelson Formation argillite, quartzite and dolostone.

Dutch Creek Formation argillite is predominantly grey, green or black and may locally be orange. The argillite is finely laminated to massive, with laminations inclined from 0 to 90 degrees relative to the core axis, and commonly contains small-scale folds. Fissility, where present in argillite, is subparallel to the bedding; microfractures and faults are common. Dutch Creek Formation argillite commonly contains several volume per cent pyrite and/or pyrrhotite. Dutch Creek Formation dolostone and limestone units intersected in holes 81MR-7 and 81MR-8 are grey to white, have highly variable bedding inclinations relative to the core axis, and commonly contain minute grains of pyrite coating the bedding surfaces. The dolostone locally is brecciated and the fragments are in a dolostone or limestone matrix. The contacts between Dutch Creek Formation dolostone and argillite are sharp to gradational.

Mount Nelson Formation comprises argillite, dolostone and quartzite in units that commonly are interbedded. Mount Nelson Formation argillite is highly variable in colour but typically is green, grey and black. The argillite is massive or finely laminated, has bedding attitudes inclined from 0 to 90 degrees relative to the core axis, and typically contains small-scale folds. Limonite commonly occurs as pseudomorphs after pyrite or as rounded blebs or lenses within argillite.

Mount Nelson Formation dolostone typically is grey but may also be brown, orange or white, is poorly bedded and, locally, is brecciated. Dolostone commonly contains thin seams of argillite. Locally, dolostone contains fine- to medium-grained quartz grains that constitute up to 20 per cent of the rock.

Mount Nelson Formation quartzite typically is white and pale green, but may also be brown, red or orange, is fine grained, locally contains up to 80 per cent limonite, and is granular.

Sulphide Minerals, Sampling

No important concentrations of lead-, zinc-, silver- or cadmium-bearing sulphide minerals exist within core recovered from the ten diamond drill holes. Minor amounts of galena occur locally either as disseminated grains or within quartz veins in Dutch Creek Formation dolostone and limestone, and in Mount Nelson Formation argillite.

In hole 81MR-7, up to one volume per cent galena exists in core in the interval from 47.45 m to 48.35 m. A split-core sample collected from this 0.9 m interval contains 0.11 per cent lead, 0.14 per cent zinc, 2.06 grams silver per tonne and less than 0.01 per cent copper. Two other split-core samples, 0.52 m and 1.0 m in length respectively, from hole 81MR-7 contain less than 0.01 per cent lead, less than 0.01 per cent zinc, less than 0.69 grams silver per tonne and less than 0.01 per cent copper.

In hole 81MR-8, a 2.0 m interval of core that contains disseminated grains of galena was split-core sampled. This sample contains 0.05 per cent lead, 0.02 per cent zinc, 0.69 grams silver per tonne and less than 0.01 per cent copper.

In hole 81MR-5, an interval thought to possibly contain smithsonite was split-core sampled from 14.71 m to 14.81 m. This sample contains 0.01 per cent lead and 0.01 per cent zinc, and thus does not contain smithsonite. A fault gouge which exists between 106.89 m and 107.01 m within hole 81MR-5 was sampled to determine if it contains anomalous concentrations of zinc or lead. The sample contains less than 0.01 per cent lead and less than 0.01 per cent zinc.

CONCLUSIONS

Seven mineral occurrences were discovered in 1981 within MIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims. Occurrence 82K81CRM001, which comprises small amounts of galena and tetrahedrite within Mount Nelson Formation quartzite, is upslope from a geochemically anomalous zone in soil and probably is the cause of this geochemical anomaly. No further exploration is warranted at occurrence 82K81CRM001.

Occurrences 82K81JSM002, 82K81MVM001 and 82K81MVM002 are near previously discovered occurrence 82K80SHM007, within RED LEDGE 2 mineral claim, and comprise galena, with or without tetrahedrite, in or near quartz veins within Mount Nelson Formation dolostone. These four occurrences define a zone that trends approximately 160 degrees. This area is geologically complex due to faulting and the mineralized zone may be several en echelon quartz veins or simply one quartz vein which is locally offset by faults. Diamond drilling beneath occurrence 82K80SHM007 did not intersect the mineralized zone. It is improbable that these occurrences are spatially related to an important sulphide deposit.

Occurrences 82K81MVM003, 82K81MVM004 and 82K81MVM005 consist of small amounts of galena in Mount Nelson Formation dolostone or in quartz veins. None of these occurrences are important.

A total of 1,251 geochemical soil samples have been collected during 1980 and 1981 within and near MIN1, MIN2, SMIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims. Metal concentrations in soil range up to 3,200 ppm lead, 2,600 ppm zinc, 20 ppm silver and 19 ppm cadmium (Jansen and Olson, 1980). The majority of the geochemically anomalous zones in soil are underlain by, or are near, Dutch Creek Formation dolostone or Mount Nelson Formation quartzite and dolostone. Several of the geochemically anomalous zones are near or down slope from known sulphide mineral occurrences or from iron-oxide gossans. There are a few geochemical anomalies in soil that have not been evaluated. It is improbable, however, that any of the geochemical anomalies in soil are caused by important sulphide deposits.

The majority of the IP and VLF-EM geophysical anomalies which have been discovered are coincident with fault zones or with pyritiferous Dutch Creek Formation argillite. Drilling performed to test selected geophysical anomalies did not intersect important concentrations of sulphide. A few geophysical anomalies have not been evaluated. It is improbable, however, that any of the anomalies are caused by important sulphide deposits.

A total of 1,045.79 m of core was recovered from ten diamond drill holes. No mineralized zones of economic significance were intersected in any of the holes. The cored intervals that contain the most abundant lead- and zinc-sulphide minerals are in holes 81MR-7 and 81MR-8. Split-core samples from an interval in hole 81MR-7 contain up to 0.11 per cent lead, 0.14 per cent zinc, 2.06 grams silver per tonne and less than 0.01 per cent copper over 0.9 m. The cored intervals in holes 81MR-7 and 81MR-8 that contain sulphide minerals in dolostone are very porous and produced water during drilling. It is probable that this porous zone is an aquifer and thus may cause the springs and the geochemically anomalous zones in soil and stream sediment that exist downslope from these holes.

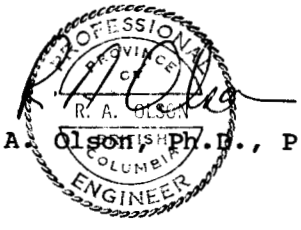
RECOMMENDATIONS

All the mineral occurrences and geochemical and geophysical anomalies that exist within MIN1, MIN2, SMIN1, RED LEDGE 1 and RED LEDGE 2 mineral claims have not been evaluated. The probability is low, however, that an important sulphide deposit is producing the anomalies. No further exploration is warranted, therefore, within these mineral claims at this time.

MIN1 and MIN2 mineral claims are in good standing until November 23, 1983, and mineral claim SMIN1 is in good standing until July 30, 1984. Sufficient assessment from 1981 exploration has been filed to hold mineral claims MIN1, MIN2 and SMIN1 until 1987. Expenditures incurred in 1981 that are not claimed for assessment on mineral claims should be filed for portable assessment credit.

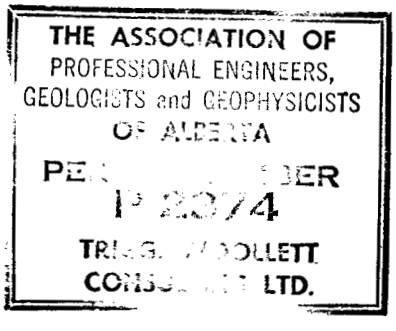
Trigg, Woollett Consulting Ltd.

M.K.O. Vaegler



R.A. Olson, Ph.D., P.Eng.

November, 1981
Edmonton, Alberta



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CERTIFICATION

I, R.A. OLSON OF 8727 - 181 STREET, EDMONTON, ALBERTA CERTIFY AND DECLARE THAT I AM A GRADUATE OF THE UNIVERSITY OF BRITISH COLUMBIA WITH A B.SC. DEGREE IN GEOLOGY (1968), A GRADUATE OF THE UNIVERSITY OF WESTERN ONTARIO WITH A M.SC. DEGREE IN GEOLOGY (1971) AND A GRADUATE OF THE UNIVERSITY OF BRITISH COLUMBIA WITH A PH.D. DEGREE IN GEOLOGY (1977). I AM REGISTERED AS A PROFESSIONAL ENGINEER WITH THE ASSOCIATION OF PROFESSIONAL ENGINEERS OF BRITISH COLUMBIA AND AS A PROFESSIONAL GEOLOGIST WITH THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS AND GEOPHYSICISTS OF ALBERTA.

MY EXPERIENCE INCLUDES SERVICE AS AN EXPLORATION GEOLOGIST WITH TEXASGULF INC., VANCOUVER, BRITISH COLUMBIA. SINCE 1969 I HAVE CONDUCTED AND DIRECTED PROPERTY EXAMINATIONS, PROPERTY EVALUATIONS AND EXPLORATION PROGRAMS ON BEHALF OF COMPANIES AS A GEOLOGIST IN THE EMPLOY OF TRIGG, WOOLLETT & ASSOCIATES LTD. AND AS A PARTNER IN THE FIRM OF TRIGG, WOOLLETT CONSULTING LTD., EDMONTON, ALBERTA.

TRIGG, WOOLLETT CONSULTING LTD. HAS A RETAINED INTEREST IN THE INVERMERE PROJECT OF ECHO BAY MINES LTD. I AM A PARTNER IN TRIGG, WOOLLETT CONSULTING LTD.

M.K.O. VAEGLER'S REPORT ON MIN1, MIN2, SMIN1, RED LEDGE 1 AND RED LEDGE 2 MINERAL CLAIMS, EXPLORATION - 1981, IS BASED UPON FIELD WORK AND UPON STUDY OF PUBLISHED AND UNPUBLISHED DATA.

R.A. OLSON, PH.D., P.ENG

NOVEMBER, 1981
EDMONTON, ALBERTA

TABLE I

1981 DRILLING SUMMARY

Hole Number	Location	Azimuth	Angle	Elevation[1] of collar (metres above sea level)	Down-hole distance from drill shack floor to collar at ground surface (metres)	Thickness[2] of overburden (metres)	Depth of hole (metres)	Core	Date Collared	Date Completed
81MR-1	29+00S 17+50W	237°	-45°	1,549	0.58	3.08	145.09	BQ	July 9, 1981	July 12, 1981
81MR-2	49+00S 18+00W	237°	-45°	2,026	0.54	3.42	177.70	BQ	July 13, 1981	July 17, 1981
81MR-3	38+00S 17+32W	237°	-45°	1,938*	0.57	1.26	50.60	BQ	July 22, 1981	July 23, 1981
81MR-4	38+55S 15+35W	057°	-45°	1,943*	0.68	6.33	99.37	BQ	July 24, 1981	July 25, 1981
81MR-5	38+50S 17+62W	237°	-45°	1,988*	0.68	1.76	166.42	BQ	July 27, 1981	July 30, 1981
81MR-6	33+00S 44+25W	237°	-45°	1,439	0.73	2.01	145.09	BQ	August 1, 1981	August 3, 1981
81MR-7	31+00S 40+50W	237°	-45°	1,390	0.65	0.57	56.69	BQ	August 5, 1981	August 5, 1981
81MR-8	31+00S 40+50W	237°	-60°	1,390	0.51	0.71	74.98	BQ	August 6, 1981	August 7, 1981

Hole Number	Location	Azimuth	Angle	Elevation[1] of collar (metres above sea level)	Down-hole distance from drill shack floor to collar at ground surface (metres)	Thickness[2] of overburden (metres)	Depth of hole (metres)	Core	Date Collared	Date Completed
81MR-9	38+50S 19+50W	055°	-47°	2,071	3.40	0.0	76.81	BQ	August 14, 1981	August 16, 1981
81MR-10	38+50S 19+50W	055°	-50°	2,071	3.27	0.0	53.04	NQ	August 25, 1981	August 27, 1981

NOTE: 1 The elevation given is that of the ground at the drill hole collar. Note, however, that all the down-hole metrages which are given in Table I or in the logs in Appendix VII are relative to the drill shack floor which was the reference level used during drilling.

* The elevation of the collars at holes 81MR-3, 81MR-4 and 81MR-5 were not measured directly by altimeter but are estimated from the topographic profiles in drawings 1101-13 and 1101-14 respectively.

2 The overburden thickness is the thickness intersected by the drill hole and is not necessarily the true thickness.

APPENDIX I

PERSONNEL

PERSONNEL

MIN1, MIN2 AND SMIN1 MINERAL CLAIMS

Name and Address	Position	Dates in Field (1981)	Days
Trigg, Woollett Consulting Ltd.			
Beck, E. 5538 Wallace Street VANCOUVER, B.C.	Geological Assistant	May 11 to 18	8
Charbonneau, M. 296 St. Joseph Sud. Mont-St.-Gregoire CTE. IBERVILLE. Quebec	Cook	July 11 to 15	5
Grant, A.H. 702, 8708 - 106 Street EDMONTON, Alberta	Geologist	May 17,18,19,25,26,29 June 3,5,6,11,13,17,19-22, 25,28,29 July 4,6,9,13-17 August 2,3,9-11,19,23,25	35
Hawker, S. 6396 - 180 Street EDMONTON, Alberta	Prospector	May 13-19,23 June 8,9,26,29	12
Hayward, D. 214 - 6th Avenue South CRANBROOK, B.C.	Geological Assistant	May 14-16,19-27, 29-31 June 1-3,5,7-12,16-19, 21,24,26-28	34
Heidgerken, G. 2225 Ewart Avenue SASKATOON, Saskatchewan	Geological Assistant	May 11-17,19,26 June 1-10,12-14,17-19, 24,26,28 July 12 August 12	30

Name and Address	Position	Dates in Field (1981)	Days
Janssen, W. 4662 Fabre MONTREAL, Quebec	Cook	June 21-30 July 1	11
Moorhouse, J. 3315 Utah Drive NW CALGARY, Alberta	Geological Assistant	May 11-18	8
Olson, R.A. 8727 - 181 Street EDMONTON, Alberta	Consultant	May 10 June 23 July 9	3
Russell, C. 250 Westridge Road EDMONTON, Alberta	Geological Assistant	May 11-18 June 1-6,8-14,17,19,24-26 July 6,9,16,21 August 10,22 September 2	33
Seburn, J. 6097 Dixon Street NIAGARA FALLS, Ontario	Geological Assistant	May 12-19,28-30 June 1-3,5-13,17,19,22-28 July 12,16 August 22	35
Vaegler, M.K.O. 1611 Otterby Rd. MISSISSAUGA, Ontario	Geologist	May 13-31 June 1-7,10-17,19,22-28 July 4-7,9-18,21,22,23, 26-31 August 2,3,9,14-21,23,24	78
Connors Drilling Limited			
Arneburg, A. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Driller	July 6-12 August 1-7	14

Name and Address	Position	Dates in Field (1981)	Days
Bothem, C. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Helper	July 6-12 August 1-7	14
Russell, M. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Driller	July 6-12 August 1-7	14
Smelsky, S. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Helper	July 6-12 August 1-7	14
Phoenix Geophysics Limited			
Pozniak, Z. 90 Humberview Road TORONTO, Ontario	Geophysicist	June 27,28 July 6,9,10,12,16	7
Corman, K. 10891 Bromley Place RICHMOND, B.C.	Geophysical Assistant	June 27,28 July 6,9,10,12,16	7
O.W. Braisher Contracting			
Braisher, O.W. P.O. Box 70 PARSON, B.C.	Caterpillar Tractor Operator	June 23-26,29,30 July 2,3,6-10,13,14	15

PERSONNEL

RED LEDGE 1 MINERAL CLAIM

Name and Address	Position	Dates in Field (1981)	Days
Trigg, Woollett Consulting Ltd.			
Beck, E. 5538 Wallace Street VANCOUVER, B.C.	Geological Assistant	May 23-27	5
Charbonneau, M. 296 St. Joseph Sud. Mont-St.-Gregoire CTE. IBERVILLE, Quebec	Cook	July 19-21	3
Grant, A.H. 702, 8708 - 106 Street EDMONTON, Alberta	Geologist	July 7, 8, 22	3
Hayward, D. 214 - 6th Avenue South CRANBROOK, B.C.	Geological Assistant	June 20 July 1, 8-10	5
Heidgerken, G. 2225 Ewart Avenue SASKATOON, Saskatchewan	Geological Assistant	July 3, 6, 22 August 20-23	7
Janssen, W. 4662 Fabre MONTREAL, Quebec	Cook	July 7-13	7
Johnston, R. 2727 Assiniboine Avenue REGINA, Saskatchewan	Geologist	July 14	1

Name and Address	Position	Dates in Field (1981)	Days
Moorhouse, J. 3315 Utah Drive NW CALGARY, Alberta	Geological Assistant	May 23-27	5
Olson, R.A. 8727 - 181 Street EDMONTON, Alberta	Consultant	July 28 August 8	2
Russell, C. 250 Westridge Road EDMONTON, Alberta	Geological Assistant	June 21, 29, 30 August 1, 20, 21	6
Seburn, J. 6097 Dixon Street NIAGARA FALLS, Ontario	Geological Assistant	July 3 August 1, 5, 24 September 1, 2	6
Vaegler, M.K.O. 1611 Otterby Road MISSISSAUGA, Ontario	Geologist	June 21, 29, 30 July 2, 3, 8, 19, 20 August 1, 4, 22	11
Connors Drilling Limited			
Arneberg, A. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Driller	July 13-21 August 8-31 September 1, 2, 3	36
Bothem, C. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Helper	July 13-21 August 8-31 September 1, 2, 3	36

Name and Address	Position	Dates in Field (1981)	Days
Russell, M. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Driller	July 13-21 August 8-31 September 1, 2, 3	36
Smelsky, S. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Helper	July 13-21 August 8-31 September 1, 2, 3	36
Phoenix Geophysics Limited			
Pozniak, Z. 90 Humberview Road TORONTO, Ontario	Geophysicist	July 8, 9	2
Corman, K. 10891 Bromley Place RICHMOND, B.C.	Geophysical Assistant	July 8, 9	2
O.W. Braisher Contracting			
Braisher, O.W. P.O. Box 70 PARSON, B.C.	Caterpillar Tractor Operator	July 23, 24, 27, 28	4

PERSONNEL

RED LEDGE 2 MINERAL CLAIM

Name and Address	Position	Dates in Field (1981)	Days
Trigg, Woollett Consulting Ltd.			
Beck, E. 5538 Wallace Street VANCOUVER, B.C.	Geological Assistant	May 19-22	4
Charbonneau, M. 296 St. Joseph Sud. Mont-St.-Gregoire CTE. IBERVILLE, Quebec	Cook	July 16-18	3
Grant, A.H. 702, 8708 - 106 Street EDMONTON, Alberta	Geologist	June 4 July 1,2,11,19,20,23-26, 28-30 August 1,5,6-8,12-15,17, 20,21,24,27,30,31 September 1	30
Hawker, S. 6396 - 180 Street EDMONTON, Alberta	Prospector	June 14,15	2
Hayward, D. 214 - 6th Avenue South CRANBROOK, B.C.	Geological Assistant	June 6,13,22,23,25	5
Heidgerken, G. 2225 Ewart Avenue SASKATOON, Saskatchewan	Geological Assistant	May 18,26 June 11,16,20-23,25,27 July 2,4,5,10,11,13-15, 26,31 August 2,24	22

Name and Address	Position	Dates in Field (1981)	Days
Janssen, W. 4662 Fabre MONTREAL, Quebec	Cook	July 2-6	5
Johnston, R. 2727 Assiniboine Avenue REGINA, Saskatchewan	Geologist	May 9,10,13,17,18 July 18,19 August 4	8
Moorhouse, J. 3315 Utah Drive NW CALGARY, Alberta	Geological Assistant	May 19-22	4
Olson, R.A. 8727 - 181 Street EDMONTON, Alberta	Consultant	July 11,20	2
Russell, C. 250 Westridge Road EDMONTON, Alberta	Geological Assistant	May 11,19,25-29,31 June 20,22,23,28 July 1-5,7,8,17-19,22-31 August 2-5,8,11,15,20,23 September 1	42
Seburn, J. 6097 Dixon Street NIAGARA FALLS, Ontario	Geological Assistant	May 20,25-27 June 18,20,21,29,30 July 1,2,10,11,14,15, 17-19,26,29,30	21
Trigg, C.M. 15235 - 43 Avenue EDMONTON, Alberta	Consultant	August 8	1
Vaegler, M.K.O. 1611 Otterby Road MISSISSAUGA, Ontario	Geologist	May 24-26 June 8,9,16 July 1,25 August 5-8,10-13,25-31 September 1,2	25

Name and Address	Position	Dates in Field (1981)	Days
Connors Drilling Limited			
Arneberg, A. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Driller	July 22-31	10
Bothem, C. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Helper	July 22-31	10
Russell, M. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Driller	July 22-31	10
Smelsky, S. c/o Connors Drilling Limited P.O. Box 3340 2007 West Trans Canada Highway KAMLOOPS, B.C.	Helper	July 22-31	10
Phoenix Geophysics Limited			
Cartwright, P. c/o Phoenix Geophysics Limited 214 - 744 West Hastings Street VANCOUVER, B.C.	Geophysicist	July 10	1
Pozniak, Z. 90 Humberview Road TORONTO, Ontario	Geophysicist	June 23-26,29,30 July 1-5,11,17-20	16

Name and Address	Position	Dates in Field (1981)	Days
Corman, K. 10891 Bromley Place RICHMOND, B.C.	Geophysical Assistant	June 23-26,29,30 July 1-5,11,17-20	16
O.W. Braisher Contracting			
Braisher, O.W. P.O. Box 70 PARSON, B.C.	Caterpillar Tractor Operator	June 15-17,20,29-31 August 3,4	9

APPENDIX II

COST STATEMENT

APPENDIX II

COST STATEMENT

MIN1, MIN2 AND SMIN1 MINERAL CLAIMS

ROAD BUILDING

D-7 caterpillar tractor: about 151.6 hrs @ $64.50/hr	$ 9,776.14
Mobilization	380.00
Travelling charge for fuel - 4 days @ $50/day	200.00
Sub-Total	$10,356.14

DIAMOND DRILLING

A total of 1,045.79 m of drilling was performed at and near these mineral claims in 1981, at a total contractor charge of $142,605.47. However, only 82.46 m of drilling are claimed for assessment.	$11,243.86

TOTAL COSTS APPLIED FOR ASSESSMENT	$21,600.00

NOTE: The cost of $21,600, which was applied for assessment to maintain the MIN1, MIN2 and SMIN1 mineral claims, is not the total cost of 1981 exploration performed within these mineral claims. This total cost is estimated at $140,000. The actual total cost of exploration, less $21.600, will be filed for portable assessment credit when all invoices are received and the total cost is accurately known.

APPENDIX III

PETROGRAPHIC REPORT ON SPECIMENS FROM MINERAL OCCURRENCE 82K80SHM007

APR 9 1981 K 710

8887 Nash Street,
Fort Langley, B.C.,
April 6, 1981.

Dear John and Reg:

I have retyped your report with the deletions and changes made. With regard to the percentages of Ag in galena and tetrahedrite, I realize that very high values are possible. The values which I originally quoted and which I have included in this revised report represent what I would consider reasonable values to expect for the Ag content of these minerals. Higher values indeed are possible, and hopefully your deposit may have these. The nature of alteration of the samples indicates to me that secondary enrichment is a distinct possiblility for the very high values obtained in some of the other samples, although in the revised report I do not emphasize this point, because of lack of data (i.e., a section of the specific sample with very high Ag).

This is late in getting to you because I was delayed in Chile with a rather bad case of infectious hepatitis, from which I am in the final stages of recovery (I hope) at home. This will explain the absence of Vancouver Petrographic letterhead paper; I don't think this is important to you.

Hopefully this revised report will suit your needs. Good luck with this deposit. It was very interesting for me to see the rather unusual secondary alteration textures.

Yours sincerely,

John Payne

John Payne

PETROGRAPHIC REPORT

for: John Jansen, Reg Olson,
Trigg, Woollett Consulting, Ltd.,
10504 - 103 Street,
Edmonton, Alberta, T5H 2V4.

Samples: 82K80 SHM007C and SHM007D
(three polished sections made of each sample)

Summary

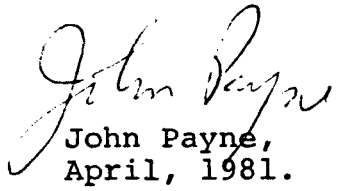
The samples contain major amounts of galena and tetrahedrite, with other primary sulfides being lesser pyrite and sphalerite, minor pyrrhotite, and a trace of chalcopyrite, native gold, and native silver? (Mineral X).

Galena and tetrahedrite are coarsely intergrown, with scattered finer grained inclusions of tetrahedrite in galena. Pyrite and sphalerite form scattered grains and clusters of grains, with pyrite also common as inclusions in galena. Sphalerite forms coarse patches, commonly with moderately abundant tiny inclusions of pyrrhotite, probably of exsolution origin. Chalcopyrite forms minor inclusions in pyrite. Native gold forms one grain in sphalerite and one in hematite in sample SHM007C. Native silver? forms one grain in galena in sample SHM007D.

The samples are moderately to strongly altered to secondary minerals. Sample SHM007C contains abundant secondary covellite, and the following non-reflective secondary minerals: malachite-azurite, secondary Pb-minerals, hematite, and probably secondary As-minerals (some of the green colored minerals). Sample SHM007D is much less intensely altered, but has a similar alteration assemblage and similar textures.

Of interest to the client is the distribution of Ag. Only one grain of a possible Ag-rich mineral was seen, this being the grain of native silver? in sample SHM007D. Galena and tetrahedrite both may contain significant Ag. In numerous deposits known to the writer, galena contains 20-30 oz/T Ag, and values up to or more than 1% Ag have been reported (Dana's Textbook of Mineralogy:4th Edition, 1947, W.E.Ford, editor; p. 416). Tetrahedrite can contain much more than this, with values up to 1% Ag not uncommon, and with values reported to be up to 18% Ag (Mining Geology, McKinstry, H.E., 1948., p. 64) and from 3 to 30% Ag (Dana's Textbook of Mineralogy: 4th Edition, 1947, p. 453) in the Ag-rich variety, freibergite.

Because of the extensive secondary alteration of the sulfide assemblage, it is possible that some secondary enrichment of Ag occurred, with Ag enriched in the non-reflective secondary minerals, possibly as Ag-halides.



John Payne,
April, 1981.

VANCOUVER PETROGRAPHICS
8887 Nash Street,
Fort Langley, B.C.
V0X 1J0

Sample 82K80 SHM007C (three blocks)

The sample contains the following reflective minerals in decreasing order of abundance: tetrahedrite, galena, covellite, pyrite, sphalerite, pyrrhotite, and native Au. Non-reflective minerals include quartz, calcite, azurite, malachite, and secondary Pb-minerals. Mineral abundances vary widely from one sample to the next; approximate averages for the reflective minerals are as follows: tetrahedrite (40-45%), galena (35-40%), covellite (10-15%), pyrite (3-5%), sphalerite (3-5%), pyrrhotite (minor), native Au (trace). Of the reflective minerals, all but covellite are primary.

Tetrahedrite forms fine to coarse grains and aggregates of equant, anhedral habit. They are strongly fractured, and in some of th sections they contain moderately abundant covellite along fractures. In other parts of the samples, fractures in tetrahedrite are filled by a low-relief, non-reflective mineral or minerals. Less commonly the alteration assemblage consists of a secondary mineral or minerals with much higher relief and very low reflectivity; this assemblage appears dark grey to black in polished section. Locally, tetrahedrite contains minor irregular inclusions of pyrite averaging 0.03-0.05 mm in size.

Galena forms irregular patches ranging widely in grain size. It is cut by much fewer fractures than is tetrahedrite, and the fractures in galena commonly show a cubic orientation. On a small scale, much of the galena has very irregular borders, with the mineral being variably replaced along grain borders by covellite. The latter mineral forms extremely fine grained to very fine grained aggregates with feathery texture, with grains commonly oriented perpendicular to the borders of galena grains. Locally, galena grains are strongly to completely replaced by covellite aggregates. Elsewhere, galena is rimmed by non-reflective secondary Pb-minerals. Locally galena contains equant, generally irregular inclusions of tetrahedrite averaging 0.1-0.15 mm across, with a few up to 0.5 mm in size.

Pyrite forms scattered medium to coarse grains and a few clusters of similar grains. Most are strongly fractured, and some are partly altered to hematite along grain borders and fractures. Some pyrite grains contain moderately abundant inclusions of galena, and a few pyrite grains contain minor inclusions of chalcopyrite. Pyrite also forms scattered grains averaging 0.05 mm in size in tetrahedrite and galena, and locally forms irregular, wispy veinlets less than 0.01 mm wide.

Sphalerite forms patches up to several mm across. It is almost opaque, and probably has a high Fe-content. Most grains contain abundant pyrrhotite inclusions averaging 0.01-0.03 mm in size. These generally form rounded blebs in random orientation and distribution, and less commonly occur as elongate lenses in subparallel orientation. One sphalerite grain in sample SHM007C-2 contains a grain of native Au 0.02 mm across. This grain is near the edge of the sample, above the orange arrow on the side of the bakelite ring.

In section SHM007C-3, a patch along one side consists mainly of medium to coarse grained pyrite. It is strongly fractured and altered along fractures to hematite. One fracture contains a patch of native Au 0.12 mm long by 0.03 mm wide.

Sample 82K80 SHM007D (three blocks)

The sample is similar in texture to sample SHM007C, but has significant differences in mineral abundances, and in the degree of replacement by secondary minerals.

The primary sulfides in order of decreasing abundance are as follows: (percentages are of total sulfide, and do not consider non-reflective minerals)

galena (83-87%), tetrahedrite (10-12%), pyrite (2-3%), sphalerite (0.3%), pyrrhotite (minor), native silver? (Mineral X) (trace).

Secondary minerals include covellite (1-2% of total sulfide), and non-reflective secondary Pb, Fe, and probably As minerals.

Galena forms coarse grained aggregates with scattered inclusions of pyrite and minor inclusions of tetrahedrite. Pyrite forms fine to very fine grains, with a few patches of coarser grains up to 1 mm across. Some are very irregular in outline and are intimately intergrown with galena. Galena is slightly to moderately altered along grain borders to secondary Pb-minerals, and in a few parts of the sample to covellite. The texture of covellite-galena intergrowths is similar to that in sample SHM007C.

Tetrahedrite occurs in a few medium to coarse grained patches. These are strongly fractured by irregular to dendritic fractures, and the mineral is replaced along the fractures by secondary non-reflective minerals with low and high relief, and locally by covellite Secondary replacement textures are as in sample SHM007C.

Sphalerite forms scattered grains up to 0.7 mm in size. Most contain moderately abundant inclusions of pyrrhotite as in sample SHM007C.

Mineral X forms one grain 0.005 mm in size enclosed in galena. It has a higher reflectivity than galena and a silvery-white color, suggesting that it might be native Ag. However, the grain is too small for positive identification. The grain is in sample SHM007D-2 at the intersection of the two orange lines on the bakelite ring.

APPENDIX IV

GEOCHEMICAL SAMPLE CARDS

FILL IN SOIL 1101/EBI MIN 1 CR JUNE 12/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

82K81CRS009 16+75W 28+00S
5 W 0.15 3.0 B 21 0301 3

82K81CRS010 17+25W 28+00S
5 W 0.20 50 A 10202 3

82K81CRS011 16+75W 27+50S
5.0 W 0.26 50 B 2 1 0211 0

82K81CRS012 17+00W 27+50S
3.0 W 0.15 50 B 2 1 0301 0

FILL IN

SURVEY TYPE: SOIL CLIENT & PROJECT: 1101/EBI AREA &/or PHOTO: MIN 1 COLLECTOR(S): CR DATE: JUNE 12/81

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
	N	T	S		YEAR		INIT.				NUMBER		ZONE	UTM		EAST (or GRID COORDINATES)				UTM			NORTH			ROCK TYPE				WTHR		VEGETATION				VEG. INT.		
								SAMPLE	TYPE																						Clr	Cldy	Con	Dec	Grs	Moss	Sprs	Mod	W.F
RELIEF			SLOPE				CONTAMINATION				DEPTH			THKNS		HORIZ.	SEDIMENT COLOUR							COMPOSITION				MOISTURE			ORIGINAL SAMPLE NO.							ORIG DUP REP
Low	Med	High	Mag		Dir		Work	Comp	Fuel	Goan							Wht	Yel	Grn	Red	Brn	Blk	Sand	Silt	Clay	Org	Wet	Mst	Dry									
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
8	2	K	8	1	C	R	S	0	1	3			1	7	+	2	5	W		2	7	+	5	0	S					Clr	✓ Cldy	Con	✓ Dec	Grs	Moss	Sprs	✓ Mod	W.F
Low	Med	High	4.0 Mag		W Dir		Work	Comp	Fuel	Goan	0	2	5	5	0	B		2 Wht	Yel	Grn	1 Red	Brn	Blk	0 Sand	3 Silt	0 Clay	1 Org	Wet	✓ Mst	Dry									0
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

REMARKS:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
8	2	K	8	1	C	R	S	0	1	4			17	+	5	0	W		2	7	+	5	0	S					Clr	✓ Cldy	Con	✓ Dec	Grs	Moss	Sprs	✓ Mod	W.F
Low	✓ Med	High	4.0 Mag		W Dir		Work	Comp	Fuel	Goan	0	2	0	5	0	B		Wht	Yel	Grn	2 Red	1 Brn	Blk	0 Sand	3 Silt	0 Clay	1 Org	Wet	✓ Mst	Dry									0
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

REMARKS:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
8	2	K	8	1	C	R	S	0	1	5			1	6	+	7	5	W		2	7	+	0	0	S					Clr	✓ Cldy	✓ Con	Dec	Grs	Moss	Sprs	✓ Mod	W.F
Low	✓ Med	High	3.0 Mag		W Dir		Work	Comp	Fuel	Goan	0	0	5	3	0	B		Wht	Yel	Grn	2 Red	1 Brn	Blk	0 Sand	3 Silt	0 Clay	1 Org	Wet	✓ Mst	Dry									0
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

REMARKS:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
8	2	K	8	1	C	R	S	0	1	6			1	7	+	2	5	W		2	7	+	0	0	S					Clr	✓ Cldy	Con	✓ Dec	Grs	Moss	Sprs	✓ Mod	W.F
Low	✓ Med	High	3.0 Mag		W Dir		Work	Comp	Fuel	Goan	0	1	5	3	0	B		Wht	Yel	Grn	2 Red	1 Brn	Blk	0 Sand	2 Silt	0 Clay	2 Org	Wet	✓ Mst	Dry									0
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

REMARKS: POSSIBLE A CONTAMINATION

SAMPLE TYPES S-Soil, T,U,V – glacial till, undifferentiated esker, W – frost boil, X,Y,Z – other

SURVEY TYPE: SOIL | CLIENT & PROJECT: 1101/EBI | AREA &/or PHOTO: MIN 1 | COLLECTOR(S): CR | DATE: JUNE 12/81

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
	N	T	S		YEAR		INIT.	SAMPLE TYPE	NUMBER			ZONE		UTM				EAST (or GRID COORDINATES)			UTM			NORTH			ROCK TYPE				WTHR		VEGETATION					VEG. INT.	
																															Clr	Cldy	Con	Dec	Grs	Moss	Sprs	Mod	W.F.
RELIEF			SLOPE				CONTAMINATION				DEPTH			THKNS		HORIZ.	SEDIMENT COLOUR							COMPOSITION				MOISTURE			ORIGINAL SAMPLE NO.								ORIG DUP REP
Low	Med	High	Mag		Dir		Work	Comp	Fuel	Gosn							Wht	Yel	Grn	Red	Brn	Blk	Sand	Silt	Clay	Org	Wet	Mst	Dry										
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

	8	2	K	8	1	C	R	S	0	1	7			/	6	+	7	5	W		2	6	+	5	0	S					✓		✓				✓	
	✓			2.5	W						0	1	5	7	0	B					2	1		1	2	0	1		✓									0
	Med			Mag	Dir																Red	Brn					Org		Mst									

REMARKS:

	8	2	K	8	1	C	R	S	0	1	8			1	7	+	0	0	W		2	6	+	5	0	S					✓		✓				✓	
	✓			3.0	W				·		0	0	5	3	0	B					2	1		0	3	0	1		✓									0
	Med			Mag	Dir																Red	Brn					Org		Mst									

REMARKS:

	8	2	K	8	1	C	R	S	0	1	9				1	7	+	2	5	W		2	6	+	5	0	S					✓		✓				✓	
	✓			2.5	W						0	1	0	5	0	B					1	2		0	3	0	1		✓									0
	Med			Mag	Dir																Red	Brn					Org		Mst									

REMARKS:

	8	2	K	8	1	C	R	S	0	2	0			1	7	+	5	0	W		2	6	+	5	0	S					✓		✓				✓	
	✓			4.0	W						0	1	5	5	0	B		3			2	1		0	3	0	1		✓									1
	Med			Mag	Dir													Wht			Red	Brn					Org		Mst									

REMARKS:

SAMPLE TYPES: S-Soil, T,U,V – glacial till, undifferentiated, esker, W – frost boil; X,Y,Z – other

FILL IN

SURVEY TYPE: SOIL | CLIENT & PROJECT: 1101/EBI | AREA &/or PHOTO: MIN 1 | COLLECTOR(S): CR | DATE: JUNE 12/81

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
	N	T	S		YEAR		INIT.	SAMPLE TYPE	NUMBER			ZONE		UTM				EAST (or GRID COORDINATES)			UTM			NORTH			ROCK TYPE				WTHR		VEGETATION					VEG. INT.	
																															Clr	Cldy	Con	Dec	Grs	Moss	Sprs	Mod	W.F.
RELIEF			SLOPE				CONTAMINATION				DEPTH			THKNS		HORIZ.	SEDIMENT COLOUR							COMPOSITION				MOISTURE			ORIGINAL SAMPLE NO.								ORIG DUP REP
Low	Med	High	Mag		Dir		Work	Comp	Fuel	Gosn							Wht	Yel	Grn	Red	Brn	Blk	Sand	Silt	Clay	Org	Wet	Mst	Dry										
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

	8	2	K	8	1	C	R	S	0	2	1																												
																																1	C	R	S	0	2	0	2

REMARKS:

REMARKS:

REMARKS:

SAMPLE TYPES: S-Soil, T,U,V – glacial till, undifferentiated, esker, W – frost boil; X,Y,Z – other

FILL IN

SURVEY TYPE: SOIL | CLIENT & PROJECT: 1101 / EBI | AREA &/or PHOTO: MIN 2 | COLLECTOR(S): CR | DATE: JUNE 14/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

N T S	YEAR	INIT.	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	VEGETATION	SITE
82K8	1	CRS	022		46+75W	33+50S	ARGL	✓	✓

RELIEF (Low / Med / High)	SLOPE (Mag / Dir)	CONTAMINATION (Work / Comp / Fuel / Geosn)	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR (Wht / Yel / Grn / Red / Brn / Blk)	COMPOSITION (Sand / Silt / Clay / Org)	MOISTURE (Wet / Mst / Dry)	CENTRAL SAMPLE (Spurs / Mod / W.F.)
✓	3.0 W		0.20	5.0	B	2 1	0 3 0 1	✓	✓ ✓ 0

REMARKS:

N T S	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	VEGETATION	SITE
82K8	1	CRS	023		46+50W	33+50S	ARGL	✓	✓

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR	COMPOSITION	MOISTURE	CENTRAL SAMPLE
✓	2.5 W		0.25	2.0	B ?	2 1	0 3 0 1	✓	0

REMARKS:

N T S	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	VEGETATION	SITE
82K8	1	CRS	024		46+25W	33+65S	ARGL	✓	✓ ✓

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR	COMPOSITION	MOISTURE	CENTRAL SAMPLE
✓	6.0 W		0.05	1.5	B	2 1	0 1 1	✓	0

REMARKS:

N T S	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	VEGETATION	SITE
82K8	1	CRS	025		46+00W	33+50S	ARGL	✓	✓ ✓

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR	COMPOSITION	MOISTURE	CENTRAL SAMPLE
✓	2.5 B		0.10	3.0	B	2 1	0 3 0 1	✓	0

REMARKS:

SAMPLE TYPES: S = Soil, T = Till, O = Other

SURVEY TYPE: SOIL | CLIENT & PROJECT: 1101 / EBI | AREA &/or PHOTO: MIN 2 | COLLECTOR(S): CR | DATE: JUNE 14/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

N T S	YEAR	INIT.	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	VEGETATION	SITE
82K8	1	CRS	026		45+75W	33+50S	ARGL	✓	✓ ✓

RELIEF (Low / Med / High)	SLOPE (Mag / Dir)	CONTAMINATION (Work / Comp / Fuel / Geosn)	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR (Wht / Yel / Grn / Red / Brn / Blk)	COMPOSITION (Sand / Silt / Clay / Org)	MOISTURE (Wet / Mst / Dry)	CENTRAL SAMPLE (Spurs / Mod / W.F.)
✓	5.0 W		0.40	5.0 /		1 2	0 1 1 2	✓	✓ 0

REMARKS: NO B HORIZON

N T S	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	VEGETATION	SITE
82K8	1	CRS	027		45+50W	33+50S	ARGL	✓	✓ ✓

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR	COMPOSITION	MOISTURE	CENTRAL SAMPLE
✓	5.5 W		0.20	4.0	B	1 2	0 2 1 1	✓	0

REMARKS:

N T S	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	VEGETATION	SITE
82K8	1	CRS	028		45+25W	33+50S	ARGL	✓	✓ ✓

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR	COMPOSITION	MOISTURE	CENTRAL SAMPLE
✓	6.0 W		0.05	6.0	B	2 1	0 3 0 1	✓	0

REMARKS:

N T S	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	VEGETATION	SITE
82K8	1	CRS	029		45+00	33+50S	ARGL	✓	✓ ✓

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR	COMPOSITION	MOISTURE	CENTRAL SAMPLE
✓	2.5 W		0.05	4.0	B	2 1	0 3 0 1	✓	0

REMARKS:

SAMPLE TYPES: S = Soil, T = Till, O = Other

FILL IN

SURVEY TYPE SOIL CLIENT/PROJECT 1101 / EBI AREA/PROPERTY MIN 2 COLLECTOR CR DATE JUNE 14/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	EAST	NORTH	ROCK TYPE	RELIEF	SLOPE	DIR	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE		REMARKS
82K	8	1CR	S030	44+75W	33+50S	ARGL	Med	3.0	W	015	50	B	21	0301	Mst	0	
82K	8	1CR	S031	44+50W	33+50S	ARGL	Med	2.0	W	010	05	B	2 1	0202	Mst	0	

SAMPLE TYPES

SURVEY TYPE SOIL CLIENT/PROJECT 1101 / EBI AREA/PROPERTY MIN 2 COLLECTOR CR DATE JUNE 17/81

NTS | YEAR | INIT | NUMBER | EAST | NORTH (GRID COORDINATES) | ROCK TYPE | RELIEF | SLOPE | CONTAMINATION | DEPTH | THKNS | HORIZ | SEDIMENT COLOUR | COMPOSITION | MOISTURE | ORIGINAL SAMPLE NO.

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	EAST	NORTH	ROCK TYPE	RELIEF	SLOPE	DIR	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE		REMARKS
82K	8	1CR	S032	47+00W	34+00S	ARGL	Med	3.5	W	005	30	B	21	0301	Mst	0	
82K	8	1CR	S033	46+75W	34+00S	ARGL	Med	3.0	W	010	30	B	21	0211	Mst	0	
82K	8	1CR	S034	46+50W	34+00S	ARGL	Med	2.0	W	005	30	B	21	0301	Mst	0	
82K	8	1CR	S035	46+25W	34+00S	ARGL	Med	2.5	W	002	30	B	21	0301	Mst	0	

SAMPLE TYPES

SURVEY TYPE SOIL CLIENT & PROJECT 1101/EBI AREA & AIR PHOTO MIN 2 COLLECT. BY CR DATE JUNE 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	Year	Sample No.	East	North	Rock Type	Cols 32–39	Relief	Slope Mag	Slope Dir	Depth	Thkns	Horiz	Sediment Colour	Composition	Moisture	Col 80
82K	8	1CRS036	46+00W	34+00S	ARGL	✓ ✓ ✓	High ✓	4.0	W	0.05	5.0	B	2 1	0 2 1 1	Wet ✓	0
82K	8	1CRS037	45+75W	34+00S	ARGL	✓ ✓ ✓	High ✓	4.0	W	0.05	5.0	B?	3 2 1	0 3 0 1	Mst ✓	0
82K	8	1CRS038	45+50W	34+00S	ARGL	✓ ✓ ✓	Med ✓	3.5	W	0.10	5.0	A	1 2	0 2 0 2	Mst ✓	0
82K	8	1CRS039	45+25W	34+00S	ARGL	✓ ✓ ✓	✓	5.0	W	0.15	0.5	C	1 2	0 1 0 3	Mst ✓	0

REMARKS (1CRS038): NO B HORIZON

REMARKS (1CRS039): NO B HORIZON

SURVEY TYPE SOIL CLIENT & PROJECT 1101/EBI AREA & AIR PHOTO MIN 2 COLLECT. BY CR DATE JUNE 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	Year	Sample No.	East	North	Rock Type	Cols 32–39	Relief	Slope Mag	Slope Dir	Depth	Thkns	Horiz	Sediment Colour	Composition	Moisture	Original Sample No.	Col 80
82K	8	1CRS040	45+00W	34+00S	ARGL	✓ ✓ ✓	High ✓	4.5	W	0.10	5.0	B?	2 1	0 2 0 2	Mst ✓		0
82K	8	1CRS041	44+75W	34+00S	ARGL	✓ ✓ ✓	Med ✓	4.0	W	0.05	5.0	B	2 1	0 3 0 1	Mst ✓		1
82K	8	1CRS042														1CRS041	2
82K	8	1CRS043	44+50W	34+00S	ARGL	✓ ✓	Med ✓	3.5	W	0.10	5.0	B?	2 1	0 2 0 2	Mst ✓		0

SURVEY TYPE SOIL | CLIENT & PROJECT 1101/EBI | AREA & AIR PHOTO MIN 2 | COLLECTOR CR | DATE June 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

NTS	Year/Init/Number	Grid Coordinates (East)	Grid Coordinates (North)	Rock Type	Relief	Slope	Contamination	Depth	Thkns	Horiz	Sediment Colour	Composition	Moisture	Col. 80
82K8	1 CRS 044	44+25W	34+00S	ARGL	Med	2.5	W	0.10	5.0	B?	2 1	0301	Mst	0
82K8	1 CRS 045	44+00W	34+00S	ARGL	Med	3.0	W	0.20	5.0	B	21	0301	Mst	0
82K8	1 CRS 046	43+75W	34+00S	ARGL	Med	2.5	W	0.15	5.0	B	21	0301	Mst	0
82K8	1 CRS 047	43+50W	34+00S	ARGL	Med	2.5	W	0.20	6.0	B	21	0301	Mst	0

SAMPLE TYPES

SURVEY TYPE SOIL | CLIENT & PROJECT 1101/EBI | AREA & AIR PHOTO MINZ | COLLECTOR CR | DATE June 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

NTS	Year/Init/Number	Grid Coordinates (East)	Grid Coordinates (North)	Rock Type	Relief	Slope	Contamination	Depth	Thkns	Horiz	Sediment Colour	Composition	Moisture	Col. 80
82K8	1 CRS 048	43+25W	34+00S	ARGL	Med	2.0	W	0.10	5.0	B?	21	0211	Mst	0
82K8	1 CRS 049	43+00W	34+00S	ARGL	High	3.5	W	0.20	5.0	B?	2 1	0301	Mst	0
82K8	1 CRS 050	42+75W	34+00S	ARGL	High	4.0	W	0.15	5.0	B?	1	0202	Mst	0
82K8	1 CRS 051	42+50W	34+00S	ARGL	High	4.0	W	0.10	5.0	B?	2 1	0301	Mst	0

SAMPLE TYPES

SOIL 1101/EBI MIN 2 CR June 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

Sample	UTM E	UTM N	Rock				
82K81CRS052	42+25W	34+00S	ARGL	✓	✓	✓	
✓ 3.0 W	0.10	5.0 B? 2	1 0202	✓			0
82K81CRS053	42+00W	34+00S	ARGL	✓	✓	✓	
✓ 4.0 W	015	50 B? 2	1 0301	✓			0
82K81CRS054	41+75W	34+00S	ARGL	✓	✓	✓	0
✓ 3.5 W	005	5.0 B	21 0301	✓			0
82K81CRS055	41+50W	34+00S	ARGL	✓	✓	✓	
✓ 4.0 W	005	50 B	21 0301	✓			0

SURVEY TYPE SOIL 1101/EBI MIN 2 CR June 17/81

NTS YEAR ... UTM

RELIEF (Low Med High) SLOPE (Mag Dir) CONTAMINATION DEPTH ... HORIZ ...

GEOCHEMICAL SOIL AND TILL SAMPLE CARD TRIGG, WOOLLETT ... LTD

Sample	UTM E	UTM N	Rock				
82K81CRS056	41+25W	34+00S	ARGL	✓	✓	✓	
✓ (High) 3.5 W	0.35	5.0 C	1 0202	✓			0

REMARKS: NO B HORIZON

Sample	UTM E	UTM N	Rock				
57	41+00W	34+00S	ARGL	✓	✓	✓	
✓ (High) 3.5 W	0.25	5.0 B? 2	1 0211	✓			0

REMARKS

Sample	UTM E	UTM N	Rock				
58	40+75W	34+00S	ARGL	✓		✓	
✓ (High) 4.0 W	0.05	5.0 B	21 0301	✓			0

REMARKS: ABUNDANT ROCK CHIPS (ARGL)

Sample	UTM E	UTM N	Rock				
59	40+50W	34+00S	ARGL	✓	✓	✓	
✓ 3.5 W	0.16	50 B? 2	1 0301	✓			0

REMARKS

SURVEY TYPE: SOIL CLIENT & PROJECT: 1101/EBI AREA: MIN 2 COLLECTOR(S): CR DATE: JUNE 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TERRA W. JOLLETT CONSULTING LTD.

NTS	YEAR	INIT.	NUMBER	LTM	EAST GRID COORDINATES	NORTH	ROCK TYPE	RELATIVE ELEVATION	VEG INT
82K8	81	CRS	060		40+25W	34+00S	ARGL		

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICK	HORIZ	SED ENV	SED TEXTURE	COLOUR	MOISTURE	ORIGINAL SAMPLE NO
Low Med High	Mag	Dir	Work Comp Fuel							
	3.5	W		0.20	50	B?	2 1	0211		0

REMARKS:

NTS	YEAR	INIT.	NUMBER	LTM	EAST GRID COORDINATES	NORTH	ROCK TYPE	RELATIVE ELEVATION	VEG INT
82K8	81	CRS	061		40+00W	34+00S	ARGL		

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICK	HORIZ	SED ENV	SED TEXTURE	COLOUR	MOISTURE	ORIGINAL SAMPLE NO
Low Med High	Mag	Dir	Work Comp Fuel							
	3.5	W		0.25	5.0	B	2 1	0301		0

REMARKS:

NTS	YEAR	INIT.	NUMBER	LTM	EAST GRID COORDINATES	NORTH	ROCK TYPE	RELATIVE ELEVATION	VEG INT
82K8	81	CRS	062		39+75W	34+00S	ARGL		

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICK	HORIZ	SED ENV	SED TEXTURE	COLOUR	MOISTURE	ORIGINAL SAMPLE NO
Low Med High	Mag	Dir	Work Comp Fuel							
	3.5	W		0.15	5.0	B?	1 2	0301		0

REMARKS:

NTS	YEAR	INIT.	NUMBER	LTM	EAST GRID COORDINATES	NORTH	ROCK TYPE	RELATIVE ELEVATION	VEG INT
82K8	81	CRS	063		39+50W	34+00S	ARGL		

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICK	HORIZ	SED ENV	SED TEXTURE	COLOUR	MOISTURE	ORIGINAL SAMPLE NO
Low Med High	Mag	Dir	Work Comp Fuel							
	3.5	W		0.20	5.0	B?	2 1	0211		0

REMARKS:

SAMPLE TYPES:

SURVEY TYPE: SOIL CLIENT & PROJECT: 1101/EBI AREA: MIN 2 COLLECTOR(S): CR DATE: June 19/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TERRA W. JOLLETT CONSULTING LTD.

NTS	YEAR	INIT.	NUMBER	LTM	EAST GRID COORDINATES	NORTH	ROCK TYPE	RELATIVE ELEVATION	VEG INT
82K8	81	CRS	064		44+00W	40+00S	ARGL		

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICK	HORIZ	SED ENV	SED TEXTURE	COLOUR	MOISTURE	ORIGINAL SAMPLE NO
Low Med High	Mag	Dir	Work Comp Fuel							
	4.0	W		0.20	4.0	B	2 1	0301		0

REMARKS:

NTS	YEAR	INIT.	NUMBER	LTM	EAST GRID COORDINATES	NORTH	ROCK TYPE	RELATIVE ELEVATION	VEG INT
82K8	81	CRS	065		43+75W	40+00S	ARGL		

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICK	HORIZ	SED ENV	SED TEXTURE	COLOUR	MOISTURE	ORIGINAL SAMPLE NO
Low Med High	Mag	Dir	Work Comp Fuel							
	4.0	W		0.15	5.0	B	2 1	0211		0

REMARKS:

NTS	YEAR	INIT.	NUMBER	LTM	EAST GRID COORDINATES	NORTH	ROCK TYPE	RELATIVE ELEVATION	VEG INT
82K8	81	CRS	066		43+50W	40+00S	ARGL		

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICK	HORIZ	SED ENV	SED TEXTURE	COLOUR	MOISTURE	ORIGINAL SAMPLE NO
Low Med High	Mag	Dir	Work Comp Fuel							
	3.5	N		0.30	5.0	B	2 1	0301		0

REMARKS:

NTS	YEAR	INIT.	NUMBER	LTM	EAST GRID COORDINATES	NORTH	ROCK TYPE	RELATIVE ELEVATION	VEG INT
82K8	81	CRS	067		43+25W	40+00S	ARGL		

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICK	HORIZ	SED ENV	SED TEXTURE	COLOUR	MOISTURE	ORIGINAL SAMPLE NO
Low Med High	Mag	Dir	Work Comp Fuel							
	3.0	W		0.05	3.0	B	2 1	0301		0

REMARKS:

SAMPLE TYPES:

SURVEY TYPE: SOIL | CLIENT & PROJECT: 1101/EBI | AREA: MIN 2 | COLLECTOR: CR | DATE: June 14/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	Year	Init	Number	Grid North	Grid East	Rock Type	Vegetation	Relief	Slope	Dir	Depth	Thick	Horiz	Colour	Composition	Moisture	
82K8	1	CR	S068	43+00W	40+00S	ARGL	✓ ✓ ✓	High ✓	4.5	W	0.05	5.0	B	21	0301	✓	0
82K8	1	CR	S069	42+75W	40+00W	ARGL	✓ ✓ ✓	High ✓	5.0	W	0.05	5.0	B	21	0202	✓	0
82K8	1	CR	S070	42+50W	40+00W	ARGL	✓ ✓ ✓	High ✓	4.5	W	0.05	5.0	B	21	0301	✓	0
82K8	1	CR	S071	42+25W	40+00W	ARGL	✓ ✓ ✓	High ✓	4.0	W	0.05	5.0	B	21	0202	✓	0

REMARKS:

SAMPLE TYPES:

SURVEY TYPE: SOIL | CLIENT & PROJECT: 1101/EBI | AREA & PROP.: MIN 2 | COLLECTOR: CR | DATE: June 19/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	Year	Init	Number	Grid North	Grid East	Rock Type	Vegetation	Relief	Slope	Dir	Depth	Thick	Horiz	Colour	Composition	Moisture	
82K8	1	CR	S072	44+25W	41+00S	ARGL	✓ ✓ ✓	High ✓	5.0	W	0.10	5.0	B	21	0211	✓	0
82K8	1	CR	S073	44+00W	41+00W	ARGL	✓ ✓ ✓	High ✓	5.0	W	0.20	5.0	B	21	0301	✓	0
82K8	1	CR	S074	43+75W	41+00W	ARGL	✓ ✓ ✓	High ✓	4.5	W	0.25	5.0	B	21	0211	✓	0
82K8	1	CR	S075	43+50W	41+00W	ARGL	✓ ✓ ✓	High ✓	4.0	W	0.15	5.0	B	21	0202	✓	0

REMARKS:

SAMPLE TYPES:

SURVEY TYPE SOIL | CLIENT & PROJECT 1101 / LCI | AREA MIN 2 | COLLECTOR CR | DATE June 19/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	UTM / Grid	Station	Rock Type	Vegetation	Relief	Slope	Depth	Thickness	Horiz	Colour	Moisture	Original Sample No
82K8	1	CR	S076	43+25W	41+00S	ARGL	✓ ✓ ✓	✓	4.0 W	005	5.0	B	21 0202	✓	0
82K8	1	CR	S077	43+00W	41+00W	ARGL	✓ ✓ ✓	✓	5.0 W	005	5.0	B	21 0202	✓	0
82K8	1	CR	S078	42+75W	41+00W	ARGL	✓ ✓ ✓	✓	4.5 W	0.05	5.0	B	21 0202	✓	0
82K8	1	CR	S079	42+50W	41+00W	ARGL	✓ ✓ ✓	✓	5.0 W	0.05	5.0	B	21 0301	✓	1

REMARKS: RED ARGILLITE BELOW B HORIZON

SAMPLE TYPE

SURVEY TYPE SOIL | CLIENT & PROJECT 1101 / EBI | AREA MIN 2 | COLLECTOR CR | DATE June 19/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	Original Sample No
82K8	1	CR	S080	1CRS079 2

REMARKS:

REMARKS

REMARKS

REMARKS

SAMPLE TYPES

SURVEY TYPE: SOIL CLIENT & PROJECT: 1101/EBI AREA & GRID: RED LEDGE COLLECTOR: CR DATE: June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	EAST	NORTH	ROCK TYPE	VEGETATION	RELIEF	SLOPE (Mag)	CONTAMINATION	DEPTH	THICK	HORIZ	COLOUR	MOISTURE	ORIG. SAMPLE NO
82K	81	CRS	081	17+00W	39+00S	ARGL	✓ ✓ ✓	✓ Med	3.5	N	0.05	5.0	B ?	21 0202	✓	0
82K	81	CRS	082	17+25W	39+00S	ARGL	✓ ✓ ✓	✓ Med	3.5	N	0.10	5.0	B	21 0301	✓	0
82K	81	CRS	083	17+50W	39+00S	ARGL	✓ ✓ ✓	✓ Med	3.5	N	0.05	5.6	B	21 0202	✓	0
82K	81	CRS	084	17+75W	39+00S		✓ ✓ ✓	✓ High	4.0	N	0.15	5.0	B	21 0202	✓	0

SURVEY TYPE: SOIL CLIENT & PROJECT: 1101/EBI AREA & GRID: RED LEDGE COLLECTOR: CR DATE: June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	EAST	NORTH	ROCK TYPE	VEGETATION	RELIEF	SLOPE (Mag)	CONTAMINATION	DEPTH	THICK	HORIZ	COLOUR	MOISTURE	ORIG. SAMPLE NO
82K	81	CRS	085	18+00W	39+00S	ARGL	✓ ✓ ✓	✓ High	4.0	N	0.05	5.0	B	21 0301	✓	0
82K	81	CRS	086	18+00W	38+50S	ARGL	✓ ✓ ✓	✓ High	4.0	N	0.05	5.0	B	21 0202	✓	0
82K	81	CRS	087	17+75W	38+50S	ARGL	✓ ✓ ✓	✓ High	4.0	N	0.03	5.0	B	21 0301	✓	0
82K	81	CRS	088	17+50W	38+50S	ARGL	✓ ✓ ✓	✓ High	4.0	N	0.10	5.0	?C	2 1 0211	✓	0

REMARKS: NO B HORIZON

SURVEY TYPE: SOIL 1101/EBI RED LEDGE CR DATE: June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT.	SAMPLE TYPE	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K8	1	CRS	089		17	25W	38+50S	ARGL			

RELIEF	SLOPE	MAG	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	4.0	N		0.10	5.0	B	21	0202		

REMARKS: POSSIBLE A CONTAMINATION, SAMPLE TAKEN 5m ABOVE 82K81CRM001

NTS	YEAR	INIT.	SAMPLE TYPE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K8	1	CRS	090		17	00W	38+50S	ARGL			

RELIEF	SLOPE	MAG	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	4.0	N		0.15	5.0	B	21	0202		

NTS	YEAR	INIT.	SAMPLE TYPE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K8	1	CRS	091		17	00W	38+00S	DLMT			

RELIEF	SLOPE	MAG	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	4.0	N		0.15	5.0	B	21	0301		

REMARKS: SAMPLE CONTAINS DLMT. CHIPS

NTS	YEAR	INIT.	SAMPLE TYPE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K8	1	CRS	092		17	25W	38+00S	DLMT			

RELIEF	SLOPE	MAG	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
High	4.0	N		0.25	5.0	B?	21	0121		

REMARKS: SAMPLE TAKEN 15m BELOW OSHMC007

SAMPLE TYPE:

CLIENT & PROJECT: 1101/EBI AREA & MAP PHOTO: RED LEDGE/MINI COLLECTOR(S): CR DATE: June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT.	SAMPLE TYPE	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K8	1	CRS	093		17	50N	38+00S	DLMT			

RELIEF	SLOPE	MAG	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
High	4.0	N		0.10	5.0	B?	21	0211		

REMARKS: SAMPLE TAKEN 10m ABOVE OSHMC007, ROCK CHIPS (ARGL & DLMT)

NTS	YEAR	INIT.	SAMPLE TYPE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K8	1	CRS	094		17	75W	38+00S	DLMT			

RELIEF	SLOPE	MAG	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
High	4.5	N		0.05	5.0	B	21	0211		

REMARKS: THIN B HORIZON

NTS	YEAR	INIT.	SAMPLE TYPE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K8	1	CRS	095		18	00W	38+00S	DLMT			

RELIEF	SLOPE	MAG	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
High	4.5	N		0.05	5.0	B	21	0202		

REMARKS:

NTS	YEAR	INIT.	SAMPLE TYPE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K8	1	CRS	096		19	75W	34+50S	ARGL			

RELIEF	SLOPE	MAG	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
High	4.0	N		0.05	5.0	B?	21	0202		

REMARKS:

SAMPLE TYPES: S-Soil, T,U,V = glacial till undifferentiated esker, W = [illegible], X,Y,Z = other

SURVEY TYPE: SOIL | CLIENT & PROJECT: 1101/EBI | AREA & MAP SHEET: MIN 1 | SURVEYOR: CR | DATE: June 22/81

NTS | YEAR | INIT | NUMBER | ZONE | UTM EAST (FIELD COORDINATES) | UTM NORTH | ROCK TYPE | WTHR | VEGETATION | VEG INT

RELIEF | SLOPE | CONTAMINATION | DEPTH | TYPE | HORIZ | SEDIMENT COLOUR | COMPETITION | MOISTURE | ORIGINAL SAMPLE NO

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT	NUMBER	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	CONTAMINATION	DEPTH	TYPE	HORIZ	SEDIMENT COLOUR	COMPETITION	MOISTURE	ORIGINAL SAMPLE NO	REMARKS
82	K	8	ICRS097	19+50W	34+50S	ARGL		Cldy, Con, Mod	WF	High	4.0	N	0.25	50	B?	Red, Brn, Hrb	2130	2020	Mst	0	
82	K	8	ICRS098	19+25W	34+50S	ARGL		Cldy, Con, Mod	WF	High	4.5	N	0.20	50	B?	Red	1020	2020	Mst	0	
82	K	8	ICRS099	19+00W	34+50S	ARGL		Cldy, Con, Mod	WF	High	4.5	N	0.30	50	?A	Red, Brn, Blk	1203	0103	Mst	0	
82	K	8	ICRS100	18+75W	34+50S	ARGL		Cldy, Mod	WF	High	4.0	N	0.05	50	B	Red	2130	0301	Mst	1	HIGHLY ORGANIC SAMPLE

SAMPLE TYPES: S = Soil, T, D, V = Specific Types of Rock, F = Float, Reference Not Known, W = Heavy Mineral Concentrate, X, Y, Z = Other

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SURVEY TYPE: SOIL | CLIENT & PROJECT: 1101/EBI | AREA & MAP SHEET: MIN 1 | SURVEYOR: CR | DATE: June 22/81

NTS | YEAR | INIT | NUMBER | ZONE | UTM EAST (FIELD COORDINATES) | UTM NORTH | ROCK TYPE | WTHR | VEGETATION | VEG INT

RELIEF | SLOPE | CONTAMINATION | DEPTH | TYPE | HORIZ | SEDIMENT COLOUR | COMPETITION | MOISTURE | ORIGINAL SAMPLE NO

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT	NUMBER	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	CONTAMINATION	DEPTH	TYPE	HORIZ	SEDIMENT COLOUR	COMPETITION	MOISTURE	ORIGINAL SAMPLE NO	REMARKS
82	K	8	ICRS101					Cldy, Con, Mod											ICRS1002	
82	K	8	ICRS102	18+50W	34+50S	ARGL		Cldy, Con, Mod		High	4.5	N	0.05	50	B	Red	2130	0301	Mst	0	
82	K	8	ICRS103	18+25W	34+50S	ARGL		Cldy, Con, Mod		High	4.5	N							Mst	0	SAMPLE SITE ON OUTCROP NO SAMPLE
82	K	8	ICRS104	18+00W	34+50S	ARGL		Mod		High	4.0	N	0.05	50	B	Red	2130	0301		0	

SAMPLE TYPES: S = Soil, T, D, V = Specific Types of Rock, F = Float, Reference Not Known, W = Heavy Mineral Concentrate, X, Y, Z = Other

SURVEY TYPE: SOIL | CLIENT & PROJECT: 1101/EDI | AREA & or PHOTO: MIN 1 | COLLECTOR(S): CR | DATE: June 22/81

NTS	YEAR	INIT	SAMPLE NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO

TRIGG, WOOLLETT CONSULTING LTD.

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

NTS	YEAR	INIT	SAMPLE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K8	1	CRS		105		17+75W	34+50S	ARGL		Cldy	Dec		Mod	
82K8	1	CRS		106		17+75W	34+00S	ARGL		Cldy	Con	Dec	Mod	
82K8	1	CRS		107		18+00W	34+00S	ARGL		Cldy	Con	Mod	
82K8	1	CRS		108		18+25	34+00S	ARGL		Cldy	Con	Mod	

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
High	40 Mag	N Dir	0.10	50	B	Red	Sand 03 Silt Clay 01 Org	Mst	0
High	45 Mag	NE	0.05	50	B	Red	Sand 02 Silt Clay 02 Org	Mst	0
High	40 Mag	N Dir	0.05	50	B	Red	Sand 02 Silt Clay 02 Org	Mst	0
High	40 Mag	N Dir	0.05	50	B	Red	Sand 02 Silt Clay 02 Org	Mst	0

REMARKS

SAMPLE TYPES: S-Soil, T,U,V = glacial till, undifferentiated, esker, W = frost boil, X,Y,Z = other

SURVEY TYPE: SOIL | CLIENT & PROJECT: 1101/EDI | AREA & or PHOTO: MIN 1 | COLLECTOR(S): CR | DATE: June 22/81

NTS	YEAR	INIT	SAMPLE	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO

TRIGG, WOOLLETT CONSULTING LTD.

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

NTS	YEAR	INIT	SAMPLE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K8	1	CRS		109		18+50W	34+00S	ARGL		Cldy	Con	Dec	Mod	
82K8	1	CRS		110		18+75W	34+00S	ARGL		Cldy	Con	Dec	Mod	
82K8	1	CRS		111		18+75W	33+50S	ARGL		Cldy	Con	Dec	Mod	
82K8	1	CRS		112		18+50W	33+50S	ARGL		Cldy	Con	Dec	Mod	

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ.	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
High	40 Mag	N Dir	0.05	50	B	Red	Sand 01 Silt Clay 03 Org	Mst	0
High	40 Mag	N Dir	0.05	50	B	Red	Sand 02 Silt Clay 02 Org	Mst	0
High	40 Mag	N Dir	0.05	50	B	Red	Sand 01 Silt Clay 02 Org	Mst	0
High	40 Mag	N Dir	0.05	50	B	Red	Sand 03 Silt Clay 01 Org	Mst	0

REMARKS

SAMPLE TYPES: S-Soil, T,U,V = glacial till, undifferentiated, esker, W = frost boil, X,Y,Z = other

SURVEY TYPE: SOIL CLIENT & PROJECT: 1101/EBI AREA BAR PHOTO: MIN 1 COLLECTOR(S): CR DATE: June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	TYPE OF STATION	ORIGINAL SAMPLE No.	RELIEF	SLOPE	SLOPE DIR	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE
82K	81	CRS	113		18+25W	33+50S	ARGL				4.0	N		0.05	5.0	B	21	0103	D
82K	81	CRS	114		18+00W	33+50S	ARGL				4.5	N		0.10	50	B	21	0301	0
82K	81	CRS	115		17+75W	33+50S	ARGL				4.5	N			5.0	B	21	0301	0

REMARKS: TAKEN FROM UPROOTED TREE

SAMPLE TYPES: S-SOIL, T-TILL, V-FLUVIAL, U-UNCONSOLIDATED, R-ROCK, C-CHIP, L-LITHOGEOCHEMICAL

SURVEY TYPE: FILL IN SOIL CLIENT & PROJECT: 1101/EBI AREA BAR PHOTO: MIN 1 COLLECTOR(S): CR DATE: June 24/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	TYPE OF STATION	ORIGINAL SAMPLE No.	RELIEF	SLOPE	SLOPE DIR	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE
82K	81	CRS	116		17+75W	28+50S	DLMT				3.0	N		0.05	5.0	B	21	C301	0
82K	81	CRS	117		17+50W	28+50S	ARGL				3.0	N		0.15	90	B	21	0301	0
82K	81	CRS	118		17+25W	28+50S	ARGL				3.0	N		0.10	50	B?	21	0202	0
82K	81	CRS	119		17+00W	28+50S	ARGL				3.0	N		0.10	5.0	B	21	0202	0

SAMPLE TYPES: S-SOIL, T-TILL, V-FLUVIAL, U-UNCONSOLIDATED, R-ROCK, C-CHIP, L-LITHOGEOCHEMICAL

SURVEY TYPE: *FILL IN SOIL* CLIENT & PROJECT: *1101/EBI* AREA &/or PHOTO: *MIN 1* COLLECTOR(S): *CR* DATE: *June 24/81*

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

NTS	Year/Init./Number	East	North	Rock Type	Vegetation	W.F.
82K 8	1 CRS 120	16+75W	28+50S	DLMT	✓ Clr, ✓ Dec, ✓ Sprs	

Relief	Slope Mag	Dir	Depth	Thkns	Horiz	Sediment Colour	Composition	Moisture	Original Sample No.	80
✓ Low	3.0	N	0.10	5.0	B	21	0301	✓ Mst		0

REMARKS

REMARKS

REMARKS

REMARKS

SAMPLE TYPES

SURVEY TYPE: *SOIL* CLIENT & PROJECT: *1101/EBI* AREA &/or PHOTO: *RED LEDGE* COLLECTOR(S): *CR* DATE: *July 3/81*

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

NTS	Year/Init./Number	East (UTM or Grid Coordinates)	North	Rock Type	Vegetation
82K8	1 CRS 121	17+00W	48+00S		✓ Clr, ✓ Dec, ✓ Sprs
82K8	1 CRS 122				
82K8	1 CRS 123	17+25W	48+00S		✓ Clr, ✓ Con, ✓ Sprs
82K8	1 CRS 124	17+50W	48+00S		✓ Clr, ✓ Grs, ✓ Mod

Sample	Relief	Slope Mag	Dir	Contamination	Depth	Thkns	Horiz	Sediment Colour	Composition	Moisture	Original Sample No.	80
121	✓ Low	1.0	N		0.15	5.0	B	21	0301	✓ Mst		1
122											1 CRS 121	2
123		1.0	N		0.20	5.0	B?	21	0211	✓ Mst		0
124	✓ Med	2.5	N		0.15	5.0	B?	1	0301	✓ Mst		0

REMARKS

REMARKS

REMARKS

REMARKS

SAMPLE TYPES

SURVEY TYPE [illegible] PROJECT 1101/EP1 AREA & PHOTO FED LOGL CR DATE JULY 3/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT	SAMPLE	UTM E	UTM N	ELEV	LITHO	ORIGINAL SAMPLE NO.
82K8	81	CRS	125	17+75W	45+00S			

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	PHYSIOGRAPHY
Med	3.0 Mag	N	0.10	5.0	C	2 Wht, 1 Red, 3 Brn	0211	Mst	Mod

REMARKS: QUARTZ CHIPS IN SAMPLE

NTS	YEAR	INIT	SAMPLE	UTM E	UTM N	ELEV	LITHO	ORIGINAL SAMPLE NO.
82K8	81	CRS	126	18+00W	48+00S			

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	PHYSIOGRAPHY
High	4.0 Mag	N	0.05	5.0	B	2 Red	0301	Mst	

REMARKS: SHALLOW B HORIZON

NTS	YEAR	INIT	SAMPLE	UTM E	UTM N	ELEV	LITHO	ORIGINAL SAMPLE NO.
82K8	81	CRS	127	18+25W	48+00S			

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	PHYSIOGRAPHY
High	4.0 Mag	N	0.10	5.0	B	2 Red	0301	Mst	

REMARKS:

NTS	YEAR	INIT	SAMPLE	UTM E	UTM N	ELEV	LITHO	ORIGINAL SAMPLE NO.
82K8	81	CRS	128	18+50W	48+00S			

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	PHYSIOGRAPHY
High	4.0	N	0.05	5.0	B	2 Red	0211	Mst	

REMARKS:

SAMPLE TYPES:

SURVEY TYPE SOIL PROJECT 1101/EP1 AREA & PHOTO FED LOGL CR DATE JULY 3/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT	SAMPLE	UTM E	UTM N	ELEV	LITHO	ORIGINAL SAMPLE NO.
82K8	81	CRS	129	18+75W	46+00S			

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	PHYSIOGRAPHY
High	4.0 Mag	N	0.15	5.0	C	2 Wht, 1 Brn	0211	Mst	

REMARKS: B HORIZON NON-EXISTENT

NTS	YEAR	INIT	SAMPLE	UTM E	UTM N	ELEV	LITHO	ORIGINAL SAMPLE NO.
82K8	81	CRS	130	19+00W	48+00S			

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	PHYSIOGRAPHY
High	4.0 Mag	N	0.05	5.0	B	2 Red	0301	Mst	

REMARKS:

NTS	YEAR	INIT	SAMPLE	UTM E	UTM N	ELEV	LITHO	ORIGINAL SAMPLE NO.
82K8	81	CRS	131	19+25W	48+00S			

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	PHYSIOGRAPHY
High	4.0 Mag	N	0.20	5.0	C	1 Wht, 2 Blk	0211	Mst	

REMARKS:

NTS	YEAR	INIT	SAMPLE	UTM E	UTM N	ELEV	LITHO	ORIGINAL SAMPLE NO.
82K8	81	CRS	132	19+50W	48+00S			

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	PHYSIOGRAPHY
High	4.0	N	0.20	5.0	C	1 Wht, 2 Blk	0202	Mst	

REMARKS:

SAMPLE TYPES:

SOIL 11C1/EBI RED LEDGE CR JULY 3/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

82 K 8 1 C R S 1 3 3 19 + 75 W 48 + 00 S ✓ ✓ ✓

✓ 4.0 N 0.25 5.0 B 21 0211 ✓ 0

82 K 8 1 C R S 1 3 4 20 + 00 W 48 + 00 S ✓ ✓ ✓

2.0 N 005 50 B 21 0301 ✓ 0

REMARKS

FOLLOW UP

SURVEY TYPE: SOIL CLIENT & PROJECT: 11C1/EBI AREA &/or PHOTO: MIN 1 COLLECTOR(S): CR DATE: JULY 22/81

NTS | YEAR | INIT. | SAMPLE TYPE | NUMBER | ZONE | UTM EAST (or GRID COORDINATES) | UTM NORTH | ROCK TYPE | VEGETATION

RELIEF (Low, Med, High) | SLOPE (Mag, Dir) | CONTAMINATION (Work, Comp, Fuel, Gosn) | DEPTH | THKNS | HORIZ. | SEDIMENT COLOUR (Wht, Yel, Grn, Red, Brn, Blk) | COMPOSITION (Sand, Silt, Clay, Org) | MOISTURE (Wet, Mst, Dry) | ORIGINAL SAMPLE No.

TRIGG, WOOLLETT CONSULTING LTD

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82 K 8 1 C R S 1 3 5 19 + 125 W 32 + 50 S D L M T ✓ ✓ ✓

✓ 4.5 N 0.15 5.0 B 21 0301 ✓ 1 G H S 0 2 3 3

REMARKS: SAMPLE TAKEN ≈40m BELOW 82K8ICRM002, FOLLOW UP DUE TO HIGH GEOCHEM

REMARKS

REMARKS

SAMPLE TYPES: S-Soil, T.O.V.-glacial, ... undifferentiated ... other

SOIL 1101 min 1 GH June 12/81

GEOCHEMICAL ...

82K81GHS020 20+00W 32+50S ARGL ✓ ✓ ✓✓ ✓
✓ 2.5 NW ✓ 0.25 3.5 B 21 2 11 ✓ 0

REMARKS Beside choper pad

82K81GHS021 19+75W 32+50S QRTZ ✓ ✓ ✓ ✓
✓ 3.0 NW 025 40 B 21 21 1 ✓ 0

82K81GHS022 19+50W 32+50S QRTZ ✓ ✓ ✓✓
✓ 2.5 NW 020 30 B 21 21 1 ✓ 0

REMARKS on top of large outcrop

82K81GHS023 19+25W 32+50S QRTZ ✓ ✓ ✓ ✓
✓ 2.0 NW 040 30 B 21 21 1 ✓ 0

REMARKS on top of large outcrop

SURVEY TYPE: fill in soil CLIENT & PROJECT: EBI 1101 AREA: Min 1 COLLECTOR: GH DATE: June 12/81

N T S | YEAR | INIT. | NUMBER | ZONE | U T M | EAST / N. GRID COORDINATES | ROCK TYPE | ...

RELIEF (Low, Med, High) | SLOPE (Mag, Dir) | CONTAMINATION (Work, Comp, Fuel, Gosn) | DEPTH | THKNS | HORIZ | SEDIMENT COLOUR | COMPOSITION | MOISTURE | ...

GEOCHEMICAL SOIL AND TILL SAMPLE CARD TRIGG, WOOLLETT CONSULTING LTD

82K81GHS024 19+00W 32+50S QRTZ ✓ ✓ ✓ ✓
✓ 3.0 NW 0.30 5.0 B 1 2 21 1 ✓ 1

REMARKS

82K81GHS025 19+00W 32+50S QRTZ ✓ ✓ ✓ ✓
✓ 3.0 NW 0.30 5.0 B 1 2 21 1 ✓ 1GHS024 2

REMARKS

82K81GHS026 18+75W 32+50S DLMT ✓✓✓ ✓
✓ 3.0 NW 0.25 4.0 B 1 2 21 1 ✓ 0

REMARKS

82K81GHS027 18+50W 32+50S DLMT ✓✓ ✓ ✓
✓ 2.5 NW 0.25 3.5 B 21 21 1 ✓ 0

REMARKS

SAMPLE TYPES: S-SOIL, T-TILL ...

SURVEY TYPE: SOIL | PROJECT: 1101 | AREA &/or PHOTO: Min 1 | COLLECTOR(S): GH | DATE: June 12/81

NTS	YEAR	INIT.	STAKE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT

RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT.	STAKE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GH	S	028		18+25W	32+50S	DL	MT	Clr, Cldy, Con, Dec, Grs, Mass, Sprs, Mod	WF	Low, Med, High			NW		0.30	2.0	B?	Wht, Yel, Grn, Red, Brn, Blk, Sand, Silt, Clay, Org	Wet, Mst, Dry		0

REMARKS: Poorly designed B horizon

NTS	YEAR	INIT.	STAKE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GH	S	029		18+00W	32+50S	DL	MT	Clr, Cldy, Con, Dec, Grs, Mass, Sprs, Mod	WF	Med		2.5	NW		0.20	4.0	B	Red, Brn, Blk, Sand, Silt, Clay, Org	Mst		0

REMARKS

NTS	YEAR	INIT.	STAKE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GH	S	030		17+75W	32+50S	DL	MT	Clr, Cldy, Con, Dec, Grs, Mass, Sprs, Mod	WF	Med		1.5	NW		0.20	7.0	B	Red, Brn, Blk, Sand, Silt, Clay, Org	Mst		0

REMARKS

NTS	YEAR	INIT.	STAKE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GH	S	031		17+50W	32+50S	DL	MT	Clr, Cldy, Con, Dec, Grs, Mass, Sprs, Mod	WF	Med		1.5	NW		0.20	8.0	B	Red, Brn, Blk, Sand, Silt, Clay, Org	Mst		0

REMARKS

SAMPLE TYPES: S-Soil, T,U,V = special types, undifferentiated, esker, W = frost boil, X,Y,Z = other

fill in

SURVEY TYPE: SOIL | CLIENT & PROJECT: EBI 1101 | AREA &/or PHOTO: Min 1 | COLLECTOR(S): GH | DATE: June 12/81

NTS	YEAR	INIT.	STAKE	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT

RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT.	STAKE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GH	S	032		17+25W	32+50S	DL	MT	Clr, Cldy, Con, Dec, Grs, Mass, Sprs, Mod	WF	Med		2.0	NW		0.30	1.0	B	Wht, Yel, Grn, Red, Brn, Blk, Sand, Silt, Clay, Org	Wet, Mst, Dry		0

REMARKS

NTS	YEAR	INIT.	STAKE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GH	S	033		17+00W	32+50S	DL	MT	Clr, Cldy, Con, Dec, Grs, Mass, Sprs, Mod	WF	Med		2.0	NW		0.10	0.3	B	Red, Brn, Blk, Sand, Silt, Clay, Org	Mst		0

REMARKS: B horizon is very shallow due to → resting on out crop

NTS	YEAR	INIT.	STAKE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GH	S	034		16+75W	32+50S	DL	MT	Clr, Cldy, Con, Dec, Grs, Mass, Sprs, Mod	WF	Med		2.0	NW		0.40	1.5	B?	Red, Brn, Blk, Sand, Silt, Clay, Org	Wet, Mst, Dry		0

REMARKS: B horizon is not designable

NTS	YEAR	INIT.	STAKE	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GH	S	035		16+75W	32+00S	DL	MT	Clr, Cldy, Con, Dec, Grs, Mass, Sprs, Mod	WF	Low, Med, High		2.0	NW		0.30	1.0	B	Red, Brn, Blk, Sand, Silt, Clay, Org	Wet, Mst, Dry		0

REMARKS

SAMPLE TYPES: S-Soil, T,U,V = special types, undifferentiated, esker, W = frost boil, X,Y,Z = other

SURVEY TYPE: Soil   PROJECT: 1101   AREA: Min 1   GH   DATE: June 12/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	UTM EAST (or Grid Coordinates)	UTM NORTH	ROCK TYPE
82K	81	GH	S036	17+25W	32+00S	DL mT
82K	81	GH	S037	17+75W	32+00S	DL mT
82K	81	GH	S038	17+75W	31+00S	DL mT
82K	81	GH	S039	17+25W	31+00S	DL mT

Sample	Relief	Slope	Dir	Depth	Thkns	Horiz	Colour / Composition	Moisture	Veg Int
S036	Med ✓	2.0	NW	0.20	1.0	B	2 1 1 2	Mst ✓	0
S037	Med ✓	2.0	NW	0.20	1.0	B	2 1 2 1 1	Mst ✓	0
S038	Med ✓	2.0	NW	0.35	1.0	B?	1 2 1 2	Mst ✓	0
S039	Med ✓	2.0	NW	0.30	1.0	B?	1 2 1 2	Mst ✓	0

REMARKS:
- S037: outcrop under sample
- S038: B horizon not clearly seen - sample most likely from leached zone
- S039: Poor soil cover - there fore littleor no B horiz.

SAMPLE TYPES: S-Soil ...

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fill in EBI

SURVEY TYPE: Soil   CLIENT'S PROJECT: 1101   AREA: min 1   GH   DATE: June 12/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	UTM EAST (or Grid Coordinates)	UTM NORTH	ROCK TYPE
82K	81	GH	S040	16+75W	31+00S	DL mT
82K	81	GH	S041	16+75	30+00S	DL mT

Sample	Relief	Slope	Dir	Depth	Thkns	Horiz	Colour / Composition	Moisture	Veg Int
S040	Med ✓	2.0	NW	0.35	1.0	B	2 1 1 2 1	Mst ✓	0
S041	Med ✓	2.0	NW	0.35	1.0	B?	1 2 1 1 2 1	Mst ✓	0

REMARKS:
- S041: B horizon had no definate boundary between a thick leached zone

SAMPLE TYPES: S-Soil ...

SURVEY TYPE soil | 1101 | Min 2 | GH | DATE June 14/81

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GHS	042		41+00W	34+50S	ARGL	✓	✓ ✓	✓ ✓	✓	3.0	NW	0.30	4.0	B+C	1 Wht, 2 Red, 2 Sand, 1 Org, ✓ Wet	✓ Mst		1

REMARKS: B horizon not clear - most likely got alot of C

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	ORIGINAL SAMPLE NO
82K	81	GHS	043						✓		1GHS042 2

REMARKS:

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GHS	044		40+75W	34+50S	ARGL	✓	✓ ✓	✓ ✓	✓	3.0	NW	0.25	9.0	B	1 Wht, 2 Red, 2 Sand, 1 Org, ✓ Wet	✓ Mst		0

REMARKS:

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GHS	045		40+50W	34+50S	ARGL	✓	✓ ✓	✓ ✓	✓	2.5	NW	0.25	9.0	C	2 Wht, 2 Red, 2.5 Sand, 2 Org, ✓ Wet	✓ Mst		0

REMARKS: B horizon not clearly seen (sample of parent material = argl chips and organics)

SAMPLE TYPES: S-Soil, T-Till, R-Rock, X,Y,Z - other

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fill in | CLIENT & PROJECT: EBI 1101 | AREA & PHOTO: Min II | COLLECTOR(S): GH | DATE June 14/81

SURVEY TYPE: soil

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GHS	046		40+25W	34+50S	ARGL	✓	✓ ✓	✓ ✓	✓	3.0	NW	0.30	8.0	B	1 Wht, 2 Red, 1 Brn, 2 Sand, 1 Org, ✓ Wet	✓ Mst		0

REMARKS:

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GHS	047		40+00W	34+50S	ARGL	✓	✓ ✓	✓ ✓	✓	3.0	NW	0.25	8.0	B	1 Wht, 2 Red, 1 Brn, 2 Sand, 1 Silt, 1 Clay, 1 Org, ✓ Wet	✓ Mst		0

REMARKS:

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GHS	048		39+75W	34+50S	ARGL	✓	✓ ✓	✓ ✓	✓	3.0	NW	0.25	8.0	B	1 Wht, 2 Red, 1 Brn, 2 Sand, 1 Org, ✓ Wet	✓ Mst		0

REMARKS:

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT	RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
82K	81	GHS	049		39+50W	34+50S	ARGL	✓	✓ ✓	✓ ✓	✓	3.0	NW	1.00	8.0	A	1 Red, 2 Brn, 2 Sand, 2 Org, ✓ Wet	✓ Mst		0

REMARKS: Bog - black organic layer is very deep - sample taken on top of ice

SAMPLE TYPES: S-Soil, T-Till, R-Rock, X,Y,Z - other

SURVEY TYPE: Soil | 1101 | Min II | GH | DATE: June 14/81

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
					(or GRID COORDINATES)					

RELIEF	SLOPE		CONTAMINATION			DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR						COMPOSITION			MOISTURE			ORIGINAL SAMPLE NO.
	Mag	Dir																			

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K	81	GH	S050		41+25W	34+50S	ARGL	✓	✓ ✓ ✓	✓

RELIEF	SLOPE		CONTAMINATION			DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR						COMPOSITION			MOISTURE			ORIGINAL SAMPLE NO.
✓	3.0	NW				0.30	8.0	B				2	1		1	1	1	✓			0

REMARKS: sample taken close to a small creek

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K	81	GH	S051		41+50W	34+50S	ARGL	✓	✓ ✓ ✓	✓

RELIEF	SLOPE		CONTAMINATION			DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR						COMPOSITION			MOISTURE			ORIGINAL SAMPLE NO.
✓	3.0	NW				0.20	7.0	B				2	1		1	1	1	✓			0

REMARKS:

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K	81	GH	S052		41+75W	34+50S	ARGL	✓	✓ ✓ ✓	✓

RELIEF	SLOPE		CONTAMINATION			DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR						COMPOSITION			MOISTURE			ORIGINAL SAMPLE NO.
✓	3.0	NW				0.35	8.0	B		1		2			1	2	1	✓			0

REMARKS:

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K	81	GH	S053		42+00W	34+50S	ARGL	✓	✓ ✓ ✓	✓

RELIEF	SLOPE		CONTAMINATION			DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR						COMPOSITION			MOISTURE			ORIGINAL SAMPLE NO.
✓	3.0	NW				0.35	8.0	B?		2		2			1	2	1	✓			0

REMARKS: sample - looks to light to be a good B horizon

SAMPLE TYPES: S-Soil, T-Till, G-Gossan, F-Fluvial, undifferentiated, esker, M-Frost B, X, Y, Z-other

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SURVEY TYPE: fill in soil | CLIENT & PROJECT: EBI 1101 | AREA & / PHOTO: Min II | COLLECTOR(S): GH | DATE: June 14/81

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
					(or GRID COORDINATES)					

RELIEF	SLOPE		CONTAMINATION			DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR						COMPOSITION			MOISTURE			ORIGINAL SAMPLE NO.
	Mag	Dir																			

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K	81	GH	S054		42+25W	34+50S	ARGL	✓	✓ ✓ ✓ ✓	✓

RELIEF	SLOPE		CONTAMINATION			DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR						COMPOSITION			MOISTURE			ORIGINAL SAMPLE NO.
✓	2.5	NW				0.35	8.0	A		1	1		1		1	1	1	✓			0

REMARKS: sample of A horizon + leached zone - also sample from spring run off area

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K	81	GH	S055		42+50W	34+50S	ARGL	✓	✓ ✓ ✓	✓

RELIEF	SLOPE		CONTAMINATION			DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR						COMPOSITION			MOISTURE			ORIGINAL SAMPLE NO.
✓	3.0	NW				0.35	8.0	B		1		2	1		1	2	1	✓			0

REMARKS:

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K	81	GH	S056		42+75W	34+50S	ARGL	✓	✓ ✓ ✓	✓

RELIEF	SLOPE		CONTAMINATION			DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR						COMPOSITION			MOISTURE			ORIGINAL SAMPLE NO.
✓	3.0	NW				0.30	8.0	B				2	1		1	1	1	✓			0

REMARKS: sample taken next to a stream

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG. INT.
82K	81	GH	S057		43+00W	34+50S	ARGL	✓	✓ ✓ ✓	✓

RELIEF	SLOPE		CONTAMINATION			DEPTH	THICKNESS	HORIZ	SEDIMENT COLOUR						COMPOSITION			MOISTURE			ORIGINAL SAMPLE NO.
✓	3.0	NW				0.25	9.0	B		1		2	1		2	1	1	✓			0

REMARKS:

SAMPLE TYPES: S-Soil, T-Till, G-Gossan, F-Fluvial, undifferentiated, esker, M-Frost B, X, Y, Z-other

SURVEY TYPE Soil — CLIENT/PROJECT 1101 — AREA/PROPERTY Min II — COLLECTOR GH — DATE June 14/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	EAST	NORTH	ROCK TYPE
82K	81	GH	S058	43+25W	34+50S	ARGL
82K	81	GH	S059	43+50W	34+50S	ARGL
82K	81	GH	S060	43+75W	34+50S	ARGL
82K	81	GH	S061			

NUMBER	RELIEF	SLOPE	DIR	DEPTH	THKN	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE		REMARKS
S058	✓ (Med)	3.0	NW	0.25	4.0	B	1 21	21 Z	✓ (Mst)	0	
S059	✓ (Med)	3.0	NW	0.70	9.0	A	2↑ 1	1 2	✓	0	B horizon was not found - deeper than .7m was parent material
S060	✓ (Med)	3.0	NW	0.40	9.0	B?	1 12	12 1	✓ (Mst)	1	B horizon is not clearly designed - argl. under this material
S061										2	

SAMPLE TYPES

SURVEY TYPE fillin soil — CLIENT/PROJECT EBI 1101 — AREA/PROPERTY Min II — COLLECTOR GH — DATE June 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	EAST	NORTH	ROCK TYPE
82K	81	GH	S062	44+00W	34+50S	ARGL
82K	81	GH	S063	44+25W	34+50S	ARGL
82K	81	GH	S064	44+50	34+50S	ARGL
82K	81	GH	S065	44+75W	34+50S	ARGL

NUMBER	RELIEF	SLOPE	DIR	DEPTH	THKN	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE		REMARKS
S062	✓ (Med)	3.0	NW	0.25	3.0	B?	1 21	21 1	✓ (Mst)	0	B horizon ≈ 1cm thick ∴ sample = B+C horizon
S063	✓ (Med)	3.0	NW	0.25	4.0	B?	1 21	21 1	✓	0	B horizon ≈ 1cm or less thick ∴ sample = B+C
S064	✓ (Med)	3.0	NW	0.25	8.0	B	21	21 1	✓	0	
S065	✓ (Med)	3.0	NW	0.30	1.0	B?	2 2	11 2	✓	0	poor soil development due to large outcrop under the sample

SAMPLE TYPES

SURVEY TYPE soil CLIENT & PROJECT 1101 AREA &/or PHOTO Min II COLLECTOR(S) GH DATE June 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	Year	Init.	Type	Number	East	North	Rock Type	Relief	Slope Mag	Slope Dir	Depth	Thkns	Horiz.	Sediment Colour	Composition	Moisture	W.F.
82K8	1	GH	S	066	45+00W	34+50S	ARG +	Med	3.0	NW	—	—	—		—		
82K8	1	GH	S	067	45+25W	34+50S	ARGL	Med	3.0	NW	—	—	—		—		
82K8	1	GH	S	068	45+55W	34+50S	ARGL	Med	3.0	NW	0.20	5.0	B	21	11 2	Mst	0
82K8	1	GH	S	069	45+75W	34+50S	ARGL	Med	3.0	NW	0.25	9.0	B	21	11 2	Mst	0

REMARKS:
- 066: No Sample- sitting on large out crop (calcarious argillite)
- 067: No Sample - organic A horiz.or out crop (calcarious argl)
- 068: next to small creek

SAMPLE TYPES: S-Soil, T,U,V = glacial till, undifferentiated, esker, W = fresh bedrock, X,Y,Z = other

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fill in

SURVEY TYPE soil CLIENT & PROJECT EB1 1101 AREA &/or PHOTO Min II COLLECTOR(S) GH DATE June 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	Year	Init.	Type	Number	East	North	Rock Type	Relief	Slope Mag	Slope Dir	Depth	Thkns	Horiz.	Sediment Colour	Composition	Moisture	W.F.
82K8	1	GH	S	070	46+00W	34+50S	ARGL	Med	3.0	NW	0.30	1.0	B	21	11 2	Mst	0
82K8	1	GH	S	071	46+25W	34+50S	ARGL	Med	3.0	NW	0.25	1.0	B	21	11 2	Mst	0
82K8	1	GH	S	072	46+50W	34+50S		Med	3.5	NW	0.20	1.0	B	1 21	21 1	Mst	0
82K8	1	GH	S	073	46+75W	34+50S	ARGL	Med	3.0	NW	0.25	1.0	B	21	11 2	Mst	0

REMARKS:
- 072: * taken from what look like a morrain or slide area (alot of float)

SAMPLE TYPES: S-Soil, T,U,V = glacial till, undifferentiated, esker, W = fresh bedrock, X,Y,Z = other

SURVEY TYPE fill in soil — EB1 1101 — AREA Min II — GH — DATE June 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	Sample No.	UTM East	UTM North	Rock Type	Relief	Slope	Dir	Depth	Thick	Horiz	Sediment Colour	Moisture	Orig.
82K8	1GHS074	47+00W	34+50S	ARGL	Med	3.0	NW	0.25	1.0	B	1 21 21 1	Mst	0
82K8	1GHS075	47+25W	34+50S	ARGL	Med	3.0	NW	0.30	1.0	B	21 1 1 2	Mst	0

REMARKS

SAMPLE TYPES

SURVEY TYPE soil fill in — EB1 1101 — AREA Min II — GH — DATE June 19/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	Sample No.	UTM East	UTM North	Rock Type	Relief	Slope	Dir	Depth	Thick	Horiz	Sediment Colour	Moisture	Orig.
82K8	1GHS076	43+00W	43+00S	ARGL	Med	5.0	NW	0.25	1.0	B	21 21 1	Mst	0
82K8	1GHS077	43+25W	43+00S	ARGL	Med	5.0	NW	0.25	1.0	B	21 21 1	Mst	0
82K8	1GHS078	43+50W	43+00S	ARGL	Med	5.0	NW	0.25	1.0	B	21 21 1	Mst	0
82K8	1GHS079	43+75W	43+00S	ARGL	Med	4.0	NW	0.20	1.0	B	21 21 1	Mst	1

REMARKS

SAMPLE TYPES

SURVEY TYPE: Soil | CLIENT & PROJECT: 1101 | AREA &/or PHOTO: Min II | COLLECTOR(S): GH | DATE: June 19/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

NTS	INIT.	TYPE	NUMBER	EAST (or GRID COORDINATES)	NORTH	ROCK TYPE	VEGETATION	VEG. INT.
82K8	GH	S	080	43+75W	43+00S	ARGL		
82K8	GH	S	081	44+00W	43+00S	ARGL	Cldy, Con, Spr	Mod
82K8	GH	S	082	44+25W	43+00S	ARGL	Cldy, Con, M, Spr	Mod
82K8	GH	S	083	44+50W	43+00S	ARGL	Cldy, Con, M, Spr	Mod

NUMBER	RELIEF	SLOPE Mag	SLOPE Dir	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
080										GAS0792
081	Med	4.0	NW	0.25	1.0	B	21	21	Mst	0
082	Med	4.0	N	0.30	1.0	B	21	21	Mst	0
083	Med	4.0	NW	0.30	1.0	B	21	21	Mst	0

REMARKS:

SAMPLE TYPES: S-Soil, T,U,V = B or C horizon, ... W ... X,Y,Z - other

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SURVEY TYPE: fill in soil | CLIENT & PROJECT: EBI 1101 | AREA &/or PHOTO: Min II | COLLECTOR(S): GH | DATE: June 19/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

NTS	INIT.	TYPE	NUMBER	EAST (or GRID COORDINATES)	NORTH	ROCK TYPE	VEGETATION	VEG. INT.
82K8	GH	S	084	44+75W	43+00S	ARGL	Cldy, Con, Mss	Mod

NUMBER	RELIEF	SLOPE Mag	SLOPE Dir	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
084	Med	4.0	NW	0.25	1.0	B	1 21	21 1	Mst	0

REMARKS:

REMARKS:

REMARKS:

SAMPLE TYPES: S-Soil, T,U,V = B or C horizon, ... W ... X,Y,Z - other

SURVEY TYPE: fill in   CLIENT & PROJECT: 1101   Red Ledge 1   GH   DATE: June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRUG WOODCOTT CONSULTING LTD

NTS	Year	Init	Number	Line	Station	Rock type	Relief	Slope	Dir	Depth	Horizon thickness	Horizon	Colour	Texture	Moisture	Orig. sample no.
82K	81	GH	S085	18+00W	36+50S	ARGL	Med ✓	3.5	N	0.25	8.0	B	1	21	1 1 1 1	0
82K	81	GH	S086	18+25W	36+50S	ARGL	Med ✓	3.5	N	0.25	1.0	B	1	2	1 1 2	0
82K	81	GH	S087	18+50W	36+50S	ARGL	Med ✓	3.5	N	0.30	0.8	B	1	21	1 1 1	0
82K	81	GH	S088	18+75W	36+50S	ARGL	Med ✓	3.0	NW	0.30	0.9	B	1	21	1 1 1 1	0

REMARKS:

SAMPLE TYPES: S Soil ...

SURVEY TYPE: fill in soil   CLIENT & PROJECT: EB1 1101   Red Ledge 1   GH   DATE: June 22/81

NTS | YEAR | INIT | NUMBER | ZONE | ...

RELIEF (Low, Med, High) | SLOPE (Mag) | CONTAMINATION (Work, Comp, Fuel, Gosn) | DEPTH | ...

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRUG WOODCOTT CONSULTING LTD

NTS	Year	Init	Number	Line	Station	Rock type	Relief	Slope	Dir	Depth	Horizon thickness	Horizon	Colour	Texture	Moisture	Orig. sample no.
82K	81	GH	S089	19+00W	36+50S	ARGL	Med ✓	3.0	NW	0.35	0.5	B	1	2	21 1	0
82K	81	GH	S090	19+25W	36+50S	ARGL	Med ✓	4.0	NW	0.20	0.5	B		21	21 1	0
82K	81	GH	S091	19+50W	36+50S	ARGL	Med ✓	3.5	NW	0.20	0.5	B		21	21 1	0
82K	81	GH	S092	19+75W	36+50S	ARGL	Med ✓	3.5	NW	0.30	1.0	B	1	21	21 1	0

REMARKS:
- S089: Thin well defigned B horiz ≈ 1cm thick - below, soil is lighter - sample is amixture of both
- S090: shallow sample due to outcrop ander sample
- S091: shallow thin B horiz. due to outcrop under sample (quartzitic argl.)
- S092: Sample underlayed by large outcrop

SAMPLE TYPES: S Soil ...

SURVEY TYPE soil | CLIENT & PROJECT 1101 | AREA Red Ledge 1 | GH | DATE June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS / Sample No.	Grid E/W	Grid N/S	Code	Relief	Slope	Dir.	Depth	Thick	Horiz.	Entries	Orig. sample no.	Col. 80
82K81GHS093	20+00W	36+50S	ARGL	Med ✓	3.5	NW	0.25	0.8	B	1 21 21 1 ✓		0
82K81GHS094	20+00W	37+00S	ARGL	Med ✓	4.0	NW	0.30	0.9	B	1 21 21 1 ✓	0TSS458	3
82K81GHS095	19+75W	37+00S	ARGL	Med ✓	4.0	NW	0.25	0.9	B	1 21 21 1 ✓		0
82K81GHS096	19+50W	37+00S	ARGL	Med ✓	4.0	NW	0.25	0.4	B?	2 2 21 1 ✓		0

REMARKS (093): sample underlayed by large outcrop, on bace line

REMARKS (094): sample underlayed by large outcrop, on bace line

REMARKS (095): sample underlayed by large outcrop

REMARKS (096): sample mostly parent material - B horiz almost none existant, sample underlayed by large outcrop + float.

SAMPLE TYPES

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fill in

SURVEY TYPE soil | CLIENT & PROJECT EBI 1101 | AREA Red Ledge 1 | GH | DATE June 22/81

N T S | YEAR | INIT. | NUMBER | ZONE | U T M | VEGETATION | VEG. INT

RELIEF | SLOPE | CONTAMINATION | DEPTH | THICK | HORIZ. | ORIGINAL SAMPLE NO.

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS / Sample No.	Grid E/W	Grid N/S	Code	Relief	Slope	Dir.	Depth	Thick	Horiz.	Entries	Orig. sample no.	Col. 80
82K81GHS097	19+25W	37+00S	ARGL	Med ✓	3.0	NW	0.40	1.0	B+C	1 1 2 21 1 ✓		0
82K81GHS098	19+00W	37+00S	ARGL	Med ✓	3.5	NW	0.35	1.0	B	1 21 2 1 1 ✓		0
82K81GHS099	18+75W	37+00S	ARGL	Med ✓	3.5	NW	0.30	1.0	B	1 21 21 1 ✓		1
82K81GHS100	18+75W	37+00S	ARGL								1GHS099	2

REMARKS (097): B horiz. is very thin ≈ < 1cm ∴ sample is a mixture of B+C

REMARKS (098):

REMARKS (099):

REMARKS (100):

SAMPLE TYPES

SURVEY TYPE: fill in Soil | CLIENT & PROJECT: EBI 1101 | AREA: Red Ledge 1 | COLLECTOR: GH | DATE: June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

Sample No.	Line	Station	Rock type	Relief	Slope (Mag)	Dir	Depth	Thick	Horiz	Colour	Texture	Moisture	Vegetation	Remarks
82K81GHS101	18+50W	37+00S	ARGL	Med ✓	3.0	NW	0.25	1.0	B	21	21 1	Mst ✓	✓ ✓ ✓ ✓ ✓	0
82K81GHS102	18+25W	37+00S	ARGL	Med ✓	3.0	N	0.35	1.0	B	21	21 1	Mst ✓	✓ ✓ ✓ ✓ ✓	0
82K81GHS103	18+00W	37+00S	ARGL	Med ✓	4.0	N	0.40	1.0	B	21	21 1	Mst ✓	✓ ✓ ✓ ✓ ✓	0
82K81GHS104	17+00W	37+50S	ARGL	Med ✓	4.0	N	0.40	1.0	B	21	21 1	Mst ✓	✓ ✓ ✓ ✓ ✓	0

SAMPLE TYPES

SURVEY TYPE: fill in Soil | CLIENT & PROJECT: EBI 1101 | AREA: Red Ledge 1 | COLLECTOR: GH | DATE: June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

Sample No.	Line	Station	Rock type	Relief	Slope (Mag)	Dir	Contamination	Depth	Thick	Horiz	Colour	Texture	Moisture	Vegetation	
82K81GHS105	17+25W	37+50S		Med ✓	3.5	N	Wk ✓	0.35	1.0	B	21	21 1	Mst ✓	✓ ✓ ✓ ✓ ✓	0
82K81GHS106	17+50W	37+50S	ARGL	Med ✓	3.0	N	Wk ✓	0.35	1.0	B	21	21 1	Mst ✓	✓ ✓ ✓ ✓ ✓	0
82K81GHS107	17+75W	37+50S	ARGL	Med ✓	5.0	N	Wk ✓	0.35	1.0	B	21	21 1	Mst ✓	✓ ✓ ✓ ✓ ✓	0
82K81GHS108	18+00W	37+50S		High ✓	3.0	N		0.30	1.0	B	1 21	21 1	Mst ✓	✓ ✓ ✓ ✓ ✓	0

REMARKS (105): found freshly broken boulder near by - shows galena + pyrite (maybe from sids blast trench)

REMARKS (106): - small pebbles of dolomit all around - (most likely from blast for trench on 38)

REMARKS (107): - small dolomite pebbles near by - (most likely from blast for trench

SAMPLE TYPES

Soil 1101 Red Ledge 1 GH June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

82K8IGHS109 | 18+25W | 37+50S | ARGL | 3.5 | N | 0.30 | 1.0 | B | 1 | 21 | 21 | 1 | 0

82K8IGHS110 | 18+50 | 37+50S | ARGL | 4.0 | N | 030 | 1.0 | B | 1 | 21 | 21 | 1 | 0

soil fill in

CLIENT & PROJECT: EBI 1101

SURVEY TYPE: NTS | YEAR | INIT. | NUMBER | ZONE | UTM (or GRID COORDINATES) EAST | UTM NORTH | ROCK TYPE | WTHR | VEGETATION | VEG INT.

AREA &/or PHOTO: Red Ledge 1 COLLECTOR(S): GH DATE: July 3, 1981

RELIEF | SLOPE | CONTAMINATION | DEPTH | THKNS | HORIZ | SEDIMENT COLOUR | COMPOSITION | MOISTURE | ORIGINAL SAMPLE NO.

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

82K8IGHS111 | 17+00W | 48+50S | ARGL | 2.0 | N | 0.20 | 1.0 | C | 2 | 1 | 21 | 1 | 0

REMARKS: near stream or spring with a lot of rust in the H_2O, Below an old road

82K8IGHS112 | 17+25W | 48+50S | ARGL | 3.0 | N | 0.25 | 1.0 | B? | 1 2 | 1 | 21 | 1 | 0

REMARKS: near rusty stream, above old road, very thin B horiz, ∴ sample = B+C

82K8IGHS113 | 17+50W | 48+50S | 3.0 | N | 0.25 | 0.8 | B? | 2 | 1 | 1 | 21 | 1 | 0

REMARKS: B horiz. poorly formed

82K8IGHS114 | 17+75W | 48+50S | 3.0 | N | 0.25 | 1.0 | B? | 2 | 1 | 21 | 1 | 0

REMARKS: No B horiz - most likely C

SAMPLE TYPES: S — soil, ... — gravel, ... — stream sediment, ... — heavy mineral concentrate, ... — rock, ... — moss, A, Y, Z — other

SURVEY TYPE in EBI 1101 Red Ledge GH DATE July 3, 81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT.
82K/8	81	GH	S115		18+00W	48+50S				

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO.
Med	3.0 Mag N		0.25	1.0	B?	Red 2, Brn 1	Sand 1, Silt 1, Clay 1	Mst	0

REMARKS: thin B horiz ∴ sample = B and C

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT.
82K/8	81	GH	S116		18+25W	48+50S				

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO.
Med	3.0 Mag N		0.25	0.8	B?	Yel 1, Red 2	Sand 2, Clay 1	Mst	0

REMARKS: thin B horiz ∴ sample = B + C

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT.
82K/8	81	GH	S117		18+50W	48+50S				

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO.
Med	3.0 Mag N		0.25	1.0	B?	Yel 1, Red 2, Brn 2	Sand 2, Silt 1, Clay 1, Org 1	Mst	0

REMARKS: B horiz. is poorly developed

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT.
82K/8	81	GH	S118		18+75W	48+50S				

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO.
Med	3.0 Mag N		0.25	1.0	B	Red 2, Brn 1	Sand 1, Silt 1, Clay 2	Mst	0

REMARKS:

SAMPLE TYPES: S-Soil, ... [illegible]

Soil fill in EBI 1101 Red Ledge GH, CR DATE July 3, 1981

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT.
82K/8	81	GH	S119		19+00W	48+50S	ARGL			

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO.
Med	3.0 Mag N		0.25	1.0	C	Wht 2, Red 1, Brn 1	Sand 2, Clay 1	Mst	T

REMARKS:

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT.
82K/8	81	GH	S120							

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO.
									1GHS1192

REMARKS:

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT.
82K/8	81	GH	S121		19+25W	48+50S				

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO.
High	4.0 Mag N		0.25	1.0	B?	Yel 1, Red 2, Brn 3	Sand 2, Silt 1, Clay 0, Org 1	Mst	0

REMARKS:

NTS	YEAR	INIT.	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT.
82K/8	81	GH	S122		19+50W	48+50S				

RELIEF	SLOPE	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO.
High	4.0 Mag N		0.10	3.0	B	Red 2, Brn 1, Blk 1	Sand 1, Silt 1, Clay 0, Org 2	Mst	0

REMARKS: B HORIZON POORLY DEVELOPMENT

SAMPLE TYPES: S-Soil, ... [illegible]

FILL IN 1101 / EEI RED LEDGE CR. GH JULY 3/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

8 2 K 8 | 1 | G H | S | 1 2 3 | 19 + 75 W | 48 + 50 S | ✓ | ✓ | ✓

✓ | 4 0 | N | 0.1 5 | 10.0 | B | 2 1 | 0 1 1 2 | ✓ | C

REMARKS

REMARKS

REMARKS

REMARKS

SAMPLE TYPE

Fill in Soil 1101 Min 1 JS June 12/81

GEOCHEM

82K81JSS001	20+00W31+50S				✓	✓	✓
✓07 N	0.1050B	12	1	2	✓		0
82K81JSS002	19+75W31+50S				✓	✓	✓
✓08 N	0.1030A	21	1	2	✓		0
82K81JSS003	19+50W31+50S				✓	✓	✓
✓07 N	01540B	12	1	2	✓		0
82K81JSS004	19+25W31+50S				✓	✓	✓
✓12NW	00550B	12	1	2	✓		0

Fill in Soil 1101/ECI Min 1 J.S. June 12/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8 1JSS005	19+00W31+50S		✓✓		✓
✓ 1.0 NW	00730B	12 1 2 ✓			0
82K8 1JSS006	18+75W31+50S		✓✓		✓
✓ 1.1 NW	01550B	12 123 ✓			0
82K8 1JSS007	18+50W31+50S		✓✓		✓
✓ 1.0 W	1050B	12 123 ✓			0
82K8 1JSS008	18+25W31+50S		✓✓		✓
✓ 1.0 W	00530B	12 123 ✓			0

Fill in SURVEY TYPE Soil 1101/EBI Min 1 J.S. June 12/81

NTS YEAR

RELIEF Low Med High SLOPE

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8 1JSS009	18+00W31+50S		✓✓		✓
✓ 1.0 NW	01070B	12 123 ✓			0
82K8 1JSS010	17+75W31+50S		✓✓		✓
✓ 1.3 NW	00520A	121 1 2 ✓			0
82K8 1JSS011	17+50W31+50S		✓✓		✓
✓ 1.4 NW	01050B	12 12 ✓			0
82K8 1JSS012	17+25W31+50S		✓✓		✓
✓ 1.0 NW	01030A	21 1 2 ✓			0

REMARKS

Fill in Soil 1101/EBI Min 1 J.S. June 12/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WILLETT CONSULTING LTD.

82K8 | IJSS013 | 17+00W31+45S | 1.2 NW | 0.20 5.0B | 1 2 | 1 2 3 | 0

82K8 | IJSS014 | 16+75W31+50S | 1.0 NW | 0.12 5.0B | 1 2 | 1 2 3 | 0

Sample was frozen when taken

82K8 | IJSS015 | 16+75W30+50S | 0.8 NW | 0.12 8.0B | 1 2 | 1 2 3 | 1

82K8 | IJSS016 | 16+75W30+50S | 0.8 NW | 0.12 8.0B | 1 2 | 1 2 3 | 2

Fill in Soil 1101/EBI Min 1 J.S June 12/81

SURVEY TYPE | CLIENT & PROJECT | AREA SURVEYED | COLLECTOR | DATE

NTS | YEAR | INIT. | NUMBER | EAST | NORTH | ROCK TYPE | ELEVATION | VEGETATION

RELIEF | SLOPE | CONTAMINATION | DEPTH | THICKNESS | HORIZ | SECONDARY COLOUR | COMPOSITION | SOIL TYPE | ORIGINAL SAMPLE NO.

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WILLETT CONSULTING LTD.

82K8 | IJSS017 | 17+00W30+50S | 0.8 NW | 0.10 5.0B | 1 2 | 1 2 3 | 0

82K8 | IJSS018 | 17+25W30+50S | 0.8 NW | 0.10 5.0B | 1 2 | 1 2 3 | 0

82K8 | IJSS019 | 17+50W30+50S | 0.8 NW | 0.20 9.9A | 1 | 2 | 1 | 0

82K8 | IJSS020 | 17+75W30+50S | 1.0 NW | 0.10 2.0B | 2 1 | 1 2 | 0

SAMPLE TYPES: S Soil, ...

Fill in Soil 1101/EBI Min 1 J.S. June 12/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD TRIGG, WOODSETT EXPLORATIONS LTD.

82K8 1JSS021 17+75W30+00S
1.0 NW 00880B 12 123

82K8 1JSS022 17+25W30+00S
1.0 NW 00880B 12 123

SURVEY TYPE Fill in Soil 1101 Min 2 J.S. June 17/81

NTS YEAR INIT. TWP EAST

RELIEF Low Med High SLOPE Mod

DEPTH HORIZ

GEOCHEMICAL SOIL AND TILL SAMPLE CARD TRIGG, WOODSETT EXPLORATIONS LTD.

82K8 1JSS023 44+50W35+00S
Med 0.5 NW 0.30 6.0B 12 123

REMARKS

82K8 1JSS024 44+75W35+00S
0.7 NW 0205.0B 21 213

REMARKS

82K8 1JSS025 45+00W35+00S
0.6 NW 0255.0A 21 132

REMARKS

82K8 1JSS026 45+25W35+00S
0.6 NW 0205.0A 1 12

REMARKS

SAMPLE TYPES

Survey type: Fill in Soil — 1101 — Min 2 — J.S. — June 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

Sample No.	Grid coord.	Relief	Slope	Depth	Horiz	Sediment colour	Composition	Moisture	Remarks
82K8 1 JSS027	45+50W 35+00S	Med ✓	06 NW	0307.0	A	1 2	1 2	Wet ✓	0
82K8 1 JSS028	45+75W 35+00S	Med ✓	07 NW	2050	B	1 2	1 2 3	✓	0
82K8 1 JSS029	46+00W 35+00S	Med ✓	07 NW	0.156.0	B	1 2	1 2 3	✓	0
82K8 1 JSS030	46+25W 35+00S	Med ✓	06 NW	02550	B	1 2	1 2 3	✓	0

SURVEY TYPE Fill in Soil — CLIENT OR PROJECT 1101 — AREA &/or PHOTO Min 2 — COLLECTOR J.S. — DATE June 17/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

Sample No.	Grid coord.	Relief	Slope	Depth	Horiz	Sediment colour	Composition	Moisture	Remarks
82K8 1 JSS031	46+50W 34+93S	Med ✓	05 W	0.105.0	B	1 2	1 2	Wet ✓	0 — taken 7m N of 35+00S / 46+50
82K8 1 JSS032	46+75W 35+00S	Med ✓	05 NW	0.305.0	B	1 2	1 2 3	Mst ✓	0
82K8 1 JSS033	47+00W 35+00S	Med ✓	06 NW	0.40 99	B	1 2	1 2 3	Mst ✓	Δ
82K8 1 JSS034	47+25W 35+00S	Med ✓	07 NW	0206.0	B	1 2	1 2 3	✓	0

SAMPLE TYPES

SURVEY TYPE: Soil 1/01 AREA &/or PHOTO: Min 2 COLLECTOR(S): J.S. DATE: June 17/81

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZON	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K8	I	JSS	035		47+50W	35+00S				

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZON	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	05 NW		025	9	B	Red 1	Sand 1 Clay 23	Dry	0

REMARKS

REMARKS

REMARKS

REMARKS

SAMPLE TYPES: S-Soil ... A-Alluvium ... other

SURVEY TYPE: Fill in Soil CLIENT & PROJECT: 1/01 AREA &/or PHOTO: Min 2 COLLECTOR(S): J.S. DATE: Jun 15

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZON	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K8	I	JSS	036		42+75W	42+00S				

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZON	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	06 NW		020	6.0	B	Red 1 Brn 2	Sand 1 Clay 23	Dry	0

REMARKS

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K8	I	JSS	037		43+00W	42+00S				

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZON	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	07 NW		015	5.0	B	Red 1 2	Sand 1 Clay 23	Dry	0

REMARKS:

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K8	I	JSS	038		43+25W	42+00S				

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZON	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	07 NW		030	6.0	B	Red 1 2	Sand 1 Clay 23	Dry	0

REMARKS

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K8	I	JSS	039		43+60W	42+00S				

RELIEF	SLOPE	CONTAMINATION	DEPTH	THICKNESS	HORIZON	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	07 N		040	6.0	B	Red 1 2	Sand 1 Clay 23	Dry	1

REMARKS

SAMPLE TYPES: S-Soil ... A-Alluvium, C-Colluvium, F-Fluvial, G-Glaciofluvial, E-Esker, M-Morainal, R-Residual, V-Volcanic, O-Organic, L-Lacustrine, W-Fluvioglacial, X,Y,Z-other

SURVEY TYPE Fill in Soil 1101 Min 2 J.S. June 19/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

ROSS WOLLETT CONSULTING LTD

82K8	1JSS040	43+50W42+00S			✓✓	✓		
✓	07	N	0.40	60B	12	123	✓	2
82K8	1JSS041	43+75W42+00S			✓✓	✓		
✓	07	N	0.25	7.0B	12	133	✓	0
82K8	1JSS042	44+00W42+00S			✓✓	✓		
✓	05	N	0.25	5.0B	12	123	✓	0
82K8	1JSS043	44+25W42+00S			✓✓	✓		
✓	05	NW	0.15	6.0B	12	123	✓	0

SAMPLE TYPES

SURVEY TYPE Fill in Soil CLIENT & PROJECT 1101 AREA Min 2 COLLECTOR J.S DATE June 19/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

ROSS WOLLETT CONSULTING LTD

82K8	1JSS044	44+50W42+00S			✓✓	✓		
✓	05	NW	0.30	7.0B	12	123	✓	0

REMARKS

REMARKS

REMARKS

SAMPLE TYPES

1101 EBI Min 1 J.S. June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD

82K8 | IJSS045 | 17+75W 35+00S | 0.6 N | 0.40 | 6.0B | 1 2 | 1 23 | 0

REMARKS: Road 15m above sample site

82K8 | IJSS046 | 18+00W 35+00S | 0.7 N | 025 | 7.0B | 1 2 | 1 23 | OTSS4323

REMARKS: Road above sample site

82K8 | IJSS047 | 18+25W 35+00S | 1.0 NE | 0.1 0 | 6.0B | 1 2 | 1 23 | 0

REMARKS

82K8 | IJSS048 | 18+50W 35+00S | 0 A N | 020 | 7.0B | 1 2 | 1 23 | OTSS4313

REMARKS

SAMPLE TYPES

SURVEY TYPE: Soil (Fill in) CLIENT & PROJECT 1101 EBI AREA Min 1 COLLECTOR(S) J.S. DATE June 22/81

NTS | YEAR | INIT. | NUMBER | ZONE | UTM EAST | UTM NORTH | ROCK TYPE | VEGETATION | VEG. INT.

RELIEF | SLOPE | DEPTH | TYPUS | HORIZ | SEDIMENT COLOR | COMPOSITION | SIGNAL SAMPLE NO

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

82K8 | IJSS049 | 18+75W 35+00S | 0.5 N | 015 | 7.0B | 1 2 | 1 23 | 0

REMARKS

82K8 | IJSS050 | 19+00W 35+00S | 0.7 N | 030 | 8.0B | 2 1 | 1 2 | OTSS4303

REMARKS

82K8 | IJSS051 | 19+25W 35+00S | 0.6 N | 020 | 8.0B | 1 2 | 1 2 | 0

REMARKS

82K8 | IJSS052 | 19+50W 35+00S | 0.5 N | 015 | 6.0B | 1 2 | 1 23 | OTSS4293

REMARKS

SAMPLE TYPES

1101 E3I Min 1 J.S. June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, W. — CONSULTING LTD

82K8 1JSS053 19+75W35+00S
RELIEF: Low ✓ Med Hgh | SLOPE: 07 | ASPECT: N | 0.207.0B | 2 | 1 | 1 | 123 | ✓ | ✓ | ✓ | 0
REMARKS

82K8 1JSS054 20+00W35+00S
RELIEF: Low ✓ Med Hgh | SLOPE: 05 | ASPECT: N | 0.1560B | 1 | 2 | 1 | 123 | ✓ | ✓ | ✓ | OTSS4283
REMARKS

82K8 1JSS055 20+00W35+50S
RELIEF: Low ✓ Med Hgh | SLOPE: 07 | ASPECT: W | 0.1560B | 1 | 2 | 1 | 123 | ✓ | ✓ | ✓ | 0
REMARKS

82K8 1JSS056 19+75W35+50S
RELIEF: Low ✓ Med Hgh | SLOPE: 06 | ASPECT: W | 0.207.0B | 2 | 1 | 1 | 123 | ✓ | ✓ | ✓ | 0
REMARKS

SURVEY TYPE Fill in Soil 1101 E3I Min 1 J.S. June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — CONSULTING LTD

82K8 1JSS057 19+50W35+50S
RELIEF: Low ✓ Med Hgh | SLOPE: 06 | ASPECT: N | 0.206.0B | 1 | 2 | 1 | 123 | ✓ | ✓ | ✓ | 0
REMARKS

82K8 1JSS058 19+25W35+50S
RELIEF: Low ✓ Med Hgh | SLOPE: 07 | ASPECT: N | 0.255.0B | 1 | 2 | 1 | 123 | ✓ | ✓ | ✓ | 0
REMARKS

82K8 1JSS059 19+00W35+50S
RELIEF: Low ✓ Med Hgh | SLOPE: 07 | ASPECT: N | 0.358.0B | 1 | 2 | 1 | 123 | ✓ | ✓ | ✓ | 1
REMARKS

82K8 1JSS060 19+00W35+50S
RELIEF: Low ✓ Med Hgh | SLOPE: 07 | ASPECT: N | 0.358.0B | 1 | 2 | 1 | 123 | ✓ | ✓ | ✓ | 2
REMARKS

Survey Type: Soil — Client & Project: 1101 EBJ — Area: Min 1 — Collector(s): J.S. — Date: June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT	NUMBER	EAST	NORTH	RELIEF	SLOPE	DIR	DEPTH	THICK	HORIZ	COLOUR	COMPOSITION	MOISTURE	VEGETATION	VEG. INT.	ORIGINAL SAMPLE NO.
82K8	1	JSS	061	18+75W	35+50S	✓	06	N	020	6.0	B	1 2	1 2 3	✓	✓✓	✓	0
82K8	1	JSS	062	18+50W	35+50S	✓	06	N	015	6.0	B	2 1	1 2 3	✓	✓✓	✓	0
82K8	1	JSS	063	18+25W	35+50S	✓	05	N	020	7.0	B	1 2	1 2 3	✓	✓✓	✓	0
82K8	1	JSS	064	18+00W	35+50S	✓	05	N	030	7.0	B	1 2	1 2 3	✓	✓✓	✓	0

SAMPLE TYPE:

SURVEY TYPE: Fill-in Soil
CLIENT & PROJECT: 1101 EBJ
AREA: Min 1
COLLECTOR(S): J.S.
DATE: June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT	NUMBER	EAST	NORTH	RELIEF	SLOPE	DIR	DEPTH	THICK	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	VEGETATION	VEG. INT.	ORIGINAL SAMPLE NO.
82K8	1	JSS	065	18+00W	36+00S	✓	06	N	030	6.0	B	1 2	1 2 3	✓	✓✓	✓	0
82K8	1	JSS	066	18+25W	36+00S	✓	07	N	030	7.0	B	1 2	1 2 3	✓	✓✓	✓	OTS54663
82K8	1	JSS	067	18+50W	36+00S	✓	06	N	025	8.0	B	1 2	1 2 3	✓	✓✓	✓	0
82K8	1	JSS	068	18+75W	36+00S	✓	06	N	030	7.0	B	1 2	1 2 3	✓	✓✓	✓	OTS54653

SAMPLE TYPE:

SURVEY TYPE Fill in Soil — CLIENT & PROJECT 1101 J.S. — AREA Min 1 — COLLECTOR J.S. — DATE June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD

NTS	Year	Init	Number	Grid co-ordinates	Relief	Slope	Depth	Thick	Horiz	Colour	Texture	Moisture	Original sample no.
82K8	1	JS	S069	19+00W 36+00S	Med ✓	05 N	0.25	6.0	B	12	123	✓	
82K8	1	JS	S070	19+25W 36+00S	Med ✓	07 N	0.25	7.0	B	12	123	✓	0TS54643
82K8	1	JS	S071	19+50W 36+00S	Med ✓	05 N	0.15	5.0	B	12	123	✓	
82K8	1	JS	S072	19+75W 36+00S	Med ✓	07 N	0.15	3.0	B?	2 1	123	✓	0TS54633

REMARKS May be C horizon

SURVEY TYPE Fill in Soil — CLIENT & PROJECT 1101 J.S. — AREA Min 1 — COLLECTOR J.S. — DATE June 22/81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD

NTS	Year	Init	Number	Grid co-ordinates	Relief	Slope	Depth	Thick	Horiz	Colour	Texture	Moisture	Original sample no.
82K8	1	JS	S073	20+00W 36+00S	Med ✓	05 N	0.15	5.0	B	12	123	✓	
82K8	1	JS	S074	20+00W 37+50S	Med ✓	07 N	0.15	5.0	B	12	123	✓	
82K8	1	JS	S075	19+75W 37+50S	Med ✓	07 N	0.15	5.0	B	12	123	✓	
82K8	1	JS	S076	19+50W 37+50S	Med ✓	07 N	0.20	5.0	B	12	123	✓	

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

June 22/91

NTS	Sample No.	Location	Relief	Slope	Depth / Data	Codes	Remarks
82K8	1JSS077	19+25W37+50S	Med	07 N	0.25 5.0B	12 123	0
82K8	1JSS078	19+00W37+50S	Med		0.25 6.0B	17 123	0
82K8	1JSS079	18+75W37+50S	Med	07 N	0.20 6.0B	2 1 122	0

SAMPLE TYPE

SURVEY TYPE

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

NTS	Sample No.	Location	Relief	Slope	Depth / Data	Codes	Remarks
82K8	1JSS080	20+00W49+00S	Med	07 NE	0.30 5.0B?	12 123	0
82K8	1JSS081	19+75W49+00S	Low	07 NE	0.30 6.0B	12 123	0
82K8	1JSS082	19+50W49+00S	Low	07 NE	0.50 9.9?	2 1213	1
82K8	1JSS083	19+50W49+00S	Low	07 NE	0.50 9.9?	2 1213	2

SAMPLE TYPES

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8	1JSS092	19+00W49+00S				✓	✓		✓
✓	05NE	0.205.0B	12	123	✓				0
82K8	1JSS093	19+25W49+00S				✓	✓		✓
✓	03NE	0206.0B	12	123	✓				0
82K8	1JSS094	20+00W49+50S				✓	✓		✓
✓	06NE	0.208.0B	12	123	✓				0
82K8	1JSS095	19+75W49+50S				✓	✓		✓
✓	05NE	0306.0B	12	123	✓				0

SAMPLE TYPE

SURVEY TYPE

NTS | YEAR | INIT

RELIEF Low Med High | SLOPE

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8	1JSS096	19+50W49+50S				✓	✓		✓
✓	07NE	0.303.0?	12	123	✓				0
82K8	1JSS097	19+25W49+50S				✓	✓		✓
✓	02SW	0.207.0B	12	123	✓				1
82K8	1JSS098	19+25W49+50S				✓	✓		✓
✓	02SW	0.207.0B	12	123	✓				2
82K8	1JSS099	19+00W49+50S				✓	✓		✓
✓	07NE	0.308.0B?	123	123	✓				0

SAMPLE TYPES

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

NTS	Year	Sample No.	Grid	Relief	Slope	Aspect	Depth							VEG INT
82K8	1	JSS084	17+00W 49+00S	Low ✓	03	NE	0.25	5.0	?	2	1	1 2	✓	0
82K8	1	JSS085	17+25W 49+00S	Low ✓	02	NE	0.20	6.0	?	2	1	1 2	✓	0
82K8	1	JSS086	17+50W 49+00S	Low ✓	04	NE	0.20	5.0	?	2	1	1 2	✓	0
82K8	1	JSS087	17+75W 49+00S	Low ✓	03	NE	0.20	3.0	?	2	1	1 2 3	✓	0

REMARKS

SAMPLE TYPES

SURVEY TYPE

NTS | YEAR | INIT

RELIEF Low Med High | SLOPE

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

NTS	Year	Sample No.	Grid	Relief	Slope	Aspect	Depth							VEG INT
82K8	1	JSS088	18+00W 49+00S	Med ✓	05	NE	0.25	5.0	?	2	1	1 2 3	✓	0
82K8	1	JSS089	18+25W 49+00S	Med ✓	07	NE	0.30	7.0	?		1	1 2 3	✓	0
82K8	1	JSS090	18+50W 49+00S	Med ✓	07	NE	0.35	5.0	B		1 2 3	1 2 3	✓	0
82K8	1	JSS091	18+75W 49+00S	Med ✓	07	NE	0.35	7.0	?		1 2	1 2 3	✓	0

REMARKS

SAMPLE TYPES

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8	1	JSS100	18+75W	49+50S			✓	✓		✓
✓	07	NE	0.35	6.0?	2	31	123	✓		0
82K8	1	JSS101	18+50W	49+50S			✓	✓		✓
✓	07	NE	0.30	6.0B		12	123	✓		0
82K8	1	JSS102	18+25W	49+50S			✓	✓		✓
✓	07	NE	0.30	5.0B?		123	123	✓		0
82K8	1	JSS103	18+00W	49+50S			✓	✓		✓
✓	07	NE	0.30	8.0B?		123	123	✓		0

SURVEY TYPE

N T S | YEAR | UNIT

RELIEF Low Med High | SLOPE

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8	1	JSS104	17+75W	49+50S			✓	✓		✓
✓	03	NE	0.20	7.0B		1	12	✓		0
82K8	1	JSS105	17+50W	49+50S			✓	✓		✓
✓	01	NE	0.20	2.0B		12	12	✓		0
82K8	1	JSS106	17+25W	49+50S			✓	✓		✓
✓	03	NE	0.20	3.9?	2	1	123	✓		0
82K8	1	JSS107	17+00W	49+50S			✓	✓		✓
✓	05	NE	0.20	5.0B		12	123	✓		0

REMARKS 90m south Gossan

Soil   Echo Bay Proj 1101   Min 1   M VAEGLER   JUNE 12,8[illegible]

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K881MVS001   17+25   29+50   X ✓   ✓
✓ 07 NW   0.01 30 B   1 2 31   ✓   0
REMARKS

82K881MVS002   17+00   29+50   ✓ ✓   ✓
✓ 06 N   0.01 20 B   21 11   ✓   0
REMARKS

82K881MVS003   16+75   29+50   ✓ ✓   ✓
✓ 08 N   0.02 40 B   11 121   ✓   0
REMARKS

82K881MVS004   16+75   29+00   ✓ ✓   ✓
✓ 08 N   0.01 25 B   21 21   0
REMARKS

SURVEY TYPE Fill-In Soil   Echo Bay Proj 1101   Min 1   M VAEGLER   June 12,81

N T S   YEAR

RELIEF   SLOPE
Low Med High 41 42 43   Mag 44 45

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K881MVS005   17+25   29+00   ✓ ✓   ✓
✓ 05 N   0.01 02 B   21 21 1   0
Low Med High 41 42 43   Mag 44 45   Dir 46 47   Weak Conc Fuel Gossan   Wet Mst Dry   WF
REMARKS

Low Med High 41 42 43   Mag 44 45
REMARKS

Low Med High 41 42 43   Mag 44 45
REMARKS

Low Med High 41 42 43   Mag 44 45
REMARKS

fill in Soil | Echo Bay 1101 | Min 2 | M VAEGLER | June 14 198

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8 81MVS006 B 41+00W 35+00N ARGL
10 NW 0.03 20.0 B 2 1 2 1 1 0

82K8 81MVS007 B 40+75W 35+00N ARGL
07 NW 0.01 4.0 B 2 2 1 2 1 0

82K8 81MVS008 B 40+50W 35+00N ARGL
05 NW 0.01 6.0 B 2 2 1 2 1 0

82K8 81MVS009 C 40+25W 35+00N ARGL
04 NW 010 2.0 C 1 1 1 1 1 0
No B horizon

SURVEY TYPE fill in Soil | CLIENT & PROJECT Echo Bay 1101 | AREA Min 2 | M VAEGLER | June 14 1981

NTS | YEAR | RELIEF | SLOPE

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8 81MVS010 B 40+00W 35+00S ARGL
07 NW 0.01 3.0 B 2 1 1 1

82K8 81MVS011 B 40+00W 35+00S ARGL
07 NW 0.01 3.0 B 2 1 1 81MVS012

82K8 81MVS012 B 39+75W 35+00S ARGL
04 NW 0.01 3.0 B 2 1 2 1 1 0

82K8 81MVS013 B+C 39+50W 35+00S ARGL
04 NW 0.01 2.0 B+C 1 2 1 2 1 1 0
Found between rocks

fill in Soil | Echo Bay 1101 | Min 2 | VAEGLER | June 14 1981

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8	81	MV	S014	B	41+25W	35+00S	ARGL	✓	✓	✓								
✓										0.6	NW	0.01	2.5	B	21	211	✓	0
82K8	81	MY	S015	B	41+50W	35+00S	ARGL	✓	✓	✓								
✓										0.5	NW	0.01	3.5	B	21	21	✓	0
82K8	81	MV	S016	B+C	41+75W	35+00S	ARGL	✓	✓	✓								
✓										0.5	NW	0.01	1.0	B+C	21	21	✓	0
82K8	81	MV	S017	C	42+00W	35+00S	ARGL	✓	✓	✓								
✓										0.5	NW	0.02	2.0	C	2 1	21	✓	0

REMARKS No B Horizon and area may ~~be~~ be runoff channel during spring

SAMPLE TYPE

SURVEY TYPE fill in Soil | CLIENT & PROJECT Echo Bay 1101 | Min 2 | VAEGLER | DATE June 14 1981

NTS | YEAR

RELIEF Low Med High | SLOPE

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8	81	MV	S018	C	42+25W	35+00S	ARGL	✓	✓	✓								
✓										2.5	NW	0.02	5.0	C	2 1	21	✓	0
82K8	81	MY	S019	C	42+50W	35+00S	ARGL	✓	✓	✓								
✓										4.5	NW	0.03	2.0	C	12 1	12	✓	0
82K8	81	MV	S020	B+C	42+75W	35+00S	ARGL	✓	✓	✓								
✓										1.0	NE	0.03	5.0	B+C	1 2	1131	✓	0
82K8	81	MV	S021	C	43+00W	35+00S	ARGL	✓	✓	✓								
✓										~~0~~5	NW	0.04	5.0	C	21	2121	✓	0

REMARKS

SAMPLE TYPE

fill in Soil — Echo Bay 1101 — Min 2 — VAEGLER — JUNE 19, 81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8 8 1MVS022 C 43+25W 35+00S ARGL
0 6 NW 0.04 7.0 C 2 1 1 2 1 0

82K8 8 1MVS023 B? 43+50W 35+00S ARGL
0 6 NW 0.02 10.0 B? 1 2 2 1 0
REMARKS: Possible C

82K8 8 1MVS024 NS 43+75W 35+00S 0
REMARKS: No Sample, Only Organic cover over rocks, No flag for Station found

82K8 8 1MVS025 C 44+00W 35+00S ARGL
0 7 NW 0.03 4.0 C 1 2 1 2 0

SURVEY TYPE: fill in Soil — CLIENT & PROJECT: Echo Bay 1101 — PREPARED FOR: Min 2 — VAEGLER — JUNE 19 1981

NTS | YEAR | MAP | ITEM

RELIEF: Low | Med | High — SLOPE: Min | Max

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K8 8 1MVS026 C 44+25W 35+00S ARGL
0 9 NW 0.02 6.0 C 1 2 1 2 0

REMARKS

REMARKS

REMARKS

SAMPLE TYPES

Fill in Detail | 1101 | Red Ledge 1 | M VAEGLER | July 2, 81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

82K08	81	MVS 027	20+00W	50+00S	ARGL	✓	✓	✓				
✓ (High)	07	E	0.02	4.0	C	1	1221	1	✓			
82K08	81	MVS 028	19+75W	50+00S	ARGL	✓	✓	✓				
✓ (High)	08	E	0.01	1.0	B+C	1	2	21	✓			
82K08	81	MVS 029	19+50W	50+00S	ARGL	✓	✓	✓				
✓ (Med)	06	E	0.01	1.0	C	1	21	21	1	✓		
82K08	81	MVS 030	19+50W	50+00S	ARGL	✓	✓	✓				
✓ (Med)	06	E	0.01	1.0	C	1	21	21	1	✓	1MVS029	2

SURVEY TYPE Fill in Detail | CLIENTS PROJECT Echo Boy 1101 | AREA Red Ledge 1 | M VAEGLER | DATE July 2, 81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K08	81	MVS 031	19+25W	50+00S	ARGL	✓	✓	✓			
✓ (Low)	01	W	0.01	1.0	B	1	3	21	1	✓	
REMARKS: On small ridge on side of Mtn.											
82K08	81	MVS 032	19+00W	50+00S	ARGL	✓	✓	✓			
✓ (Med)	05	E	0.01	3.0	C	1	13	1	✓		
REMARKS: very little soil											
82K08	81	MVS 033	18+75W	50+00S	ARGL	✓	✓	✓			
✓ (Med)	06	E	0.02	3.0	C	1	1112	✓			
82K08	81	MVS 034	18+50W	50+00S	ARGL	✓	✓	✓			
✓ (Med)	04	E	0.01	2.0	B	21	12	✓			

SAMPLE TYPES

Detail | 1101 | Red Ledge 1 | M VAEGLER | July 2, 81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	Year	Init	Number	Grid Coordinates	Rock Type	Relief	Slope Mag	Slope Dir	Depth	Thkns	Horiz	Sediment Colour	Composition	Moisture	Remarks
82K	81	MV	S035	18+25W 50+00S	ARGL	✓ Med	04	E	0.01	4.0	B	1 ... 2	21 1	✓	
82K	81	MV	S036	20+00W 51+00S	ARGL	✓	08	E	0.04	1.0	B	3 1	2 1	✓	
82K	81	MV	S037	19+75W 51+00S	ARGL	✓ Low	00		0.01	1.0	B	2 1	22 1	✓	In gulley running along Mtn.
82K	81	MV	S038	19+50W 51+00S	ARGL	✓ Low	02	W	0.02	2.5	B	✓ 1	1	✓	small gulley

SAMPLE TYPES

SURVEY TYPE Fill in Detail | CLIENT & PROJECT Echo Bay 1101 | AREA &/or PHOTO Red Ledge 1 | COLLECTOR M VAEGLER | DATE July 2, 81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRIGG, WOOLLETT CONSULTING LTD

NTS	Year	Init	Number	Grid Coordinates	Rock Type	Relief	Slope Mag	Slope Dir	Depth	Thkns	Horiz	Sediment Colour	Composition	Moisture	Remarks
82K	81	MV	S039	19+25W 50+00S	ARGL	✓ Med	08	E	0.30	2.0	B	Yel 1, Red 2	Sand 2, Silt 1	✓ Mst	
82K	81	MV	S040	19+00W 51+00S	ARGL	✓ High	10	E	0.05	3.0	C	Blk ✓	Silt 2, Org 1	✓ Wet	
82K	81	MV	S041	18+75W 51+00S	ARGL	✓ Med	05	E	0.02	5.0	C	Blk ✓	Silt 2, Org 1	✓ Mst	
82K	81	MV	S042	18+50W 51+00S	ARGL	✓ Med	04	E	0.01	2.0	B	Red 2, Brn 1	Sand 1, Silt 2, Org 1	✓ Mst	

SAMPLE TYPES: S-Soil, T-Till, G-Glacial, ...

Fill in Detail — Echo Bay 1101 — Red Ledge I — M VAEGLER — July 2, 81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

TRISO, WOOLLETT CONSULTING LTD.

NTS	Year	Init	Number	Grid	Relief	Slope	Depth	Thick	Horiz	Colour	Composition	Moisture
82K	8	1 MV	S043	18+25W 51+00S	Low ✓	01 E	0.10	3.0	B	1 2 1	1 2	Mst ✓
82K	8	1 MV	S044	18+00W 51+00S	Med ✓	07 E	0.30	3.0	C?	1 1 2	1 2	Mst ✓
82K	8	1 MV	S045	17+75W 51+00S	Low ✓	0.3 E	0.01	3.0	B	2 1	1 2 2	Mst ✓

ARGL

REMARKS

SAMPLE TYPES

Fill in Detail — CLIENT & PROJECT Echo Bay 1101 — AREA Red Ledge I 82K8 — M VAEGLER — July 3, 81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

NTS	Year	Init	Number	Grid	Relief	Slope	Depth	Thick	Horiz	Colour	Composition	Moisture
82K8	8	1 MV	S046	17+50W 51+00S	Med ✓	06 E	0.02	4.0	B	1 2 1	1 2 1	Mst ✓
82K8	8	1 MV	S047	17+25W 51+00S	Med ✓	07 E	0.30	3.0	C	1 3 2 1	2	Mst ✓
82K8	8	1 MV	S048	17+00W 51+00S	Med ✓	05 E	0.04	5.0	B	1 2 1	1 2	Mst ✓
82K8	8	1 MV	S049	18+00W 50+00S	Med ✓	09 E	0.04	3.0	B	1 3	1 2	Mst ✓

ARGL

REMARKS (S047): not too much soil)

SAMPLE TYPES

Detail | Echo Boy 1101 | 82K8 | VAEGLER | July 3, 81

GEOCHEMICAL ... SAMPLE CARD

82K081MVS050 17+75W50+00S ARGL ✓ ✓ ✓
✓ 05 E 0.10 5.0 B 1 21 12 1 ✓

82K081MVS051 17+50W50+00S ARGL ✓ ✓ ✓
✓ 01 E 0.07 4.0 C 1 13 12 1 ✓
Down slope from old road (4m)

82K081MVS052 17+25W50+00S ARGL ✓ ✓ ✓
✓ 01 E 0.10 5.0 C 1 1 311 1 ✓

82K081MVS053 17+00W50+00S ARGL ✓ ✓ ✓
✓ 05 E 0.10 5.0 C 11 2 21 1 ✓

SURVEY TYPE Fill in Detail | Echo Boy T101 | 82K8 | M VAEGLER | July 3, 81

N T S | YEAR

RELIEF | SLOPE

GEOCHEMICAL ... SAMPLE CARD

82K081MVS054 17+97W50+50S AGRL ✓ ✓ ✓
✓ 02 E 0.07 2.0 B+C 1 2 12 2 ✓
REMARKS right below old road

82K081MVS055 17+73W50+50S ARGL ✓ ✓ ✓
✓ 05 E 0.07 5.0 B? 1 3 21 ✓
REMARKS right below old road

82K081MVS056 17+50W50+50S ARGL ✓✓ ✓
✓ 03 E 0.10 4.0 B? 1 3 21 1 ✓
REMARKS

82K081MVS057 17+25W50+50S ARGL ✓✓ ✓
✓ 06 E 0.03 4.0 B 13 12 1 ✓
REMARKS

SURVEY TYPE: Fill in Detail | CLIENT & PROJECT: Echo Bay 1101 | AREA & / or PHOTO: 82K8 | COLLECTOR(S): M. VAEGLER | DATE: July 3, 81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K/8	1	MV	S058		17+00W	50+50S	GOSN	✓	✓	✓

RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	07		E	Fuel ✓ Gosn	0.05	4.0	B	Yel 2, Red 1, Blk 3	Sand, Clay, Org	Mst	

REMARKS: On road, near tunnel into gosn

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K/8	1	MV	S059		20+00W	50+50S	AGRL	✓	✓	✓

RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	08		E		0.15	5.0	C	Yel 1, Grn 12, Red 2, Brn 1		Mst	

REMARKS:

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K/8	1	MV	S060		19+75W	50+50S	ARGL	✓	✓	✓

RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	07		E		0.10	5.0	C	Yel 1, Grn 12, Red 21, Brn 1		Mst	

REMARKS:

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K/8	1	MV	S061		19+50W	50+50S	ARGL	✓	✓	✓

RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	06		E		0.15	4.0	B?	Yel 1, Grn 12, Red 21, Brn 1		Mst	

REMARKS:

SAMPLE TYPES: S = [illegible], L = [illegible], U = [illegible], W = [illegible], X,Y,Z = other

SURVEY TYPE: Fill in Detail | CLIENT & PROJECT: Echo Bay 1101 | AREA & / or PHOTO: 82K8 | COLLECTOR(S): M. VAEGLER | DATE: July 3, 81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD — TRIGG, WOOLLETT CONSULTING LTD.

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST (or GRID COORDINATES)	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K/8	1	MV	S062		19+25W	50+50S	ARGL	✓	✓	✓

RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
✓	02		W		0.04	3.0	B	Wht 1, Yel 2, Grn 2, Red 1, Brn 1, Blk 1	Sand 12, Clay 1, Org 1	Mst	

REMARKS: Small ridge

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K/8	1	MV	S063		19+25W	50+50S	AAGL	✓	✓	✓

RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
✓	02		W		0.04	3.0	B	Wht 1, Yel 2, Grn 2, Red 1, Brn 1, Blk 1	Sand 12, Clay 1, Org 1	Mst	1MVS062

REMARKS:

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K/8	1	MV	S064		19+00W	50+50S	ARGL	✓	✓	✓

RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	07		E		0.27	6.0	C	Wht 1, Yel 1, Grn 1, Red 1, Brn 2, Blk 1	Sand 2, Clay 1, Org 1	Mst	

REMARKS:

NTS	YEAR	INIT	NUMBER	ZONE	UTM EAST	UTM NORTH	ROCK TYPE	WTHR	VEGETATION	VEG INT
82K/8	1	MV	S065		18+75W	50+50S	AAGL	✓	✓	✓

RELIEF	SLOPE	Mag	Dir	CONTAMINATION	DEPTH	THKNS	HORIZ	SEDIMENT COLOUR	COMPOSITION	MOISTURE	ORIGINAL SAMPLE NO
Med	08		E		0.15	5.0	C	Wht 1, Grn 3, Red 2, Brn 1, Blk 1	Sand 2, Clay 1, Org 1	Mst	

REMARKS:

SAMPLE TYPES: S = [illegible], L = [illegible], U = [illegible], W = [illegible], X,Y,Z = other

Echo Bay 1101 | 82K8 | M VAEGLER | July 3, 81

GEOCHEMICAL SOIL AND TILL SAMPLE CARD

82K881	MVS066	18+50W	50+50S	ARGL	✓	✓	✓		
✓	07	E	0.20	4.0	C	✓	21	1	✓
82K881	MVS067	18+25W	50+50S	ARGL	✓		✓		
✓	05	E	009	30	B	1	2	11	1 ✓

APPENDIX V

GEOCHEMICAL LAB REPORTS

BONDAR-CLEGG & COMPANY LTD.
130 PEMBERTON AVE., NORTH VANCOUVER, B.C. V7P 2R5 PHONE: (604) 985-0681 TELEX: 04-352667

Geochemical Lab Report

REPORT: 121-1353

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Cd PPM	NOTES
82K81-CRS-009		19	15	0.2	0.2	
82K81-CRS-010		3	5	0.2	0.3	
82K81-CRS-011		3	2	0.2	0.2	
82K81-CRS-012		12	24	0.2	0.2	
82K81-CRS-013		30	31	0.3	0.4	
82K81-CRS-014		53	69	0.2	0.3	
82K81-CRS-015		18	10	0.5	0.3	
82K81-CRS-016		18	26	0.2	0.4	
82K81-CRS-017		33	44	0.3	0.3	
82K81-CRS-018		31	28	0.8	0.3	
82K81-CRS-019		19	23	1.0	0.4	
82K81-CRS-020		26	45	0.3	0.3	
82K81-CRS-021		23	40	0.4	0.3	
82K81-CRS-022		19	15	0.2	0.2	
82K81-CRS-023		20	16	0.2	0.2	
82K81-CRS-024		12	14	0.2	0.2	
82K81-CRS-025		9	15	2.4	0.3	
82K81-CRS-026		27	60	0.2	0.9	
82K81-CRS-027		28	50	0.2	0.8	
82K81-CRS-028		27	34	0.2	0.5	
82K81-CRS-029		34	30	0.2	0.3	
82K81-CRS-030		22	23	0.2	0.3	
82K81-CRS-031		15	23	0.2	0.3	
82K81-GHS-020		15	26	0.2	0.3	
82K81-GHS-021		230	160	1.8	0.6	
82K81-GHS-022		93	270	0.3	0.6	
82K81-GHS-023		2000	395	13.0	0.9	
82K81-GHS-024		61	225	0.2	1.1	
82K81-GHS-025		53	257	0.2	1.0	
82K81-GHS-026		14	46	0.2	0.3	
82K81-GHS-027		530	960	7.3	2.3	
82K81-GHS-028		79	145	0.6	0.7	
82K81-GHS-029		33	66	0.3	0.3	
82K81-GHS-030		28	65	0.3	0.3	
82K81-GHS-031		44	63	0.2	0.3	
82K81-GHS-032		39	80	0.2	0.2	
82K81-GHS-033		35	33	0.2	0.3	
82K81-GHS-034		21	30	0.2	0.2	
82K81-GHS-035		18	18	0.2	0.2	
82K81-GHS-036		46	40	0.2	0.3	
82K81-GHS-037		63	65	0.6	0.3	
82K81-GHS-038		16	30	0.3	0.3	
82K81-GHS-039		17	34	0.2	0.4	
82K81-GHS-040		14	20	0.2	0.2	
82K81-GHS-041		31	25	0.2	0.2	
82K81-GHS-042		25	15	0.2	0.2	
82K81-GHS-043		20	18	0.2	0.3	
82K81-GHS-044		25	74	0.2	0.3	
82K81-GHS-045		29	19	0.2	0.2	

BONDAR-CLEGG & COMPANY LTD.
130 PEMBERTON AVE., NORTH VANCOUVER, B.C. V7P 2R5 PHONE: (604) 985-0681 TELEX: 04-352667

Geochemical Lab Report

REPORT: 121-1353

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Cd PPM	NOTES
82K81-GHS-046		26	15	0.2	0.2	
82K81-GHS-047		37	11	0.3	0.2	
82K81-GHS-048		83	25	0.3	0.2	
82K81-GHS-049		37	20	0.2	0.2	
82K81-GHS-050		27	11	0.2	0.3	
82K81-GHS-051		87	26	0.2	0.2	
82K81-GHS-052		198	31	0.2	0.3	
82K81-GHS-053		31	25	0.2	0.3	
82K81-GHS-054		29	22	0.2	0.3	
82K81-GHS-055		30	19	0.2	0.2	
82K81-GHS-056		92	9	0.5	0.3	
82K81-GHS-057		26	20	0.2	0.2	
82K81-GHS-058		25	19	0.2	0.2	
82K81-GHS-059		12	11	0.2	0.2	
82K81-GHS-060		11	22	0.2	0.2	
82K81-GHS-061		11	20	0.2	0.2	
82K81-JSS-001		20	64	0.2	0.3	
82K81-JSS-002		15	22	0.2	0.3	
82K81-JSS-003		50	85	0.3	0.6	
82K81-JSS-004		58	130	1.2	0.9	
82K81-JSS-005		80	262	0.5	1.0	
82K81-JSS-006		50	160	0.2	1.0	
82K81-JSS-007		370	470	0.9	1.1	
82K81-JSS-008		400	1120	1.8	3.9	
82K81-JSS-009		68	82	0.4	0.7	
82K81-JSS-010		32	25	0.2	0.3	
82K81-JSS-011		46	46	0.8	0.6	
82K81-JSS-012		46	95	0.2	1.3	
82K81-JSS-013		25	29	0.2	0.2	
82K81-JSS-014		18	21	0.3	0.2	

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Cd PPM	NOTES
82K81-JSS-015		27	25	0.4	0.2	
82K81-JSS-016		27	24	0.3	0.2	
82K81-JSS-017		13	14	0.2	0.2	
82K81-JSS-018		6	20	0.2	0.2	
82K81-JSS-019		3	15	0.2	0.2	
82K81-JSS-020		7	23	0.3	0.2	
82K81-JSS-021		18	23	0.2	0.4	
82K81-JSS-022		11	18	0.2	0.2	
82K81-MVS-001		15	20	0.2	0.2	
82K81-MVS-002		15	18	0.3	0.2	
82K81-MVS-003		27	27	0.3	0.2	
82K81-MVS-004		20	12	0.2	0.2	
82K81-MVS-005		17	20	0.2	0.2	
82K81-MVS-006		23	20	0.2	0.2	
82K81-MVS-007		51	94	0.4	0.3	
82K81-MVS-008		29	45	0.2	0.2	
82K81-MVS-009		37	18	0.2	0.2	
82K81-MVS-010		36	15	0.2	0.2	
82K81-MVS-011		35	15	0.2	0.2	
82K81-MVS-012		24	26	0.2	0.2	
82K81-MVS-013		60	28	0.2	0.2	
82K81-MVS-014		76	19	0.2	0.2	
82K81-MVS-015		29	29	0.2	0.2	
82K81-MVS-016		24	29	0.2	0.2	
82K81-MVS-017		103	41	0.2	0.7	
82K81-MVS-018		40	23	0.3	0.2	
82K81-MVS-019		91	20	0.2	0.2	
82K81-MVS-020		29	8	0.3	0.2	
82K81-MVS-021		25	20	0.3	0.2	
82K81-MVS-022		13	20	0.3	0.2	

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Cd PPM	NOTES
82K81-MVS-023		19	15	0.3	0.2	
82K81-MVS-025		10	15	0.2	0.2	
82K81-MVS-026		14	25	0.2	0.2	

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Cd PPM	NOTES

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Cd PPM	NOTES
82K81-CRS-032		29	33	0.2	0.2	
82K81-CRS-033		45	22	0.2	0.2	
82K81-CRS-034		17	17	0.2	0.2	
82K81-CRS-035		15	19	0.2	0.2	
82K81-CRS-036		13	15	0.2	0.2	
82K81-CRS-037		16	22	0.2	0.3	
82K81-CRS-038		25	34	0.2	1.2	
82K81-CRS-039		21	24	0.2	0.3	
82K81-CRS-040		18	22	0.2	0.3	
82K81-CRS-041		20	25	0.3	0.4	
82K81-CRS-042		19	21	0.3	0.3	
82K81-CRS-043		8	22	0.2	0.4	
82K81-CRS-044		17	28	0.2	0.2	
82K81-CRS-045		16	25	0.2	0.2	
82K81-CRS-046		13	20	0.2	0.2	
82K81-CRS-047		16	19	0.2	0.2	
82K81-CRS-048		19	27	0.2	0.2	
82K81-CRS-049		16	26	0.2	0.2	
82K81-CRS-050		50	22	0.2	0.3	
82K81-CRS-051		30	25	0.2	0.2	
82K81-CRS-052		26	26	0.2	0.2	
82K81-CRS-053		23	31	0.2	0.2	
82K81-CRS-054		36	29	0.2	0.2	
82K81-CRS-055		31	27	0.2	0.2	
82K81-CRS-056		41	18	0.2	0.2	
82K81-CRS-057		31	20	0.2	0.2	
82K81-CRS-058		14	59	0.2	0.2	
82K81-CRS-059		130	21	0.2	0.2	
82K81-CRS-060		17	14	0.2	0.2	
82K81-CRS-061		14	22	0.2	0.2	
82K81-CRS-062		17	15	0.2	0.2	
82K81-CRS-063		46	29	0.2	0.2	
82K81-GHS-062		18	21	0.2	0.2	
82K81-GHS-063		15	26	0.2	0.2	
82K81-GHS-064		14	25	0.2	0.2	
82K81-GHS-065		13	20	0.2	0.2	
82K81-GHS-068		36	32	0.2	0.4	
82K81-GHS-069		23	34	0.2	0.2	
82K81-GHS-070		40	31	0.2	0.2	
82K81-GHS-071		20	25	0.2	0.2	
82K81-GHS-072		35	38	0.2	0.2	
82K81-GHS-073		22	27	0.2	0.2	
82K81-GHS-074		21	20	0.2	0.2	
82K81-GHS-075		61	79	0.2	0.5	
82K81-JSS-023		17	21	0.2	0.2	
82K81-JSS-024		8	12	0.2	0.2	
82K81-JSS-025		11	13	0.2	0.5	
82K81-JSS-026		13	16	0.2	0.4	
82K81-JSS-027		4	8	0.2	0.2	
82K81-JSS-028		22	21	0.2	0.2	
82K81-JSS-029		23	26	0.2	0.2	
82K81-JSS-030		20	29	0.2	0.2	
82K81-JSS-031		34	37	0.2	0.2	
82K81-JSS-032		38	30	0.2	0.2	
82K81-JSS-033		22	20	0.2	0.2	
82K81-JSS-034		66	35	0.2	0.2	
82K81-JSS-035		15	16	0.2	0.2	

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Cd PPM	NOTES
82K81-CRS064	P	13	9	0.2	0.2	
82K81-CRS065		15	7	0.2	0.2	
82K81-CRS066		51	9	0.2	0.2	
82K81-CRS067		107	67	0.7	0.4	
82K81-CRS068		129	145	0.3	0.3	
82K81-CRS069		210	299	0.4	1.6	
82K81-CRS070		50	18	0.2	0.2	
82K81-CRS071		16	11	0.2	0.2	
82K81-CRS072		30	19	0.2	0.2	
82K81-CRS073		32	17	0.2	0.2	
82K81-CRS074		19	10	0.2	0.2	
82K81-CRS075		17	10	0.2	0.2	
82K81-CRS076		131	147	0.7	0.5	
82K81-CRS077		151	225	0.6	0.6	
82K81-CRS078		154	82	0.6	0.2	
82K81-CRS079		37	10	0.8	0.2	
82K81-CRS080		39	9	1.0	0.2	
82K81-CRS081		27	26	0.6	0.2	
82K81-CRS082		29	21	1.0	0.2	
82K81-CRS083		31	99	0.6	0.2	
82K81-CRS084		36	32	0.4	0.2	
82K81-CRS085		39	30	0.2	0.2	
82K81-CRS086		49	46	0.2	0.2	
82K81-CRS087		50	50	0.8	0.2	
82K81-CRS088		4	3	0.2	0.2	
82K81-CRS089		81	78	0.6	0.2	
82K81-CRS090		18	18	0.2	0.2	
82K81-CRS091		17	11	0.4	0.2	
82K81-CRS092		45	42	0.2	0.2	
82K81-CRS093		220	281	1.2	0.8	
82K81-CRS094		53	72	0.2	0.2	
82K81-CRS095		39	71	0.2	0.2	
82K81-CRS096		19	99	0.2	0.4	
82K81-CRS097		14	46	0.2	0.2	
82K81-CRS098		11	16	0.2	0.2	
82K81-CRS099		9	20	0.2	0.3	
82K81-CRS100		50	104	0.2	0.2	
82K81-CRS101		43	89	0.3	0.2	
82K81-CRS102		430	282	1.0	1.0	
82K81-CRS104		61	38	0.2	0.2	
82K81-CRS105		26	33	0.2	0.2	
82K81-CRS106		32	48	0.2	0.2	
82K81-CRS107		91	148	0.6	0.2	
82K81-CRS108		420	665	1.5	3.9	
82K81-CRS109		370	348	1.1	0.9	
82K81-CRS110		19	93	0.2	0.2	
82K81-CRS111		61	103	1.5	0.3	
82K81-CRS112		85	131	0.2	0.4	
82K81-CRS113		32	87	0.2	0.2	
82K81-CRS114		43	45	0.2	0.2	
82K81-CRS115		29	98	0.2	0.2	
82K81-CRS116		39	58	0.8	0.2	
82K81-CRS117		11	15	0.2	0.2	
82K81-CRS118		10	15	0.2	0.2	
82K81-CRS119		6	10	0.2	0.2	
82K81-CRS120		12	16	0.3	0.2	
82K81-GHS076		18	21	0.2	0.2	
82K81-GHS077		78	25	1.2	0.2	
82K81-GHS078		490	530	4.0	4.4	
82K81-GHS079		94	196	0.2	0.2	

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82K81-GHS080		98	226	0.3	0.2	
82K81-GHS081		16	23	0.2	0.2	
82K81-GHS082		20	38	0.2	0.2	
82K81-GHS083		20	18	0.2	0.2	
82K81-GHS084		10	18	0.2	0.2	
82K81-GHS085		22	16	0.2	0.2	
82K81-GHS086		260	101	0.4	0.2	
82K81-GHS087		57	195	0.2	0.2	
82K81-GHS088		16	40	0.2	0.2	
82K81-GHS089		22	29	0.2	0.2	
82K81-GHS090		17	93	0.2	0.2	
82K81-GHS091		15	18	0.2	0.2	
82K81-GHS092		28	53	0.2	0.2	
82K81-GHS093		57	101	0.4	0.2	
82K81-GHS094		26	125	0.3	0.2	
82K81-GHS095		199	152	0.8	0.3	
82K81-GHS096		17	43	0.2	0.2	
82K81-GHS097		15	35	0.2	0.2	
82K81-GHS098		4	26	0.2	0.2	
82K81-GHS099		14	48	0.2	0.2	
82K81-GHS100		15	49	0.2	0.2	
82K81-GHS101		38	136	0.2	0.2	
82K81-GHS102		26	38	0.2	0.2	
82K81-GHS103		11	39	0.2	0.2	
82K81-GHS104		39	61	0.2	0.2	
82K81-GHS105		70	118	0.2	0.2	
82K81-GHS107		22	42	0.2	0.2	
82K81-GHS108		15	36	0.2	0.2	
82K81-GHS109		30	31	0.2	0.2	
82K61-GHS110		50	153	0.2	0.2	

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Cd PPM	NOTES
82K81-JSS036		15	13	0.2	0.2	
82K81-JSS037		660	280	6.0	1.7	
82K81-JSS038		140	161	1.2	0.8	
82K81-JSS039		41	63	0.2	0.2	
82K81-JSS040		42	59	0.2	0.2	
82K81-JSS041		16	16	0.2	0.2	
82K81-JSS042		19	21	0.2	0.2	
82K81-JSS043		22	17	0.2	0.2	
82K81-JSS044		18	21	0.4	0.2	
82K81-JSS045		19	25	0.2	0.2	
82K81-JSS046		19	31	0.2	0.2	
82K81-JSS047		660	575	1.4	1.3	
82K81-JSS048		1580	1340	7.0	2.9	
82K81-JSS050		12	38	0.2	0.2	
82K81-JSS051		28	41	0.2	0.2	
82K81-JSS052		51	51	0.6	0.2	
82K81-JSS053		28	105	0.3	0.2	
82K81-JSS054		30	59	0.4	0.2	
82K81-JSS055		230	100	0.8	0.2	
82K81-JSS056		16	83	0.2	0.2	
82K81-JSS057		41	46	0.4	0.2	
82K81-JSS058		17	57	0.2	0.2	
82K81-JSS059		14	28	0.2	0.2	
82K81-JSS060		13	31	0.2	0.2	
82K81-JSS061		15	34	0.2	0.2	
82K81-JSS062		94	259	0.2	0.2	
82K81-JSS063		26	45	0.2	0.3	
82K81-JSS064		20	17	0.2	0.2	
82K81-JSS065		15	17	0.2	0.2	
82K81-JSS066		22	45	0.4	0.2	

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Cd PPM	NOTES
82K81-JSS067		60	155	0.2	0.2	
82K81-JSS068		19	27	0.2	0.2	
82K81-JSS069		11	19	0.2	0.2	
82K81-JSS070		10	47	0.2	0.2	
82K81-JSS071		32	64	0.4	0.3	
82K81-JSS072		12	151	0.3	0.6	
82K81-JSS073		56	189	0.6	0.4	
82K81-JSS074		33	101	0.2	0.3	
82K81-JSS075		128	140	0.9	0.2	
82K81-JSS076		17	24	0.2	0.2	
82K81-JSS077		25	31	0.4	0.2	
82K81-JSS078		10	20	0.4	0.2	
82K81-JSS079		20	32	0.3	0.2	

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Cd PPM	NOTES

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Cd PPM	NOTES
82-K-81-CRS-121		9	15	0.4	0.2	
82-K-81-CRS-122		8	15	0.7	0.2	
82-K-81-CRS-123		26	130	0.3	0.2	
82-K-81-CRS-124		15	100	0.2	0.2	
82-K-81-CRS-125		13	55	0.4	0.2	
82-K-81-CRS-126		6	9	0.3	0.2	
82-K-81-CRS-127		11	40	0.4	0.2	
82-K-81-CRS-128		13	43	0.3	0.2	
82-K-81-CRS-129		3	5	0.2	0.2	
82-K-81-CRS-130		10	14	0.7	0.2	
82-K-81-CRS-131		8	77	0.2	0.2	
82-K-81-CRS-132		3	8	0.2	0.2	
82-K-81-CRS-133		17	79	0.2	0.2	
82-K-81-CRS-134		9	8	0.8	0.2	
82-K-81-GHS-112		12	30	0.2	0.2	
82-K-81-GHS-113		14	77	0.2	0.2	
82-K-81-GHS-114		44	63	0.2	0.2	
82-K-81-GHS-115		31	44	0.5	0.2	
82-K-81-GHS-116		51	55	0.2	0.2	
82-K-81-GHS-117		24	89	0.2	0.2	
82-K-81-GHS-118		6	15	0.6	0.2	
82-K-81-GHS-119		N3	5	0.2	0.2	
82-K-81-GHS-120		3	6	0.2	0.2	
82-K-81-GHS-106		19	43	0.2	0.2	
82-K-81-GHS-111		42	145	0.2	0.2	
82-K-81-GHS-121		9	55	0.2	0.2	
82-K-81-GHS-122		15	9	0.2	0.2	
82-K-81-GHS-123		18	22	0.2	0.2	
82-K-81-JSS-049		81	168	0.2	0.2	
82-K-81-JSS-080		26	138	0.9	0.2	

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	Ag PPM	Cd PPM	NOTES
82-K-81-JSS-081		18	52	0.4	0.2	
82-K-81-JSS-082		18	103	0.2	0.2	
82-K-81-JSS-083		18	110	0.2	0.2	
82-K-81-JSS-084		3	7	0.2	0.2	
82-K-81-JSS-085		3	10	0.2	0.2	
82-K-81-JSS-086		16	64	0.2	0.2	
82-K-81-JSS-087		13	24	0.2	0.2	
82-K-81-JSS-088		12	35	0.2	0.2	
82-K-81-JSS-089		23	25	0.4	0.2	
82-K-81-JSS-090		37	24	0.7	0.2	
82-K-81-JSS-091		49	55	0.4	0.2	
82-K-81-JSS-092		13	13	0.3	0.2	
82-K-81-JSS-093		16	23	0.4	0.2	
82-K-81-JSS-094		9	14	0.2	0.2	
82-K-81-JSS-095		21	79	0.2	0.2	
82-K-81-JSS-096		8	44	0.2	0.2	
82-K-81-JSS-097		17	31	0.4	0.2	
82-K-81-JSS-098		18	31	0.6	0.2	
82-K-81-JSS-099		14	47	0.6	0.2	
82-K-81-JSS-100		18	24	0.2	0.2	
82-K-81-JSS-101		25	17	0.3	0.2	
82-K-81-JSS-102		27	32	0.4	0.2	
82-K-81-JSS-103		34	44	0.7	0.2	
82-K-81-JSS-104		11	14	0.3	0.2	
82-K-81-JSS-105		13	10	0.2	0.2	
82-K-81-JSS-106		9	27	0.2	0.2	
82-K-81-JSS-107		26	37	0.5	0.2	
82-K-81-MVS-027		23	64	0.2	0.2	
82-K-81-MVS-028		16	44	0.3	0.2	
82-K-81-MVS-029		14	19	0.3	0.2	

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82-K-81-MVS-030		16	23	0.4	0.2	
82-K-81-MVS-031		23	34	0.5	0.2	
82-K-81-MVS-032		47	54	0.6	0.2	
82-K-81-MVS-033		45	33	0.3	0.2	
82-K-81-MVS-034		21	25	0.5	0.2	
82-K-81-MVS-035		19	30	0.2	0.2	
82-K-81-MVS-036		24	22	0.6	0.2	
82-K-81-MVS-037		18	8	0.3	0.2	
82-K-81-MVS-038		20	30	0.2	0.2	
82-K-81-MVS-039		21	17	0.2	0.2	
82-K-81-MVS-040		30	30	0.5	0.2	
82-K-81-MVS-041		54	27	0.2	0.2	
82-K-81-MVS-042		35	63	0.7	0.2	
82-K-81-MVS-043		27	38	0.2	0.2	
82-K-81-MVS-044		49	50	0.6	0.2	
82-K-81-MVS-045		13	7	0.4	0.2	
82-K-81-MVS-046		28	37	0.8	0.2	
82-K-81-MVS-047		28	40	0.2	0.2	
82-K-81-MVS-048		23	42	0.2	0.2	
82-K-81-MVS-049		41	160	0.4	0.2	
82-K-81-MVS-050		48	141	0.2	0.2	
82-K-81-MVS-051		19	21	0.2	0.2	
82-K-81-MVS-052		33	60	0.4	0.2	
82-K-81-MVS-053		21	85	0.2	0.2	
82-K-81-MVS-054		33	119	0.3	0.2	
82-K-81-MVS-055		34	105	0.3	0.2	
82-K-81-MVS-056		42	35	0.4	0.2	
82-K-81-MVS-057		20	33	0.3	0.2	
82-K-81-MVS-058		19	52	0.2	0.2	
82-K-81-MVS-059		19	30	0.4	0.2	

SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Cd PPM	NOTES
82-K-81-MVS-060		13	34	0.2	0.2	
82-K-81-MVS-061		48	32	0.8	0.2	
82-K-81-MVS-062		29	22	0.8	0.2	
82-K-81-MVS-063		28	27	0.6	0.2	
82-K-81-MVS-064		37	30	0.4	0.2	
82-K-81-MVS-065		46	27	0.5	0.2	
82-K-81-MVS-066		18	22	0.2	0.2	
82-K-81-MVS-067		9	15	0.4	0.2	

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SAMPLE NUMBER	ELEMENT UNITS	Pb PPM	Zn PPM	As PPM	Cd PPM	NOTES
82-K-81-CRS-135		2400	355	14.0	0.7	

APPENDIX VI

REPORT ON THE CONTINUED INDUCED POLARIZATION AND RESISTIVITY SURVEYS AND VLF-EM SURVEYS ON THE MIN 1, MIN 2, S MIN 1, REDLEDGE 1 AND REDLEDGE 2 CLAIMS (PROJECT EBI), GOLDEN MINING DISTRICT, BRITISH COLUMBIA

THE "REPORT ON THE CONTINUED INDUCED POLARIZATION AND RESISTIVITY SURVEYS AND VLF-EM SURVEYS ON THE MIN1, MIN 2, S MIN 1, REDLEDGE 1 AND REDLEDGE 2 CLAIMS (PROJECT EBI), GOLDEN MINING DISTRICT, BRITISH COLUMBIA" by Cartwright and DiSpirito (1981) is bound separately. Drawing I.P.P.-B-4011, entitled "Geophysical Anomalies", from the report by Cartwright and DiSpirito (1981) is included with this report as drawing 1101-9.

APPENDIX VII

DIAMOND DRILL CORE GEOLOGICAL LOGS

DIP TESTS

Metres			DIP		LATITUDE		DEPARTURE	
TEST	FROM	TO	TOTAL		CORR	CUM		CUM
1	144.78			-45°	-38°			

DIAMOND DRILL HOLE LOG

CLIENT ECHO BAY MINES LTD.

PROPERTY MINI MINERAL CLAIM

TRIGG, WOOLLETT CONSULTING LTD.

LOCATION 29+00S, L7+50W
SECTION 29+00S
LATITUDE
DEPARTURE
ELEVATION (Collar) 1,349 m
CORE BQ
LOGGED BY M. Yeagler

HOLE NO 81MM-1
AZIMUTH 237°
DIP -45°
LENGTH 145.09 m
PURPOSE *
STARTED July 9, 1981
COMPLETED July 12, 1981

METRES FROM	METRES TO	DESCRIPTION
		STORAGE: Stark Creek
0.0	0.58	Down-hole distance from drill shack floor to collar at ground surface.
0.58	3.66	Overburden
3.66	9.45	BW Casing
		MOUNT NELSON FORMATION
9.45	26.30	Green to grey dolomitic argillite (lithologic unit 6c)

A very fine grained rock consisting of alternating olive-green argillite and grey dolomitic bands ranging in thickness from 0.2 to 2.5 centimetres. The attitude of the bands ranges from 5 to 35 degrees to the core axis but is generally in the range of 5 to 25 degrees, particularly near the base of the unit. Some of the bands, particularly in the upper portion of the unit, show highly convoluted laminations subparallel to the core axis. Quartz veins up to 10 centimetres wide exist subparallel to the laminations. The quartz veins commonly contain highly fractured, orange-tinted dolomite fragments. The dolomite fragments within the quartz veins and dolomitic bands commonly contain vugs up to 0.4 centimetre in diameter that are lined with clear calcite and dolomite crystals up to 2 millimetres wide. Pyrolusite occurs as dark bands which are 0.1 centimetre thick at the contacts between grey and green bands and as dendritic coatings on fracture surfaces. Limonite occurs throughout the section as equidimensional blebs or as prismatic crystals arranged parallel to the lamination. The limonite blebs range from 0.1 to 1.0 centimetre in length. Limonite constitutes 3 to 20 per cent of the rock by volume, and averages about 10 per cent. The fracture surfaces which exist in this unit are talcose.

(17.17) A quartz vein, 0.7 cm thick, that is inclined at an angle of 35° to the core axis contains euhedral pyrite crystals. The pyrite crystals are 0.1 cm in size and are within and at the margins of the quartz vein. Orange-tinted dolomite occurs immediately adjacent to the quartz vein.

(23.74 - 24.55) Green argillite, less micaceous than in (9.45 - 23.74) m. Dolomite exists locally along fractures. Abundant limonite exists, particularly coating fractures. Small pyrite cubes up to 0.2 cm in size occur locally. An unidentified prismatic orange mineral is also present; the crystals are up to 1.5 cm long and are oriented at two inclinations, 18° to 30° and 50° to 65°, relative to the core axis. This subunit ends in a quartz vein that is 21 cm thick.

(24.55 - 24.97) Micaceous olive-green argillite. Limonite inclined at 45° to 57° to the core axis exists along laminations. Pyrite cubes which are less than 0.3 cm in size exist locally. A 1.5 cm thick bed of white, coarse grained sandstone, which is inclined at 48° to the core axis, exists at 24.76 m. The sandstone bed comprises elongated, angular quartz grains, less than 0.2 cm in size, in a contact framework with the long axis of the grains parallel to the bed contacts. The sandstone bed contains euhedral pyrite crystals less than 0.1 cm in size. This subunit ends in argillite that has highly convoluted laminations.

(24.97 - 25.05) Laminated, light- to dark-brown, dolomitic argillite. Only the light brown laminae are dolomitic. The laminae are oriented at 65° to 75° to the core axis.

(25.05 - 25.15) Grey dolomitic grit. The siltstone has a sharp upper contact inclined at 62° to the core axis. Quartz grains within this subunit occur in beds less than 0.1 cm thick which are inclined at 65° to the core axis.

(25.15 - 25.27) Laminated, light grey to brown argillite. Similar to (24.97 - 25.05) m. This subunit contains a porous, limonitic zone with the pores less than 0.3 cm in size. The laminations are inclined at 84° to the core axis.

(25.27 - 25.66) Light grey dolostone. The dolostone contains quartz crystals that are less than 0.3 cm in size, and that, locally, fill fractures. This subunit includes a quartz vein inclined at 12° to the core axis that has a zone less than 0.1 m thick of intense iron oxide adjacent to the vein. An unidentified orange mineral, which is probably an iron oxide, is common as a fracture filling in fractures inclined at 30° to 60° to the core axis. The lower part of this subunit is quartz-rich, and the lower contact is inclined at 50° to the core axis.

(25.66 - 26.30) Olive-green argillite. Nondolomitic argillite that contains 20% limonite in patchy zones less than 0.3 cm in size, and, locally, euhedral crystals of pyrite less than 0.2 mm in size. Laminations are inclined at 69° to the core axis at the top of the subunit; the inclination gradually changes to 85° at the bottom of the subunit.

* To test along strike from 82KB05HM002, to test VLF-EM and induced polarization anomalies, to test upslope from a geochemical anomaly, and to test east-dipping contact between quartzite and argillite.

CORE SAMPLES NUMBER	FROM	TO	WIDTH			

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
26.30	63.30	Dolostone (lithologic unit 6b) This unit generally is massive grey dolostone that grades to a creamy white or, locally, may be red to orange due to iron staining. Fractures present commonly are talcose. Pyrite is not common within this unit but, when present, exists as cubes less than 0.2 centimetre in size. (26.30 - 26.48) Grey to yellowish-white dolostone. The upper contact is sharp, is inclined at 81° to the core axis, and is marked by orange iron oxides and minor amounts of pyrite. The subunit is comprised of angular, white fragments of dolostone cemented by a grey dolostone that contains quartz grains which are up to 0.1 cm in size. Quartz filled voids are numerous. In the upper part of this subunit, two orange zones which are 1.5 cm thick cut across the core at an inclination of 65° to the core axis. The orange colour in these zones results from the presence of minute amounts of iron oxide. These two zones contain angular fragments of dolostone derived from the surrounding wallrock; this indicates that the two zones are faults. Within these zones, dendritic pyrolusite coats fracture surfaces. Orange stained, irregular zones which are filled fractures exist locally at an inclination of 60° to 80° to the core axis. The filled fractures become more porous and thinner toward the base of the subunit. Patchy zones of limonite up to 6.0 cm in size exist within and adjacent to quartz veins. (26.48 - 26.51) Quartz vein. The vein contains fragments of cream dolostone. Well formed, clear crystals of dolomite, up to 0.7 cm long, line fracture surfaces and voids. A green chlorite stain commonly exists near such lined fractures. (26.51 - 27.28) Grey dolostone. Quartz is abundant as void- and fracture-fillings. Orange iron staining occurs along irregular fracture surfaces which are inclined at 60° to 80° to the core axis. Clear dolomite crystals coat vugs. The colour of the subunit darkens towards its base, reflecting the decrease in quartz content. (27.28 - 27.57) Quartz vein that contains white dolomite crystals which line vugs. (27.57 - 38.29) Grey dolostone. Quartz occurs in small veins that are inclined from 34° to 66° and are up to 1.5 cm thick. Locally the subunit is highly fractured and the abundant limonitic fracture filling imparts an orange colour to these zones. Three beds, each less than 6 cm thick, of olive-green argillite similar to those within (9.45 - 26.30) m, exist near the bottom of this subunit. Inclusions of angular, cream dolostone are abundant. The subunit ends at a layer that contains orange filled fractures and green dolomitic argillite with laminations less than 0.4 cm thick. The lower contact is inclined at 62° to the core axis. (38.29 - 42.70) Grey dolostone. The colour becomes lighter towards the base of the subunit. Minor amounts of orange filled fractures are present. Pyrite is rare but, when present, exists in crystals less than 0.1 cm across that are adjacent to filled fractures. Quartz veins are less than 1.0 cm thick and are inclined at 28° to 58° to the core axis. (42.70 - 42.98) Grey dolostone. Highly fractured and contains many voids. Abundant iron oxides coat the fractures. (42.98 - 47.55) Cream dolostone. Abundant reddish iron oxides locally impart a reddish-brown colour to the rock. Masses of limonite up to 1.0 cm across exist. Pyrolusite and orange iron oxides are common on fracture surfaces. Near the base of this subunit, laminations stained by iron oxides outline small scale folds. The laminations are subparallel to the core axis. The laminations may be stromatolitic layers. (47.55 - 49.16) Cream dolostone. The broken surfaces are stained yellow and contain minor amounts of dendritic pyrolusite. The core is broken throughout this subunit. Small amounts of iron oxide are present in zones up to 1.0 cm thick. (49.16 - 49.74) Massive grey dolostone grading downward to cream dolostone. (49.74 - 50.35) Cream dolostone. The upper contact is inclined at 55° to the core axis. A series of subparallel fractures, filled by an orange iron oxide imparts a banded appearance to this subunit. The fractures are inclined at 45° to 55° to the core axis. Concentrations of limonite and pyrolusite up to 0.5 cm thick occur locally at the base of the subunit. (50.35 - 51.51) Cream dolostone. The upper 10 cm contains a few limonite spots up to 0.7 cm in size. There are also a few sooty pyrolusite concentrations along fractures. Iron staining is poorly developed on fractures. A planar solution cavity, 0.6 cm thick, is inclined at an angle of 35° to the core axis. The lower part of the subunit has a mottled appearance due to the presence of cream dolostone fragments cemented by a quartz-rich, grey dolostone matrix. (51.51 - 52.35) Grey dolostone. Orange iron oxide fills fractures inclined at 43° to the core axis. The fractures are less numerous downward. Small euhedral pyrite crystals, which comprise up to 3% of the rock, are associated with the fractures. At the base of the subunit, patchy zones of limonite are present and the core is broken.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(52.35 - 53.19) Grey dolostone. Possible stromatolitic beds are parallel to the core axis. Concentrations of pyrolusite occur locally near the top of the subunit. Small amounts of angular, cream dolostone fragments are present. Disseminated pyrite occurs locally along fractures at the bottom of the subunit. The fractures are inclined at 15° to the core axis. The lower contact is gradational.				
		(53.19 - 53.57) Orange dolostone. The colour is due to iron staining. The upper contact is sharp but irregular. Pyrolusite becomes increasingly abundant along fractures downward.				
		(53.57 - 53.86) Quartz vein. Contains euhedral crystals of pyrite that are less than 0.2 cm in size.				
		(53.86 - 54.17) Brecciated dolostone. Grey dolostone cut by fractures, 0.6 cm wide, that contain small, angular fragments of cream dolostone and minor amounts of pyrite in a red, limonitic matrix. The fractures are subparallel to the core axis.				
		(54.17 - 55.59) Grey dolostone. The upper contact is gradational. Cream dolostone laminations, 0.1 cm thick, exist in the upper part of the subunit. Pyrite and limonite are common at the contacts between grey and cream dolostone.				
		(55.59 - 56.15) Grey dolostone. Orange iron oxide filled fractures up to 1.0 cm wide exist throughout the subunit. The fractures are inclined at 44° to 64° to the core axis. Green argillite, similar to that within (9.45 - 26.30) m but without pyrite or limonite, occurs near the larger, filled fractures. Limonite masses, up to 0.5 cm in size, do occur, however, within dolostone. The dolostone in this subunit is locally brecciated.				
		(56.15 - 56.82) White dolostone. Pyrolusite-coated laminations are present. Dolomitic, olive-green argillaceous layers up to 4 cm thick that contain limonite masses up to 0.5 cm across, are present. The attitude of bedding is subparallel to the core axis.				
		(56.82 - 57.24) Grey dolostone. The upper few centimetres are stained by iron oxides. Light orange, angular blebs up to 0.5 cm in size and euhedral pyrite crystals less than 0.1 cm in size are abundant throughout. Pyrite is present up to 5 volume %, and the orange blebs comprise from 5 to 10 volume %.				
		(57.24 - 57.71) Grey to olive-green dolostone. Grey, grading to olive-green dolostone downward. The olive-green colour is caused by interbedded laminae of olive-green argillite that are less than 0.2 cm thick. Orange limonite blebs increase in abundance downward. The argillite laminations are inclined at 38° to the core axis.				
		(57.71 - 57.95) Quartz vein. The vein contains fragments of grey and cream dolostone. Limonite blebs and euhedral pyrite crystals less than 0.5 cm in size occur at the contact of the quartz vein with dolostone.				
		(57.95 - 58.98) Grey dolostone. Iron oxide comprises 10 to 15 volume % of the rock. Iron oxide locally fills fractures that are less than 0.2 cm thick. Fractures are more common at the top of the subunit. At the bottom of the subunit, red coatings on fractures have a crenulated appearance and may possibly be stromatolitic. Pyrolusite and equidimensional limonite masses less than 0.5 cm in size are common on fracture surfaces. Two dolomitic, olive-green argillaceous layers up to 1.2 cm thick, are near limonite blebs which are 0.5 cm in size.				
		(58.98 - 59.16) Quartz vein. The vein contains angular white, dolostone fragments up to 3.0 cm in size.				
		(59.16 - 60.84) Grey dolostone. The upper part contains numerous olive-green dolomitic argillite layers that are less than 3.0 cm thick. The argillaceous layers occur within limonite bands. The colour of the subunit grades downward from grey to cream.				
		(60.84 - 60.90) Quartz vein.				
		(60.90 - 60.93) Brown argillite. The upper contact is inclined at 39° to the core axis. Laminations of olive-green argillite, 0.1 cm thick, occur within the predominant brown argillite. The laminations are folded and highly contorted but the overall attitude of bedding is subparallel to the core axis. Limonite blebs less than 0.5 cm in size constitute 5% of the rock.				
		(60.93 - 62.79) Grey dolostone. Orange or cream dolostone blebs are locally present. Cavities, up to 1.3 cm in diameter, exist and are lined with dolomite crystals. The upper contact of this subunit is irregular and is subparallel to the core axis. Pyrolusite and pyrite are more abundant near the upper contact. Some pyrolusite occurs along fractures. Fractures are inclined at 35° to the core axis. Near the bottom of this subunit, bands of limonite and pyrolusite are inclined at 41° to the core axis.				
		(62.79 - 63.30) Massive grey dolostone. Numerous quartz veins less than 1.0 cm thick are present. Near the bottom of this subunit white dolostone and orange iron oxide exist within quartz veins.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
63.30	87.03	Argillite (lithologic unit 6c)				
		(63.30 - 65.22) Dark olive-green to green argillite. The argillite is micaceous and laminated. The laminations are folded but the overall attitude of bedding is subparallel to the core axis. Bands of orange dolostone occur near quartz veins. Limonitic layers occur with pyrolusite bands. Locally, the attitude of limonitic layers is parallel to the core axis. Limonite and pyrite locally constitute approximately 1% of the rock. Pyrite crystals become smaller and more abundant downward.				
		(65.22 - 68.89) Dark olive-green to grey argillite. This subunit grades downwards from olive-green to grey. Laminations are convoluted and folded but their overall attitude is subparallel to the core axis. In the lower, grey portion, the laminations are displaced by microfractures. Clay minerals are localized in the noses of folds. Quartz veins up to 17 cm thick are common. Quartz veins may contain blebs of argillite, cream dolomite and large blebs, up to 7 cm, of a brown mineral which may be ferroan dolostone. Fractures are rare and have preferred orientation. Some fractures contain limonite. Pyrite is uncommon.				
		(68.89 - 72.87) Grey argillite is interbedded with orange dolostone and thin clay bands. The clay bands are folded but their overall attitude is subparallel to the core axis. Microfractures occur as dark, thin planes inclined at 75° to 90° to the core axis. The upper part of the subunit contains abundant limonite as stain and filling fractures, and pyrite cubes which are up to 1 cm in size. The quartz veins are less than 1.5 cm thick. Toward the base the colour grades rapidly from grey to black.				
		(72.87 - 79.70) Black argillite. Alternating black bands and thinner grey bands exist. The best defined foliation features present are quartz veins, less than 0.2 cm thick, inclined at 80° to 90° to the core axis. Laminations locally are highly contorted and cut by microfractures. The overall attitude of the laminations is subparallel to the core axis. Limonite locally causes the rock to be orange. A few tan-brown clay layers exist and are less than 0.3 cm thick. The larger quartz veins contain cream and orange dolostone near the vein contacts. Pyrite is present in amounts up to 1% and commonly occurs in cubes up to 1 cm in size.				
		(79.70 - 85.57) Black to grey argillite. Similar to (72.87 - 79.70) m but contains thicker grey layers. Tan bands exist locally and are up to 0.5 cm thick and are highly contorted and folded. Microfracturing is common and is inclined at 50° to 80° to the core axis. Quartz veins are thin and parallel to the foliation within the rock. Limonite is common near quartz veins. Pyrite cubes, which usually are less than 0.2 cm in size, but which may be up to 0.7 cm, comprise up to 2% of the rock.				
		(81.08 - 81.22) Salmon coloured fault gouge.				
		(83.41 - 83.59) Black, graphitic, fault gouge containing tan and grey argillite fragments.				
		(85.57 - 86.17) Black to grey argillite. Similar to (79.70 - 85.57) m but contains interbedded red and orange bands of dolostone. Locally, limonite occurs within the grey layers. Quartz veins containing cream dolostone, limonite and orange calcite are present. The quartz veins increase in abundance downward.				
		(86.17 - 87.03) Grey to green argillite. Interbedded, massive, grey and green argillite.				
87.03	96.05	Quartzite interbedded locally with argillite (lithologic unit 6e and, locally, 6c)				
		The quartzite has no well defined laminations and contains numerous bands of interbedded argillite. The quartzite is reddish, green or grey and commonly has a mottled appearance. The argillite laminations have highly variable inclinations, ranging from 26 to 90 degrees, relative to the core axis.				
		(87.03 - 89.09) Reddish quartzite. The upper and lower contacts are gradational. Micaceous olive-green argillite beds, less than 0.7 cm thick, are common and often contain limonite blebs. Interbedded grey quartzite exists. The overall red colour is caused by numerous, up to 35 volume %, red blebs which are less than 0.1 cm in size. The red mineral may be hematite. The attitude of banding within the quartzite is inclined at 46° to the core axis. Three quartz veins, up to 15 cm thick, are present. Limonite blebs commonly exist in quartz veins and reach 1.0 cm in size.				
		(89.18 - 89.28) Quartz vein.				
		(89.28 - 92.56) Grey to olive-green argillite. Finely laminated with alternating grey and green bands inclined at 75° to 90° to the core axis. Downward, the laminations are convoluted. An unidentified prismatic orange mineral less than 0.2 cm long occurs parallel to the laminations and increases in abundance downward. Limonite blebs up to 0.1 cm in size are present within and near quartz veins.				
		(92.56 - 92.71) Quartz vein containing cream dolostone fragments less than 1.0 cm in size.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(92.71 - 93.70) Black to grey argillite. Black and grey layers are interbedded. In the upper part the laminations are highly contorted. At one locale, one set of folded laminations is sharply terminated by laminations inclined at 44° to the core axis. A large quartz vein, 19.0 cm thick, contains orange calcite and cream dolostone fragments up to 2.3 cm in size, and limonite which is concentrated near the quartz vein contacts.				
		(93.70 - 94.20) Grey to black argillite. Alternating layers up to 2.0 cm thick are highly convoluted with microfractures displacing the laminations. The microfractures are inclined at 50° to the core axis. Iron staining exists locally in the lighter layers.				
		(94.20 - 95.75) Green argillite layers that are 0.4 cm thick are interbedded with quartz veins. Laminations in the green layers are inclined at 50° to 60° to the core axis. The quartz content increases downward. Pyrolusite exists in the quartz veins. Limonite exists in and near some quartz veins in blebs up to 2.3 cm in size. An unidentified prismatic orange mineral exists in argillite with its long axis parallel to the laminations. The abundance of this orange mineral increases downward. The attitude of several quartz veins is subparallel to the core axis and in these locales the orange mineral cross-cuts the quartz veins. Downward, and near the base, quartzite layers increase. Iron staining is common along broken surfaces.				
		(95.75 - 96.05) Olive-green argillite interbedded with quartzite. The top of the subunit is micaceous olive-green argillite. The quartzite-argillite contact is parallel to the core axis and consists of 15% limonite in patchy zones up to 4 cm wide. At the base is dark green argillite. The lower contact is inclined at 43° to the core axis.				
96.05	113.51	Predominantly quartzite (lithologic unit 6a)				
		(96.05 - 100.01) Green quartzite. Thin green argillite layers give the rock a laminated appearance. The layers are less than 0.2 cm thick and do not have a common orientation. The subunit is green at the top and grades downward to red. The red colour is due to local concentrations of a red mineral which may be hematite. Small pyrite cubes less than 0.5 cm in size occur with the red mineral. The laminations within the rock are only locally well developed. A limonite filled fracture, 1.0 cm thick, is inclined at 35° to the core axis. An orange calcite vein, 0.5 cm thick, is inclined at 25° to the core axis.				
		(100.01 - 100.14) *Tan argillite. The rock has a foliated appearance due to the parallel arrangement of quartz veins, which are less* than 0.5 cm thick, and a prismatic orange mineral less than 0.1 cm long. The foliations are inclined at 46° to the core axis.				
		(100.14 - 101.23) Grey quartzite. The upper contact is inclined at 40° to the core axis. The upper part of the subunit is foliated due to pyrolusite- and limonite-filled fractures inclined at 51° to the core axis, whereas the lower part of the subunit has a mottled appearance. An unidentified orange mineral, less than 0.1 cm in size, is locally common.				
		(101.23 - 101.57) Burgundy-red argillite. The contacts of this subunit are not well defined. The rock is foliated due to the parallel arrangement of a prismatic red mineral, which may be hematite, inclined at 28° to the core axis. Bands, less than 0.5 cm thick, of clay minerals, which are parallel to the foliation, occur locally.				
		(101.57 - 101.87) Massive, mottled, grey quartzite. The rock locally is red due to iron staining. Minor amounts of pyrite and hematite, in blebs less than 0.3 cm in size, exist at the bottom of the subunit. The grey, mottled appearance is due to pyrolusite coatings on irregular fractures.				
		(101.87 - 103.35) Broken core. Two zones, each 10 cm long, of tan fault breccia are separated by burgundy argillite. The fault breccia contains fragments of olive-green argillite. Downward, the lithology is grey quartzite. At the bottom, quartz and cream dolostone exist between green argillite laminations. The laminations are convoluted and contain small hematite grains.				
		(103.35 - 103.95) Quartz vein. Contains angular fragments of olive-green argillite and cream dolostone. Pyrolusite is common locally. Limonite blebs up to 0.7 cm in size are abundant along the contacts of the quartz vein.				
		(103.95 - 105.46) Green quartzite. Layers of olive-green argillite, 0.2 cm thick, are parallel to the core axis. Minor amounts of limonite in blebs less than 0.3 cm in size exist in or near the argillite layers. A quartz vein, 1.5 cm thick, which contains blebs of limonite less than 0.4 cm in size, is parallel to the core axis.				
		(105.46 - 113.51) Green argillite interbedded with quartzite. Quartzite, similar to that within (103.95 - 105.46) m, predominates and occurs in layers that alternate with argillite layers which are less than 5.0 cm thick. An unidentified prismatic orange mineral, less than 0.3 cm in size, mainly exists in the quartzite layers whereas pyrolusite mainly exists in the argillite layers. Limonite blebs, less than 0.2 cm in size, also exist in the argillite layers.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		DUTCH CREEK FORMATION				
113.51	145.09	Argillite (lithologic unit 5a) Massive to finely laminated, black or grey argillite which, locally, is iron-stained to orange, is the predominant lithology. Fissility is locally well developed in the finely black laminated argillite. Laminations within the argillite usually are contorted and microfractured, and, locally, are completely absent. Pyrite generally is less than 1 per cent, but, locally, is more abundant. Pyrite usually occurs as small cubes surrounded by quartz pressure-shadows. (113.51 - 120.72) Black argillite. Fissility is highly developed and is inclined at 39° to the core axis. The upper 15 cm of this subunit is predominantly graphitic fault gouge. White layers of argillite and brown clay layers less than 0.4 cm thick define the laminations. The laminations are highly contorted and microfractured, and are inclined at 72° to the core axis. Pyrite is rare but, when present, exists as cubes up to 1.3 cm in size. Iron staining is common along fracture surfaces. Quartz veins, up to 12.0 cm thick, contain angular fragments of cream dolostone and black argillite. (120.72 - 125.19) Orange-tinted argillite. This subunit is massive and the colour probably is due to iron stain. Up to 1% pyrite exists as cubes less than 0.1 cm in size. The lower contact is sharp but irregular and is inclined at 22° to the core axis. Highly contorted laminations exist locally. (125.19 - 128.09) Black to grey argillite. The upper and lower contacts are gradational. A foliation is defined by light grey bands, less than 0.1 cm thick, inclined at 75° to 90° to the core axis. This foliation does not represent bedding, intense microfracturing having obliterated the original bedding. Many irregular tan clay bands, less than 0.4 cm thick, are present, Pyrite, which is present in amounts less than 1%, exists as euhedral cubes up to 0.8 cm in size that are surrounded by quartz pressure-shadows. Pyrite also occurs as small irregular masses. (128.09 - 130.39) Orange to grey argillite. Massive orange argillite is hard due to its siliceous nature. Irregular, black argillite bands less than 0.1 cm thick exist locally. Orange argillite grades downward to grey argillite. (130.39 - 132.76) Black to grey argillite. Alternating layers of black and grey argillite, up to 7 cm thick, are well laminated and laminations are inclined at 75° to 90° to the core axis. The laminations locally are very convoluted and are parallel to the core axis. Quartz veining is common and usually is parallel to the lamination. Fracture surfaces locally are iron stained. Irregular masses of pyrite, which are less than 0.7 cm in size, comprise less than 1% of the rock. (132.76 - 137.47) Broken core. The top 5.0 cm is graphitic powder that probably is fault gouge. The remainder of the subunit is black argillite with highly contorted laminations. Quartz veins are common and usually contain limonite. Limonite is also common on fracture surfaces. (137.47 - 145.09) Finely laminated black argillite. The laminations are crenulated due to minor displacements along microfractures. At several locales the laminations are parallel to the core axis. However, the laminations generally are inclined at 5° to 85° to the core axis. Pyrite, locally, is concentrated in bands and exists in amounts less than 1%. The pyrite is up to 1 cm in size and generally is surrounded by a quartz pressure-shadow. This subunit somewhat resembles that at (72.87 - 79.70) m in Mount Nelson Formation, but does not, however, contain any of the tan-brown clay layers that are common in Mount Nelson Formation argillite.				
145.09		END OF HOLE				

DIP TESTS

Metres TEST	FROM	TO	TOTAL	DIP	AZIMUTH CORR	AZIMUTH CUM	LATITUDE CUM	DEPARTURE CUM
1	132.89			63°	55°			

DIAMOND DRILL HOLE LOG

CLIENT . ECHO BAY MINES LTD.

PROPERTY . RED LEDGE 1 MINERAL CLAIM

TRIGG, WOOLLETT CONSULTING LTD.

LOCATION .49+00S, 18+00W
SECTION
LATITUDE
DEPARTURE
ELEVATION .(Collar) 2,026 m
CORE .BQ
LOGGED BY .M. Vaegler

HOLE NO. .81MB-2
AZIMUTH .237°
DIP .-45°
LENGTH .177.70 m
PURPOSE .*
STARTED .July 13, 1981
COMPLETED .July 17, 1981

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		STORAGE: Stark Creek				
		* To test geochemical anomaly to south, and induced polarization and VLF-EM geophysical anomalies.				
0.0	0.54	Down-hole distance from drill shack floor to collar at ground surface.				
0.54	3.96	Overburden				
3.96	6.10	BW Casing				
		DUTCH CREEK FORMATION				
6.10	177.70	Black argillite (lithologic unit 5a)				
		The entire hole is fine grained, massive to finely laminated, black argillite. The finely laminated argillite often is difficult to recognize because of the close spacing and faintness of the laminations. The laminations are best developed in the upper part of the hole where they usually are subparallel to a strongly developed fissility which is inclined at a low angle to the core axis. The laminations locally are convoluted due to folding, microfracturing and/or the injection of quartz veins. Small, dark brown spots less than 0.2 centimetre in size, are common. Iron staining is common along fracture surfaces in the upper half of the hole. Pyrite generally occurs as large cubes, up to 4.5 centimetres in size. Pyrite rarely constitutes more than 1 per cent of the rock. Galena exists as small grains in several quartz veins.				
		(6.10 - 10.32) Fissility is strongly developed and is inclined at 25° to the core axis. The rock is pitted due to voids, coated with limonite, that are less than 0.2 cm in size. These voids probably represent corroded pyrite. Minor pyrite exists as euhedral crystals up to 1.0 cm in size, with quartz pressure-shadows surrounding the pyrite. Limonite and pyrite make up 10% to 15% of the rock. Iron staining along fractures is pervasive.				
		(10.32 - 10.67) Probable fault zone. Lithology is similar to (6.74 - 10.32) m but rock is broken into small fragments.				
		(10.67 - 18.59) Laminations exist but are contorted and displaced along microfractures. Quartz stringers also show displacement along microfractures. Quartz veins commonly are iron-stained orange and contain a green clay mineral. Pyrite and limonite are present, similar in habit to that in (6.74 - 10.32) m, but constitute only 1% to 3% of the rock. Iron staining is prominent on fracture surfaces. Several zones of powdered argillite, which probably are faults, are located at 11.72 m, 16.53 m, 16.83 m, and 18.56 m.				
		(18.59 - 20.12) Well laminated argillite inclined at 38° to the core axis. The laminations are displaced across microfractures locally. Pyrite constitutes 1% to 2% of the rock and may be up to 1.2 cm in size.				
		(21.61) Powdered argillite. Probable fault zone.				
		(22.11 - 26.21) This subunit is characterized by 30% to 40% quartz veins that are subparallel to the core axis. The quartz veins contain argillite fragments, limonite, orange calcite and a green clay mineral.				
		(26.21 - 28.96) Laminations and fissility are well developed and are inclined at 29° to the core axis at the top of the subunit. The entire subunit has a micaceous sheen. Pyrite constitutes less than 1% of the rock and small limonite blebs, 0.3 cm in size, constitute 3% to 7% of the rock.				
		(28.96 - 34.19) Massive argillite with well developed fissility inclined at 5° to the core axis. Pyrite cubes up to 1.5 cm in size, with quartz pressure-shadows, constitute 3% of the rock. Brown spots up to 0.1 cm in size, and probably of metamorphic origin, constitute 3% of the rock.				
		(34.19 - 34.44) Crushed core. Possible fault zone.				
		(34.44 - 41.25) Laminations are poorly developed and are inclined at an angle of 4° to the core axis. Fissility is highly developed giving the rock a slaty appearance. Pyrite is present in minor amounts and usually is associated with quartz pressure-shadows. The fracture surfaces are graphitic. A micaceous sheen is well developed locally.				
		(47.25 - 47.55) Quartz vein containing orange calcite crystals up to 3.0 cm in size. One crystal of calcite contains a small blade of galena which is less than 0.1 cm in size.				
		(47.55 - 60.14) Pyrite crystals are rare but, when present, are up to 2.5 cm in size. Brown spots constitute 5% of the rock. Iron staining along fracture surfaces is common.				
		(52.15 - 52.31) Quartz vein containing dolostone, a green clay mineral and a galena crystal 0.5 cm in size.				
		(59.74 - 60.14) Characterized by brown spots that are less than 0.2 cm in size and constitute up to 30% of the rock.				
		(60.30 - 60.60) This subunit is characterized by narrow, convoluted quartz veins. A few tan clay layers are associated with the quartz veins. Pyrite constitutes up to 15% to 20% of the rock and is up to 0.6 cm in size.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(70.71) Poorly developed laminations are present and are subparallel to the core axis.				
		(73.76 - 74.02) Powdered argillite containing pyrite fragments. Probable fault zone.				
		(76.25 - 76.32) Dark green argillite with laminations subparallel to the core axis contains orange calcite spots less than 0.1 cm in size. The dark green colour probably is due to chlorite.				
		(81.08 - 81.69) Powdered argillite containing pyrite fragments. Probable fault zone.				
		(82.21 - 82.96) Well laminated argillite. The laminations are crenulated and rapidly change their attitude. Pyrite up to 1.0 cm in size constitutes up to 1% of the rock.				
		(91.26 - 92.32) Abundant quartz stringers that commonly contain orange calcite fragments and green clay minerals. At the bottom of this subunit the stringers are subparallel to the core axis and are parallel to the argillite laminations.				
		(95.58 - 95.68) Powdered argillite. Probable fault zone.				
		(96.47 - 96.75) Characterized by laminations that are subparallel to the core axis. Brown spots are present and constitute up to 5% of the rock.				
		(104.09) Fine laminations inclined at 19° to the core axis.				
		(114.42) Laminations inclined at 37° to the core axis.				
		(116.56 - 119.19) Abundant quartz veins that constitute up to 30% of the rock.				
		(119.69 - 120.46) Abundant narrow quartz veins with chlorite alteration zones adjacent to the veins.				
		(123.40 - 124.09) Quartz vein containing orange calcite fragments which are 3.0 cm in size, black argillite, chlorite and large pyrite cubes which are up to 4.0 cm in size.				
		(131.29 - 131.99) Abundant narrow quartz veins with chlorite alteration adjacent to the veins.				
		(135.11) A large pyrite mass, 4.5 cm in size, within massive argillite.				
		(139.74 - 140.52) Well laminated grey argillite. Laminations are inclined at 27° to the core axis.				
		(140.21 - 146.00) Abundant quartz veins, generally less than 3.0 cm thick, with chlorite alteration adjacent to the quartz veins.				
		(149.35 - 152.59) Abundant narrow quartz veins; similar to (140.21 - 146.00) m.				
		(152.91 - 153.14) Characterized by euhedral pyrite crystals that average 1.5 cm in size and constitute up to 3% of the rock. Pyrite crystals commonly have quartz pressure shadows surrounding them.				
		(153.77 - 153.94) Quartz vein that contains rounded pyrite masses which are 0.5 cm in size and constitute up to 10% of the vein.				
		(154.08 - 158.29) Abundant narrow quartz veins; similar to (140.21 - 146.00) m.				
		(158.41 - 159.58) Quartz vein.				
		(160.23 - 161.72) Grey, powdered argillite that contains 5% pyrite fragments which are less than 0.1 cm in size. Probable fault gouge.				
		(161.74 - 163.30) Quartz vein that contains an unidentified orange-brown mineral which exists as large crystals up to 1.6 cm in size.				
		(165.91 - 170.60) Abundant narrow quartz veins occur; similar to (140.21 - 146.00) m.				
		(169.21 - 169.30) Vein consists of 20% quartz and an unidentified brown mineral which exists as crystals up to 1.6 cm in size.				
		(174.65 - 177.42) Abundant narrow quartz veins; similar to (140.21 - 146.00) m.				
		(177.42 - 177.70) Grey, powdered argillite; fault gouge.				
		NOTE: Laminations from 142.00 m to 177.70 m are parallel to the core axis.				
177.70		END OF HOLE				

DIP TESTS

Metres TEST	FROM	TO	TOTAL	DIP CORR	DIP CUM	LATITUDE CUM	DEPARTURE CUM

DIAMOND DRILL HOLE LOG

CLIENT .ECHO BAY MINES LTD.

PROPERTY .RED LEDGE 2 MINERAL CLAIM

TRIGG, WOOLLETT CONSULTING LTD.

LOCATION .38+00S, 12+32W
SECTION .38+00S
LATITUDE
DEPARTURE
ELEVATION .(Collar) 1,938 ft
CORE .BQ
LOGGED BY .M. Yeaglec

HOLE NO. .81RB-3
AZIMUTH .237°
DIP .-49°
LENGTH .50.60 m
PURPOSE .*
STARTED .July 22, 1981
COMPLETED .July 23, 1981

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		STORAGE: Stark Creek * To test induced polarization anomaly and B2KBOSM4007 at depth.				
0.0	0.57	Down-hole distance from drill sheck floor to collar at ground surface.				
0.57	1.83	Overburden				
1.83	3.05	BW Casing				
		MOUNT NELSON FORMATION				
3.05	8.95	Grey dolostone and interbedded argillite (lithologic units 6b,c) The dolostone commonly is brecciated, comprising angular, cream dolostone fragments in a grey matrix of dolostone. The cream fragments constitute up to 20 to 25 per cent of the rock, are up to 0.7 centimetre in size and do not have a preferred orientation. Olive-green argillite is interbedded with the dolostone, and generally exists in layers less than 0.1 centimetre thick. Locally, the argillite layers are orange due to iron staining. The argillite layers are inclined at 60 to 70 degrees to the core axis with the inclination decreasing down the hole. The argillite layers locally have a crenulated appearance due to offsetting by microfractures or by folding. Quartz veins and fillings are common and frequently contain small, angular, cream dolomite crystals. (3.05 - 3.51) Brecciated grey dolostone with cream, angular fragments of dolostone in a grey dolostone matrix. The cream fragments are less than 0.7 cm in size. Numerous dolomitic argillite layers, each less than 0.1 cm thick, are at the top of the subunit and are inclined at 70° to the core axis. Locally, the argillite layers are orange due to iron staining. The orange argillite layers contain lenticular pyrite masses less than 0.2 cm in size, with the long axis of the pyrite mass oriented parallel to the layering. (3.51 - 3.67) Broken and lost core comprising orange dolostone with olive-green argillite layers. Large quartz fragments are common. Dendritic pyrolusite is common on fracture surfaces. (3.67 - 3.87) Massive grey dolostone cut by several quartz veins which are 1.0 cm thick and inclined at 39° to the core axis. Orange argillite exists as filling in fractures up to 0.3 cm thick and contains small, euhedral pyrite crystals less than 0.1 cm in size. (3.87 - 4.28) Brecciated grey dolostone that becomes more argillaceous downward. (4.28 - 4.54) Quartz vein that contains fragments of iron-stained, orange dolostone and cream dolostone. (4.54 - 5.18) Broken core consisting of olive-green argillite and quartz clasts. (5.18 - 5.53) Quartz vein. (5.53 - 7.93) Brecciated grey dolostone that contains layers of orange dolomitic argillite up to 10 cm thick and sooty pyrolusite on fracture surfaces. (7.93 - 8.65) Brecciated grey dolostone with some interbedded argillite bands, grading downward to olive-green dolomitic argillite inclined at 55° to the core axis. (8.65 - 8.67) Olive-green argillite that, in the upper 2 cm, contains thin bands of orange dolostone. Limonite and iron staining are common throughout. (8.67 - 8.95) Massive green dolostone with a gradational upper contact and with the lower contact inclined at 5° to the core axis. Euhedral pyrite cubes, up to 0.4 cm in size, constitute up to 1% to 3% of the rock.				
8.95	10.38	Greenish argillite (lithologic unit 6c) The argillite is fine grained and is olive-green. Quartz veining is common and often is associated with iron staining or limonite. (8.95 - 9.25) Green argillite with abundant limonite that occurs in zones subparallel to the core axis. The thicker limonite zones, up to 0.4 cm, commonly contain euhedral pyrite cubes. Orange iron staining and dendritic pyrolusite are common in the lower part of the subunit. (9.25 - 10.38) Olive-green argillite which has a sharp but irregular upper contact marked by iron staining. The subunit is well laminated. The laminations are inclined subparallel to the core axis and are convoluted due to offsetting by microfractures that are at 30° to 35° to the core axis. A dolomite band, 0.7 cm thick, that is subparallel to the				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		DUTCH CREEK FORMATION				
10.38	50.60	Argillite (lithologic unit 5a)				
		Black to grey argillite. The black argillite generally is well laminated. The inclination of the laminations is highly variable with respect to the core axis. Iron staining and pyrite are present but pyrite rarely constitutes more than 1 per cent of the rock.				
		(10.38 - 14.02) Black argillite, well laminated with thin, grey layers of argillite inclined at 0° to 25° to the core axis. Those intervals in which the laminations are subparallel to the core axis generally contain small scale folds and/or crenulations. The laminations are not well developed downward. Quartz veins are common and locally contain fragments of cream dolostone, limonite or black argillite. Some laminations and quartz veins are iron stained. Pyrite constitutes less than 1% of the rock. Pyrite masses up to 0.8 cm in size commonly are developed adjacent to quartz veins and have their long axes parallel to the laminations.				
		(14.02 - 14.54) Grey argillite. The upper 4.0 cm is iron stained brown. The lower contact is sharp and inclined at 53° to the core axis. Well developed crenulated laminations exist and are inclined at 40° to 50° to the core axis. A quartz vein contains orange calcite and is partially iron stained. Pyrite generally constitutes less than 1% of the rock but locally constitutes up to 5%. Pyrite occurs along fractures or as lenticular masses, up to 0.7 cm in size, with the long axes parallel to laminations.				
		(14.54 - 23.91) Finely laminated black argillite. Microfractures offset many laminations. Highly contorted laminations may be soft sediment deformation structures. Laminations are inclined at 10° to 45° to the core axis with the majority of inclinations being in the range 30° to 45° to the core axis. Many gritty, tan bands, less than 0.2 cm thick, are present. Such bands commonly are highly convoluted. Quartz veins are common and are up to 15 cm thick. Limonite and cream dolostone commonly exist within the thicker quartz veins. Pyrite constitutes less than 1% of the rock. At one locale, however, a pyrite mass up to 2.0 cm in size exists. Pyrite typically occurs with limonite.				
		(23.91 - 30.47) Grey argillite. The upper contact is gradational. Laminated intervals are few, are poorly developed and are separated by massive black argillite bands up to 20.0 cm thick. The contacts between black argillite and grey argillite are sharp but very irregular. Most laminations are subparallel to the core axis but a few are inclined from 40° to 50° to the core axis. Quartz veins and iron staining are not as common in this subunit as they are in the overlying argillite. Iron staining only occurs at the bottom of the subunit. The majority of pyrite occurs in the gradational upper contact zone. Pyrite crystals up to 0.6 cm in size exist.				
		(30.47 - 31.54) Well laminated grey argillite. Laminations are inclined at 55° to the core axis at the top and gradually become subparallel to the core axis downward. Iron staining is common along fractures but pyrite is rare.				
		(31.54 - 39.93) Finely laminated black argillite with well developed fissility. Laminations commonly are offset by microfractures causing the rock to appear highly folded. Laminations are inclined at 30° to 50° to the core axis. Several massive grey argillite interbeds exist. Pyrite and iron staining are rare.				
		(39.93 - 43.56) Massive orange argillite. A few thin interbeds of black argillite exist and have sharp but irregular contacts with the adjacent orange argillite. A brown, rusty iron alteration exists along a few fracture surfaces. This subunit may be grey argillite that has been iron stained. The orange argillite is, however, much more competent than the grey or black argillite.				
		(43.56 - 45.40) Interbedded grey and black argillite with sharp but irregular contacts. In the upper part, an orange zone of argillite which is subparallel to the core axis cuts through grey and black argillite. Laminations are well developed in the black layers and are inclined at 15° to 25° to the core axis.				
		(45.40 - 45.60) Quartz vein that contains minor amounts of cream dolomite and 5% of an unidentified red mineral that may be an iron oxide.				
		(45.60 - 46.88) Massive grey argillite with small amounts of interbedded black argillite. The black and grey argillite have sharp but very irregular contacts. Only the black argillite contains laminations; these laminations have highly variable inclinations that range between 10° to 35° to the core axis. Quartz veins are narrow and are parallel to the laminations.				
		(46.88 - 47.27) Finely laminated black argillite. The laminations are inclined at 40° to 50° to the core axis. The laminations are convoluted adjacent to a quartz vein. The quartz vein contains abundant cream dolostone and an orange iron oxide mineral.				
		(47.27 - 47.43) Massive orange argillite; similar to (39.93 - 43.56) m. Minor amounts of pyrite crystals up to 0.1 cm in size.				
		(47.43 - 47.58) Quartz vein.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH			
		(47.58 - 48.47) Massive grey argillite interbedded with finely laminated black argillite. In the upper part the laminations within the black argillite are inclined at 20° to the core axis, whereas downward the laminations are inclined at 5° to 10° to the core axis. Minor pyrite exists within the black layers.							
		(48.47 - 48.54) Quartz vein that contains cream dolomite and small amounts of an orange iron oxide mineral.							
		(48.54 - 49.33) Massive grey argillite with thin interbeds of black argillite. The contacts between grey and black argillite are irregular and exhibit a wide range of inclinations relative to the core axis. Minor amounts of iron staining occur at the bottom of the subunit.							
		(49.33 - 49.58) Quartz vein that contains minor amounts of an unidentified, brown, iron oxide mineral.							
		(49.58 - 49.95) Grey argillite with a few thin interbeds of black argillite. Two sets of lamination inclinations are present: 10° and 35° to 40° to the core axis.							
		(49.95 - 50.40) Quartz vein that contains abundant orange, iron-stained dolostone and a brown iron oxide mineral which is up to 1.5 cm in size.							
		(50.40 - 50.60) Black argillite. Grades downward to massive orange argillite similar to that at (39.93 - 43.56) m. Laminations within the black argillite are inclined at 10° to the core axis.							
50.60		END OF HOLE							

DIAMOND DRILL HOLE LOG

CLIENT ECHO BAY MINES LTD.

PROPERTY RED LEDGE 2 MINERAL CLAIM

TRIGG, WOOLLETT CONSULTING LTD.

LOCATION 38+55S, 15+35W
SECTION
LATITUDE
DEPARTURE
ELEVATION (Collar) 1,943 m
CORE BQ
LOGGED BY M. Keegler

HOLE NO. 81MR-4
AZIMUTH 057°
DIP -45°
LENGTH 99.37 m
PURPOSE *
STARTED July 24, 1981
COMPLETED July 25, 1981

DIP TESTS

Metres TEST	FROM	TO	TOTAL	DIP CORR	DIP CUM	LATITUDE CUM	DEPARTURE CUM
1	99.37			52°			

METRES FROM	TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		STORAGE: Stark Creek				
0.0	0.68	Down-hole distance from drill shack floor to collar at ground surface.				
0.68	7.01	Overburden				
7.01	9.44	BW Casing				
		DUTCH CREEK FORMATION				
9.44	99.37	Black argillite (lithologic unit 5a)				

Massive to well laminated black argillite. The inclination of the lamination is highly variable and, at times, resembles soft sediment deformation features. Some zones have a greenish tint due to greater chlorite content.

(9.44 - 27.98) Highly broken core. Rock is a finely laminated black argillite. The laminations in the upper part are subparallel to the core axis.

Laminations are inclined, relative to the core axis, as follows:

18.76 m	39°	26.85 m	24°	28.38 m	40°
19.36 m	43°	27.32 m	40°	29.05 m	39°
26.20 m	42°	27.93 m	40°	29.35 m	34°

(22.25 - 22.28) Very graphitic; fault gouge.

(26.25 - 26.32) Fault gouge.

(27.98 - 44.96) Laminations are inclined, relative to the core axis, as follows:

37.38 m	35°	44.01 m	48°
40.62 m	34°	44.72 m	60°
41.63 m	47°		

(44.96 - 45.15) Zone of green chlorite with no well developed laminations and a sharp lower contact inclined at 35° to the core axis.

(45.15 - 46.25) Massive black argillite characterized by brown dolomite spots which are less than 0.3 cm in size and constitute up to 1% to 2% of the rock.

(51.75) Laminations are inclined at 60° to the core axis.

(51.82 - 53.24) Abundant quartz veins that contain 5% limonite and minor amounts of orange calcite.

(54.92 - 57.25) Poorly laminated black argillite that contains euhedral pyrite cubes up to 2.0 cm in size. Pyrite constitutes up to 1% of the rock. Laminations at the top of this subunit are inclined at 43° to the core axis; at the middle they are inclined at 44° to the core axis, and at the bottom they are inclined at 52° to the core axis.

(57.25 - 68.89) Quartz veins constitute 10% to 15% of the rock and contain abundant chlorite and calcite. Laminations at the top of this section are oriented at 40° to the core axis; at the middle they are inclined at 60° to the core axis, and at the bottom they are inclined at 25° to the core axis. The laminations adjacent to a few quartz veins are highly contorted. Pyrite occurs as large masses that cut across the laminations or as irregular lenses that are subparallel to the laminations.

(68.89 - 99.37) Well laminated black argillite.

Laminations are inclined, relative to the core axis, as follows:

69.50 m	24°	73.40 m	36°	77.70 m	73°	79.21 m	58°	86.63 m	63°
70.28 m	50°	74.98 m	35°	78.02 m	75°	80.46 m	56°	90.20 m	77°
72.41 m	35°	75.70 m	29°	78.43 m	60°	85.83 m	45°	91.50 m	48°

(78.02) A 1.0 cm thick layer consisting of about 70% small, amorphous masses of pyrite.

(82.20 - 84.82) Laminations are subparallel to the core axis.

(92.74 - 99.37) Laminations are highly convoluted and are subparallel to the core axis.

* To test induced polarization anomaly at depth.

DIP TESTS

Metres TEST	FROM	TO	TOTAL	DIP CORR	LATITUDE CUM	DEPARTURE CUM
1	142.04			40°		

DIAMOND DRILL HOLE LOG

CLIENT . ECHO BAY MINES LTD.....

PROPERTY . BED LEDGE 2 MINERAL CLAIM

TRIGG, WOOLLETT CONSULTING LTD.

LOCATION .38+50S, 12+62W ..... HOLE NO. .81MR-5.....
SECTION .38+50S ..... AZIMUTH .237°.....
LATITUDE ..... DIP .-45°.....
DEPARTURE ..... LENGTH .166.42 M.....
ELEVATION .(Collar) 1,988 ft..... PURPOSE .*.....
CORE .BQ ..... STARTED .July 27, 1981.....
LOGGED BY .M. Keegler..... COMPLETED .July 30, 1981.....

METRES FROM	TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		STORAGE: Stark Creek * To test continuation of 82K81MVH001 at depth.				
0.0	0.68	Down-hole distance from drill shack floor to collar at ground surface.				
0.68	2.44	Overburden				
2.44	3.35	BW Casing				
		MOUNT NELSON FORMATION				
3.35	12.80	Quartzite interbedded with green to red argillite and dolostone (lithologic units 6a,b,c).				
		The beds are commonly parallel, or at a small angle, to the core axis.				
		(3.35 - 6.78) Red quartzite. Nonlaminated green argillite bands up to 2.0 cm thick. Argillite-quartzite contacts are at 15° to the core axis in the upper part of the quartzite, and are inclined at 25° to the core axis in the bottom part. The quartzite is red to pink due to abundant limonite and other iron oxide minerals. Limonite occurs in bands up to 2.0 cm thick or as isolated blebs up to 1.6 cm that commonly are in quartz veins. The quartzite is massive but the argillite and limonite bands give the rock a banded appearance. Pyrolusite is common as sooty coatings on fractures. Radiating masses of bladed calcite crystals exist on some fracture surfaces, particularly those which cut argillite bands. Iron staining along fractures is best developed in the upper part of the subunit. The abundant limonite in this section probably results from oxidized pyrite.				
		(6.78 - 8.08) Red to grey quartzite. Small limonite grains, which are less than 0.2 cm in size, cause the red colour of quartzite bands. The red bands are less than 0.3 cm thick and are subparallel to the core axis. A few orange bands are dolomite.				
		(8.08 - 8.18) Massive grey quartzite with sharp upper and lower contacts that are inclined at 75° to the core axis.				
		(8.18 - 8.82) Green to red argillite interbedded with grey dolostone. The red colour in the argillite is due to small limonite spots which are less than 0.1 cm in size. Bedding is inclined at 75° to the core axis. The dolostone contains 10% to 20% quartz grains that range from 0.25 mm to 0.50 mm in diameter and are oriented parallel to the laminations in argillite.				
		(8.82 - 9.35) Grey dolomite which grades downward to quartzite. This subunit is banded due to red limonite-rich bands and numerous thin layers of green argillite which are less than 0.2 cm thick. The bedding is inclined at 70° to the core axis. Broken core and sand at 9.02 m probably indicate a fault. Limonite is concentrated within the red bands and the bottom of the subunit is red. Dendritic and more pervasive concentrations of pyrolusite occur within the argillite bands.				
		(9.35 - 10.17) Massive grey quartzite interbedded with thinly laminated red or grey dolostone. Limonite is common at quartzite-dolostone contacts and along laminations that are subparallel to the core axis. At the bottom of the subunit the laminations are inclined at 70° to the core axis. Iron staining locally causes the rock to be orange.				
		(10.17 - 10.37) Green argillite interbedded with grey dolostone. Argillite and dolostone bands are subparallel to the core axis. Argillite decreases downward. Red iron oxide minerals are common in bands up to 0.2 cm thick between argillite and dolostone layers. Dendritic pyrolusite is common in argillite bands.				
		(10.37 - 10.67) Massive grey dolostone which, locally, is faint red and is iron stained along fracture surfaces.				
		(10.67 - 12.80) Red to grey slightly dolomitic quartzite. Bedding is parallel to the core axis. Thin layers, less than 0.3 cm thick, of olive-green argillite and orange dolostone are present. A quartz vein contains cream and orange dolostone fragments and sooty pyrolusite along a fracture surface. The subunit grades downward to dolomite.				
12.80	118.89	Dolostone interbedded with argillite (lithologic units 6b,c)				
		The dolostone has a wide range of colours and textures, but is generally cream, grey or orange, very fine grained and massive. The dolostone is brecciated in the upper parts of the subunit. Limonite spots are more common in the dolostone, particularly at the top of the subunit where limonite constitutes up to 40 per cent of the rock. The argillite is generally various shades of green, but, locally, is brown or grey. The argillite occurs in beds up to 1 metre thick or as 0.1 centimetre thick layers within dolostone. The layers of argillite within dolostone cause the dolostone to have a banded appearance. The banding usually is subparallel to the core axis. The argillite commonly is dolomitic and locally contains large amounts of limonite and pyrolusite. Minor amounts of galena occur locally in quartz veins and in argillite.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH	Lead	Zinc
				m	m	m	%	%
		(12.80 - 13.45) White dolostone that grades downward to red dolostone which contains thin, irregular layers of green argillite. An unidentified, amorphous, brown carbonate mineral occurs in bands that are inclined at 65° to 70° to the core axis. The bands are folded at the base of the subunit.						
		(13.52 - 16.64) Grey dolostone interbedded with pale green argillite. The dolostone is massive and the interbeds of argillite generally are less than 0.1 cm thick. Where the beds of argillite are up to several centimetres thick, the rock is schistose and contains spots of limonite up to 0.1 cm in size. Limonite and an unidentified, red iron oxide mineral locally constitute up to 50% of the rock; however, the average limonite and iron oxide content of the argillite is 7%. Contacts between argillite and dolostone are inclined at 30° to the core axis. Fractures which exist within the dolostone are inclined at 65° at the top of the subunit and are inclined at 30° to the core axis at the bottom. Minor limonite and dendritic pyrolusite exist along fractures. At one locale, a quartz vein containing an unidentified, brown, earthy mineral, is present.	81MR5-AGM001	14.71	14.81	0.10	0.01	0.01
		(16.64 - 16.78) Quartz vein that contains fragments of cream dolostone and orange calcite crystals. A small mass, 0.5 cm in size, of galena exists in an orange calcite crystal.						
		(16.78 - 17.97) Pale green argillite interbedded with grey dolostone. Argillite predominates over dolostone at the top and decreases to minor amounts at the bottom. The argillite layers usually are less than 0.1 cm thick and are inclined at 10° to 20° to the core axis. At the top of this subunit, an abundant, prismatic, red iron oxide mineral imparts a lineation to the rock; this lineation is inclined at 30° to the core axis.						
		(17.97 - 19.29) Grey dolostone which contains thin layers of green argillite less then 0.1 cm thick. At the top, the argillite layers are subparallel to the core axis; downward the argillite layers are inclined 10° to 20° to the core axis. Argillite is much less abundant downward. In the upper part of the subunit, a quartz vein has a pale green argillite zone, 0.6 mm thick, adjacent to it. Dendritic pyrolusite coats the argillite.						
		(19.29 - 19.43) Grey dolostone. The upper contact is sharp, inclined at 14° to the core axis and is marked by iron staining and an unidentified, red iron oxide mineral. Rounded pyrite crystals, about 0.4 cm in size, constitute 5% to 7% of the rock.						
		(19.43 - 19.51) Orange argillite with a gradational upper contact inclined at 20° to the core axis. There is no well developed schistosity as in the overlying argillite. Pyrite constitutes up to 5% to 7% of the rock and occurs in rounded masses up to 0.4 cm in size. A prismatic, red iron oxide mineral, up to 0.1 cm in length, exists in minor amounts.						
		(19.51 - 19.65) Quartz vein. Contains abundant limonite and cream dolomite crystals. Adjacent to the vein are 2.0 cm thick bands of tan dolostone. The vein is inclined at 26° to the core axis.						
		(19.65 - 23.17) Massive grey dolostone. Brecciated locally with white fragments cemented in a grey matrix. The white, angular fragments are less than 0.7 cm in size. Irregular bands of green argillite exist and are less than 0.2 cm thick. At the bottom of the subunit, orange crystals of calcite, less than 0.3 cm in size, exist in argillite layers. Quartz veins, less than 2.0 cm thick, are common.						
		(23.17 - 24.30) Broken core. Lithology similar to (19.65 - 23.17) m.						
		(24.30 - 24.32) Quartz vein. Contains quartz crystals and white dolomite crystals. Two small blebs of galena less than 0.2 cm in size exist within the quartz.						
		(24.32 - 24.40) Interbedded, massive, tan and cream dolostone.						
		(24.40 - 24.57) *Olive-green argillite with contorted laminations.* Orange calcite constitutes up to 25% of the rock. Iron staining and pyrolusite occur along laminations. Several blades of galena, up to 0.1 cm long by 0.2 cm wide, are present.						
		(24.57 - 26.55) Grey dolostone that contains several layers, up to 0.3 cm thick, of brown argillite which are parallel to the core axis. Quartz veins with limonite are common. Brecciated dolostone consisting of cream dolostone fragments in a grey dolostone matrix exists at the bottom.						
		(26.55 - 26.74) Quartz vein. Contains abundant cream dolostone fragments.						
		(26.74 - 27.41) Grey to red dolomitic argillite. Contains 10% euhedral calcite crystals up to 0.4 cm in size. The upper contact is inclined at 55° to the core axis. No well developed laminations are present. Iron staining imparts a red colour to the rock at the bottom of the subunit.						
		(27.41 - 27.48) Quartz vein. Contains abundant cream dolostone.						
		(27.48 - 29.55) Grey dolostone which is massive to brecciated. Similar to (24.57 - 26.55) m. Contains green argillite layers up to 0.3 cm thick that are inclined at 67° to the core axis.						

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(29.55 - 29.62) Orange dolostone. Contains layers, up to 0.2 cm thick, which are highly contorted.				
		(29.62 - 29.94) Green argillite with a sharp upper contact. The contact and laminations are inclined at 26° to the core axis. Limonite spots, up to 0.3 cm in size, constitute up to 10% of the rock. Minor amounts of pyrite exist with limonite.				
		(29.94 - 30.19) Massive grey dolostone. Limonite spots, up to 0.3 cm in size, constitute up to 40% of the rock. Pyrite cubes, up to 0.3 cm in size, are associated with limonite. Iron staining is well developed at the bottom of the subunit.				
		(30.19 - 33.15) Olive-green argillite. Contains abundant bands of calcite and limonite. The banding is parallel to the core axis. Pyrite occurs as fracture fillings.				
		(33.15 - 34.22) Massive grey dolostone with gradational upper and lower contacts.				
		(34.22 - 35.39) Olive-green argillite with laminations oriented at 74° to the core axis. Contains approximately 1% sphalerite in small bladed crystals up to 0.3 cm in size.				
		(35.39 - 38.23) Massive grey dolostone. Similar to (29.94 - 30.19) m. Contains 1% pyrite crystals which are less than 0.1 cm in size. Several bands of iron staining exist and have gradational boundaries. The iron-stained bands at the top are inclined at 34° to the core axis whereas those at the bottom are inclined at 75° to the core axis.				
		(38.23 - 38.81) Olive-green argillite, similar to (34.22 - 35.39) m, contains a layer, 1.6 cm thick, of grey dolostone, similar to (29.94 - 30.19) m, parallel to the core axis. Limonite exists in the dolostone near contacts.				
		(38.81 - 40.22) Grey dolostone, similar to (29.94 - 30.19) m, with prominent iron-stained zones. The contact of the upper iron-stained zone is inclined at 29° to the core axis; 0.5 m downward a second iron-stained zone is inclined at 55° to the core axis, and, at the base, an iron stained zone is inclined at 70° to the core axis. The high variation in the attitudes of the iron-stained zones indicates that the iron staining is unrelated to bedding.				
		(40.22 - 40.29) Green argillite with wavy laminations subparallel to the core axis. The lower contact is inclined at 78° to the core axis. Pyrite, which exists as cubes up to 0.2 cm in size, constitutes up to 3% of the rock.				
		(40.29 - 45.96) Pale green to grey, slightly dolomitic argillite. The colour grades downward from green to grey. Laminations between (40.29 - 42.22) m change their inclination gradually from 58° to 75° relative to the core axis. Between (42.22 - 43.72) m, the laminations change their inclination gradually from 75° to 65°. In the remainder of the subunit, the laminations are subparallel to the core axis. Thin orange dolostone layers, less than 0.4 cm thick, are numerous at the top of the subunit but become less abundant downward. Euhedral pyrite crystals, less than 0.2 cm in size, commonly are rimmed by limonite and constitute less than 1% of the rock.				
		(45.96 - 50.07) Pale green dolomitic argillite with interbedded dolostone layers, 0.5 cm thick. The rock is laminated. The argillite layers are inclined at 20° to the core axis at the top of the subunit. Limonite and pyrolusite masses are concentrated locally. Orange dolostone is predominant over argillite in a few intervals in the lower part of the subunit. Pyrite is concentrated along fractures.				
		(50.07 - 50.66) Pinkish-red dolostone that has no well defined laminations. A layer, 1.5 cm thick, of green argillite exists parallel to the core axis. Dolostone contains small amounts of limonite and pyrite in masses that generally are less than 0.1 cm in size.				
		(50.66 - 51.46) Orange dolostone. Contains irregular bands, 0.4 cm thick, of grey argillite parallel to the core axis. Argillite content increases downward. Limonite and pyrite cubes, up to 0.2 cm in size, constitute up to 1% of the rock.				
		(51.46 - 52.12) Green argillite. Contains a layer, 0.7 cm thick, of pink dolostone that is parallel to the core axis. A quartz vein at the top of the subunit contains abundant cream dolostone and 10% limonite spots which are up to 0.8 cm in size. Pyrolusite coatings on fractures are common.				
		(52.12 - 56.69) Orange to pink dolostone; very broken. A few green argillite bands, 0.6 cm thick and inclined at 52° to the core axis, exist in the middle of the subunit. Limonite and pyrolusite are abundant as fracture fillings. Pyrite is rare but, when present, exists as cubes less than 0.2 cm in size.				
		(56.69 - 61.94) Brown argillite interbedded with orange dolostone. The argillite is well laminated. Laminations generally are inclined at 25° to 40° to the core axis. Dolostone constitutes less than 25% of the subunit but locally is predominant over argillite. A few limonite-rich bands exist within the argillite.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH	LEAD	ZINC
				m	m	m	%	%
		(61.94 - 62.48) Well laminated brown argillite. Laminations are inclined at 48° to the core axis. A few dolostone layers are present and the amount of dolostone increases slightly downward. Limonite constitutes up to 3% of the rock and occurs as fracture fillings or as spots up to 0.3 cm in size.						
		(62.48 - 63.21) Grey dolostone. Very broken at the top. Abundant thin layers, less than 0.2 cm thick, of green argillite with irregular contacts and variable inclination, cause the rock to appear brecciated, with the argillite comprising the matrix and dolostone the apparent fragments.						
		(63.21 - 63.82) Brown dolomitic argillite. Locally grades rapidly to a deep chocolate-brown due to abundant hematite.						
		(63.82 - 64.80) Massive cream dolostone that contains a few olive-green argillite layers, 0.3 cm thick, which are subparallel to the core axis. Locally, small concentrations of hematite and pyrite occur in crystals up to 0.2 cm in size.						
		(64.80 - 65.29) Massive cream dolostone interbedded with olive-green argillite. The argillite content increases downward. The inclination of the laminations ranges from 28° at the top to 58° at the bottom of the subunit. Pyrite crystals, up to 0.2 cm in size, exist but are rare.						
		(65.29 - 65.67) Grey to black argillite. Contains abundant angular, broken, orange dolostone fragments up to 1.0 cm in size. The argillite is subparallel to the core axis. Pyrite is rare but, where present, exists as small crystals, less than 0.1 cm in size, within the argillite.						
		(65.67 - 68.89) Massive brown to grey dolostone. Contains a few grey argillite layers that are subparallel to the core axis. At the bottom of the subunit the laminations are inclined at 18° to the core axis. Pyrite is rare.						
		(68.89 - 69.59) Well laminated, brown, dolomitic argillite. Inclined at 25° to the core axis.						
		(69.59 - 86.27) Brown to grey dolostone interbedded with minor amounts of brown argillite. The inclination of laminations in the argillite is highly variable. Most dolostone is massive or has laminations subparallel to the core axis. Pyrolusite locally imparts a mottled appearance to dolostone. Iron staining is common along fractures. Limonite locally constitutes about 1% of the rock. Pyrite is rare.						
		(86.27 - 90.83) Broken grey dolostone. Similar to (69.59 - 86.27) m.						
		(90.83 - 91.55) Broken brown dolostone. Iron staining and pyrolusite are common on fracture surfaces. Quartz occurs as void fillings with a few well formed quartz crystals up to 0.5 cm in size.						
		(91.55 - 92.84) Massive, grey to cream, mottled dolostone. A pyrolusite coated fracture is inclined at 26° to the core axis. A few solution cavities exist in this subunit. Quartz veins are rare. A few brown argillite bands, less than 0.5 cm thick, occur at the bottom of the subunit.						
		(92.84 - 96.07) Dark green argillite. Very broken at the top of the subunit. The rock is banded due to red iron oxide minerals and orange calcite which form distinct layers. The bands are inclined at 5° to 28° to the core axis. Voids are common in the iron oxide-rich zones, as are pyrite cubes, up to 0.8 cm in size, which are rimmed by limonite. In the iron oxide-rich layers, iron oxide constitutes up to 75% of the rock, while in the more argillaceous layers, iron oxide constitutes 7% of the rock.						
		(96.07 - 99.34) Massive orange dolostone that has a mottled appearance due to abundant pyrolusite that exists along and near fractures. Solution cavities, which generally are less than 0.7 cm in size, are abundant. A few brown argillite bands, 0.5 cm thick, locally give the rock a laminated appearance. The inclination of the laminations ranges from 0° to 38° relative to the core axis. The dolostone that exists immediately adjacent to argillite layers is brown. Iron staining is common along fractures and in solution cavities. The top part of this subunit is very broken.						
		(99.34 - 106.89) Broken cream dolostone. Similar to (96.07 - 99.34) m. The rock locally has a grey, mottled appearance due to the abundance of dendritic pyrolusite on fracture surfaces. The bottom part of the subunit is tinted orange.						
		(106.89 - 107.01) Red fault gouge consisting of silt sized fragments.	B1MR5-AGM002	106.89	107.01	0.12	<0.01	<0.01
		(107.01 - 110.33) Massive, cream to orange dolostone that contains pale green argillite layers, 0.7 cm thick. The argillite layers are subparallel to the core axis. Minor amounts of red iron oxide minerals are concentrated in the argillite layers. Limonite also is common on fracture surfaces.						
		(110.33 - 110.53) Olive-green argillite with interbedded orange dolostone which is less than 1.0 cm thick. Argillite, in general, predominates over dolostone. Limonite occurs in masses, less than 0.2 cm in size, within the dolostone.						
		(110.53 - 111.26) Cream dolostone that is pitted due to limonite spots, 0.1 cm in size, that constitute 75% of the rock. The dolostone grades downward into a pale green, more argillaceous zone.						

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH			
		(111.26 - 116.13) Orange dolostone interbedded with green argillite. Argillite predominates over dolostone. The contacts are subparallel to the core axis. Limonite locally constitutes up to 90% of some dolostone layers, but averages less than 10%.							
		(116.13 - 116.70) Massive, light- to deep-orange dolostone. The rock grades to a deep orange in the middle of the subunit where limonite constitutes up to 30% of the rock; the average limonite content is less than 10%.							
		(116.70 - 118.89) Orange dolostone interbedded with dark green argillite. Downward the orange dolostone becomes paler and argillite increases in abundance. Limonite is abundant in the upper orange dolostone. The contacts are subparallel to the core axis. Pyrite is rare, and occurs only in the argillite.							
118.89	166.42	Green argillite (lithologic unit 6c)							
		The argillite generally is fine grained, green to, locally, brown or grey, and is well laminated parallel to the core axis. A few thin layers of dolostone exist locally. Limonite is concentrated in a few bands. Pyrite usually is present in minor amounts and occurs as grains less than 0.1 centimetre in size.							
		(118.89 - 119.75) Green to grey argillite. The upper contact contains abundant hematite. The colour grades downward from green to grey. The green colour is caused by an increase in chlorite. A few bands and small masses of pale orange-yellow dolostone occur in the upper part of the subunit. Dark iron staining occurs in the grey argillite due to limonite and pyrite. Laminations are subparallel to the core axis.							
		(119.75 - 119.87) Quartz vein that contains tan argillite fragments and up to 5% hematite.							
		(119.87 - 119.90) Massive tan argillite.							
		(119.90 - 119.95) Green argillite. Laminations are subparallel to the core axis.							
		(119.95 - 121.73) Brown and green argillite. The colour grades downward from brown to green to brown. Laminations are well developed and are inclined from 5° to 20° to the core axis. Pyrite cubes, less than 0.1 cm in size, occur in the green argillite.							
		(121.73 - 123.35) Pale green argillite. Laminations are poorly developed and are subparallel to the core axis. The quartz veins which are present contain abundant argillite. Pyrite occurs as minute grains along laminations.							
		(123.35 - 135.52) Dark green argillite that has a gradational upper contact. Pale orange dolostone that occurs in the upper part of the subunit as irregular bands may be a fracture filling. Laminations are poorly developed and are inclined at 55° to the core axis in the upper part and are subparallel to the core axis at the bottom of the subunit. Limonite spots, less than 0.1 cm in size, exist in the orange dolostone. Cubes of pyrite, up to 0.5 cm in size, exist locally. Limonite and intermixed calcite occur in a small band less than 0.5 cm thick. Quartz veins contain small brownish crystals that may be sphalerite. Pyrite crystals up to 0.4 cm in size exist within the quartz veins.							
		(135.52 - 143.27) Pale green argillite with dark green laminations. The laminations are inclined at 5° to 45° to the core axis and locally are subparallel to the core axis. Minor amounts of prismatic limonite exist oriented parallel to the laminations. Limonite also exists in several quartz veins that occur at the bottom of the subunit. Iron staining is well developed at the bottom of the subunit. Pyrite is rare but, when present, exists as cubes up to 1.0 cm in size. Two bands of limonite which exist at the bottom of the subunit are 2.5 cm thick and contain large voids. The subunit ends in an orange calcite vein that is 5.0 cm thick and is inclined at 44° to the core axis.							
		(143.27 - 146.02) Grey argillite. Contains poorly developed laminations that are inclined from 10° to 20° to the core axis. This subunit is characterized by red iron oxide inclusions that are less than 0.1 cm in size and constitute up to 30% of the rock. Intense iron staining locally gives the rock a red colour. Quartz and orange calcite veins exist locally.							
		(146.02 - 146.53) Greenish argillite. The colour ranges from olive- to dark-green. The rock has no well developed laminations. Small patches, up to 0.3 cm in size, of hematite constitute up to 7% of the rock. Quartz veins which contain orange calcite exist locally.							
		(146.53 - 147.66) Olive-green argillite. Limonite spots up to 0.3 cm in size, constitute up to 25% of the rock and impart a speckled appearance. Quartz and orange calcite veins exist and are inclined at 46° to the core axis. Limonite is concentrated around quartz veins. Pyrite is rare but, where present, occurs as euhedral crystals less than 0.1 cm in size.							

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(147.66 - 149.29) Olive-green argillite. Well developed laminations are inclined at 23° to the core axis. Limonite spots are less abundant than (146.53 - 147.66) m. Iron staining exists along fractures. A prismatic brown mineral that may be dolomite exists parallel to laminations. Pyrite occurs as minute grains and is present in minor amounts.				
		(149.29 - 150.15) Brown to olive-green argillite. Three bands of brown argillite, which have a speckled appearance due to limonite spots 0.2 cm in size, are separated by two well laminated olive-green argillite bands. Laminations at the top are inclined at 58° to the core axis whereas, lower down, the laminations are inclined at 21° to the core axis. The bands are approximately 14.0 cm thick.				
		(150.15 - 152.21) Olive-green argillite. Well laminated with laminations inclined at 15° to 30° to the core axis. A band of brown argillite 0.7 cm thick is subparallel to the core axis. The bottom part of the subunit is speckled due to limonite spots which constitute up to 7% of the rock.				
		(152.21 - 152.68) Massive orange dolostone with a sharp upper contact inclined at 14° to the core axis and a lower contact inclined at 28° to the core axis. Iron staining occurs on fracture surfaces.				
		(152.68 - 153.07) Olive-green argillite with a speckled appearance due to limonite spots that constitute up to 7% of the rock. The spots occur along lamination surfaces which are intensely folded.				
		(153.07 - 153.47) Black argillite. Well laminated parallel to the core axis. The upper contact is inclined at 27° to the core axis. Orange calcite spots up to 0.3 cm in size constitute up to 1% of the rock.				
		(153.47 - 154.24) Well laminated green argillite. Two bands of black argillite, each about 5.0 cm thick, are present. Laminations within the black and green argillite are inclined at 29° to 35° to the core axis.				
		(154.24 - 154.55) Tan fault gouge that contains olive-green argillite fragments.				
		(154.55 - 160.83) Dark green argillite. Well laminated, with most laminations inclined from 19° to 31° but locally up to 69° to the core axis. Orange dolostone bands which are less than 0.3 cm thick exist parallel to the argillite laminations. Minute grains of pyrite exist along laminations and constitute less than 1% of the rock.				
		(160.83 - 161.36) Quartz vein. Highly fractured and containing abundant pyrolusite along fracture surfaces. A large fragment of green argillite within the quartz vein contains abundant limonite.				
		(161.36 - 163.23) Olive-green argillite. Poorly laminated with highly convoluted laminations. Abundant limonite occurs in bands up to 21 cm thick. Iron staining and dendritic pyrolusite coat fracture surfaces.				
		(163.23 - 166.42) Olive-green argillite with highly convoluted laminations subparallel to the core axis. Thin orange dolostone laminations exist locally. Iron staining along fractures is common. Pyrite is rare but occurs locally as minute grains.				
166.42		END OF HOLE				

DRILL CORE ASSAYED

Sample	Metrage	Lead %	Zinc %
81MR5-AGM001	(14.71 - 14.81)	0.01	0.01
81MR5-AGM002	(106.89 - 107.01)	<0.01	<0.01

DIAMOND DRILL HOLE LOG

CLIENT .ECHO BAY MINES LTD.

PROPERTY .MINE MINERAL CLAIM

TRIGG, WOOLLETT CONSULTING LTD.

LOCATION 33+00S, 44+25W
SECTION 33+00S
LATITUDE
DEPARTURE
ELEVATION (Collar) 1,439 m
CORE BQ
LOGGED BY M. Yeegler

HOLE NO. BMR-6
AZIMUTH 232°
DIP -45°
LENGTH 145.09 m
PURPOSE *
STARTED August 1, 1981
COMPLETED August 3, 1981

DIP TESTS

Metres TEST	FROM	TO	TOTAL	DIP CORR	DIP CUM	LATITUDE CUM	DEPARTURE CUM
1	144.78			25°			

METRES FROM	TO	DESCRIPTION
		STORAGE: Stark Creek
		* To test BZK80SHM001 and induced polarization anomaly at depth
0.0	0.73	Down-hole distance from drill shack floor to collar at ground surface.
0.73	2.74	Overburden
2.74	5.50	BW Casing
		DUTCH CREEK FORMATION
5.50	145.09	Argillite (lithologic unit 5a)

Almost the entire section is well laminated, fine grained, black argillite or, less commonly, grey, brown or green argillite. The laminations are at various inclinations to the core axis but commonly are subparallel to the core axis. Sulphide minerals commonly constitute up to several per cent of the rock. Pyrite occurs as grains less than 0.1 centimetre in size along laminations, or as euhedral crystals up to several centimetres in size. Pyrrhotite commonly exists as small disseminated grains along laminations or as lenticular blebs with the long axes parallel to the lamination. Pyrrhotite masses are largest in the noses of small folds.

(6.40 - 6.83) Black to green argillite. The upper part of the subunit contains convoluted laminations but the average inclination is parallel to the core axis. Limonite and hematite are common along fractures imparting an orange colour to the rock. Chlorite zones locally impart a green colour to the rock.

(6.83 - 6.92) Massive red quartzite.

(6.92 - 16.58) Grey argillite. Well laminated.

Laminations are inclined, relative to the core axis, as follows:

7.53 m	76°
8.71 m	66°
10.69 m	71°
11.57 m	63°
13.07 m	64°

The laminations from 13.97 m to 16.58 m are subparallel to the core axis. Quartz veins decrease in abundance downward. Quartz veins commonly contain orange dolomite fragments. Sooty pyrolusite concentrations exist within quartz veins and fractures. Iron staining is common but decreases downward. Chlorite, however, apparently increases downward and imparts a green colour locally. Sulphides constitute from 1% to 2% of the rock. Pyrrhotite is three times more abundant than pyrite. Pyrrhotite occurs as disseminated grains, which are less than 0.1 cm in size, along laminations. Pyrite exists as large irregular blebs, up to 0.7 cm in size, along laminations.

(6.98 - 7.18) Contains up to 45% angular fragments, 0.2 cm in size, of calcite. About 2% of the rock is rounded quartz grains. The calcite and quartz grains are supported in a contact framework by a black argillite matrix.

(16.58 - 18.65) Well laminated black to grey argillite. The laminations are highly disrupted by microfracturing. The laminations are subparallel to the core axis. Several brown gritty layers, less than 0.7 cm thick, are present.

(18.65 - 19.77) Well laminated black argillite. Locally contains bands tinted green by chlorite. A few quartz augen-like structures are present. Sulphides constitute less than 0.5% of the rock. Pyrrhotite is present in minor amounts. Pyrite occurs as rounded masses less than 0.1 cm in size.

Laminations are inclined, relative to the core axis, as follows:

18.75 m	68°
19.07 m	72°
19.77 m	62°

(19.77 - 26.81) Black argillite. Moderately- to highly-contorted due to offsetting by microfracturing. Laminations at 20.87 m are inclined at 50° to the core axis; at 21.87 m the laminations are inclined at 80° to the core axis, and from 22.00 m to 26.81 m the laminations are subparallel to the core axis. Approximately 1% sulphides are present; pyrrhotite and pyrite occur in equal amounts. Pyrrhotite occurs along laminations and as elongated blebs parallel to laminations. In the interval 22.90 m to 22.98 m a quartz vein that contains abundant angular, cream, dolomite fragments up to 0.4 cm in size exists. A similar quartz vein exists from 23.17 m to 23.25 m. From 24.00 m to 24.34 m a quartz vein containing 1% pyrrhotite, black argillite and dolomite exists.

CORE SAMPLES NUMBER	FROM	TO	WIDTH

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(26.81 - 30.44) Grey to green argillite. Similar to (6.92 - 16.58) m. This subunit is folded but has not been extensively microfractured. Laminations are inclined, relative to the core axis, as follows: 27.41 m 55° 27.54 m 60° 28.50 m 38° 28.70 m 25° 28.86 m 43° The laminations between 29.26 m and 30.44 m are inclined at 80° to 90° to the core axis. Pyrrhotite occurs as irregular masses along the lamination, and as concentrations at the noses of small folds. Pyrrhotite constitutes from 1% to 3% of the rock. Pyrite is less abundant and occurs as irregular blebs up to 0.6 cm in size.				
		(30.44 - 43.15) Black argillite. The upper contact is gradational. In the upper part, microfracturing is well developed, particularly at 32.01 m where microfractures inclined at 66° to the core axis displace laminations which are inclined at 86° to the core axis. Small scale folds are common. A set of quartz veins, 0.3 cm thick, cuts across the core at 36.91 m and is inclined at 5° to the core axis. Pyrite and pyrrhotite are rare; when present, pyrite is more abundant than pyrrhotite.				
		(43.15 - 45.35) Grey argillite. Several brown bands, less than 0.3 cm thick, are present. Laminations in the upper part are highly folded but, overall, are subparallel to the core axis. (44.05 - 44.07) Light grey alteration zone. (44.79) Flame structures indicate beds are right side up.				
		(45.35 - 53.65) Black argillite. Alteration zones exist adjacent to quartz veins. Pyrite and pyrrhotite are present in minor amounts. Iron staining exists locally along fractures.				
		(53.65 - 54.34) Grey argillite. This section grades downward from light to dark grey. The laminations are very poorly developed. Pyrrhotite exist in minor amounts and is most abundant at the top of the subunit.				
		(54.34 - 54.65) Black argillite. Similar to (45.35 - 53.65) m. No iron staining.				
		(54.65 - 55.46) Grey argillite occurs due to alteration adjacent to quartz veins. The grey colour becomes much lighter toward the quartz veins. The laminations present are very indistinct. Small spots, less than 0.1 cm in size, of orange calcite occur along some laminations. Up to 3% pyrrhotite exists in large irregular masses subparallel to the laminations. (55.32 - 55.46) Contains two shear zones with thin seams of fault gouge.				
		(55.46 - 72.14) Black argillite. Laminations usually are subparallel to the core axis. Alteration zones are developed adjacent to quartz veins at 56.83 m, 57.08 m, 59.20 m and 62.05 m. Chlorite-rich zones exist at 61.70 m to 61.82 m, 63.46 m to 63.50 m, 63.92 m to 64.19 m, and 64.76 m to 65.30 m. Laminations are not well developed in the chloritic zones. At 59.89 m a 0.3 cm thick quartz vein, parallel to laminations inclined at 70° to the core axis, contains small pyrrhotite grains near the edges of the vein. (66.44 - 67.76) Black argillite. Contains numerous brown bands, up to 3 cm thick, of very fine grained material. The bands are parallel to the core axis. (66.76 - 67.01) Grey argillite with a gradational upper contact. Laminations are poorly developed. A few brown bands exist locally. Pyrrhotite constitutes up to 5% of the rock and occurs as lenticular bodies which are subparallel to the core axis or as irregular bodies along laminations. (68.65 - 68.61) Grey alteration zone adjacent to a narrow quartz vein inclined at 46° to the core axis.				
		(72.14 - 84.18) Green argillite grades downward to grey argillite. The colour change is caused by a decrease in chlorite content downward. The laminations are poorly developed and generally are parallel to the core axis. Pyrite is rare and mainly occurs in the upper part of the subunit. Pyrite constitutes less than 1% of the rock. At 79.65 m a narrow quartz vein inclined at 49° to the core axis has an adjacent alteration zone containing orange calcite veins less than 0.1 cm thick. (82.64 - 82.72) Iron-stained zones along fractures. Minor amounts of pyrolusite also occur along these fractures. (82.76 - 82.78) Iron-stained zones along fractures. Minor amounts of pyrolusite also occur along these fractures.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(83.93 - 84.02) Highly convoluted quartz veins, which generally are less than 0.5 cm thick, contain about 1% pyrrhotite.				
		(84.18 - 84.38) Massive, brown, dolomitic argillite with a gradational upper contact. A few spots of orange calcite, less than 0.1 cm in size, are present.				
		(84.38 - 85.01) Banded, dolomitic argillite. Comprises alternating bands of green and pale yellow to brown bands. The bands are inclined at 80° to the core axis.				
		(85.01 - 85.23) Grey alteration zone adjacent to a narrow quartz vein. Laminations are almost totally obliterated by the alteration. A few poorly defined laminations are parallel to the core axis. The laminations locally are offset by microfracturing. Orange calcite spots, 0.1 cm in size, also exist along fractures.				
		(85.23 - 92.08) Brown argillite grades to grey argillite. Well laminated in the upper part with laminations inclined at 77° to the core axis. Laminations in the remainder of the subunit are subparallel to the core axis. Pyrite occurs in minor amounts as cubic to prismatic crystals. Pyrrhotite constitutes from 1% to 2% of the rock and exists along laminations and particularly in the noses of small folds.				
		(86.24 - 86.47) Alteration zone adjacent to a narrow quartz vein. The alteration is pale green and is probably due to epidote.				
		(92.08 - 102.41) Black argillite grades downward to grey argillite. Contains 1% to 3% sulphides. Pyrrhotite is the predominant sulphide and occurs as small grains along laminations and as concentrations in the noses of small folds. Pyrite occurs mainly as small crystals along laminations and, less commonly, as isolated cubes up to 0.2 cm in size.				
		(102.41 - 104.20) Grey argillite. Laminations are poorly developed and are subparallel to the core axis. Sulphides are rare. Iron staining occurs locally along fractures.				
		(104.20 - 142.04) Black argillite. Laminations are parallel to the core axis. Sulphide minerals constitute up to 1% of the rock, and, locally, are more abundant.				
		(108.26 - 112.25) Sulphides constitute from 3% to 5% of the rock; 60% of the sulphides is pyrrhotite; the remaining 40% is pyrite. Pyrite occurs as rounded masses up to 0.3 cm in size.				
		(117.33 - 118.70) Sulphides constitute from 2% to 3% of the rock. Laminations are gently folded but, overall, are inclined at 54° to the core axis. The sulphides are 70% pyrrhotite and 30% pyrite. Pyrite occurs along the laminations as tiny grains less than 0.1 cm in size.				
		(123.70 - 124.20) Sulphides constitutes 10% of the rock; sulphides consist of 80% pyrite and 20% pyrrhotite.				
		(125.50 - 132.05) Poorly laminated zone. Laminations are inclined at 55° to the core axis. Small pyrite cubes, up to 0.3 cm in size, occur in minor amounts. Pyrrhotite is rare.				
		(134.37 - 134.65) A slightly folded zone that contains 1% pyrite along laminations.				
		(134.65 - 134.77) Grey dolostone, with gradational contacts, contains about 35% quartz grains which are less than 0.1 cm in size. The rock also contains 5% sulphides. The sulphides are pyrite and pyrrhotite and exist in the ratio of about 2:3.				
		(136.54 - 137.21) Small pyrite grains along laminations consitute 1% of the rock.				
		(137.21 - 142.04) Grey argillite with poorly developed laminations parallel to the core axis. The rock contains 1% to 5% orange calcite grains less than 0.1 cm in size. Minor amounts of sulphide minerals are present.				
		(142.04 - 145.09) Well laminated brown argillite, with a few quartz-rich layers less than 0.2 cm thick. Laminations are inclined, relative to the core axis, at 88° near the top and 79° at the bottom of the subunit. A small amount of pyrite occurs along fractures.				
		(144.78 - 144.83) Very micaceous tan-brown argillite layer that contains about 1% pyrite. Pyrite occurs as small grains along laminations.				
		(144.83 - 144.91) Quartz grains up to 0.1 cm in size constitute approximately 5% of the rock.				
145.09		END OF HOLE				
		THIN SECTIONS 81MR6-002 from (85.93 - 86.02) m) See Appendix IX for 81MR6-003 from (110.48 - 110.55) m) petrographic description				

DIP TESTS

Metres TEST	FROM	TO	TOTAL	DIP CORR	DIP CUM	LATITUDE CUM	DEPARTURE CUM
1	56.39			33°			

DIAMOND DRILL HOLE LOG

CLIENT . ECHO BAY MINES LTD.

PROPERTY . MIN2 MINERAL CLAIM

TRIGG, WOOLLETT CONSULTING LTD.

LOCATION .31+00S, 40+50W
SECTION .31+00S
LATITUDE
DEPARTURE
ELEVATION .(Collar) 1,390 m
CORE .BQ
LOGGED BY .B. Yeagley

HOLE NO. .81MB-7
AZIMUTH .237°
DIP .-45°
LENGTH .56.69 m
PURPOSE .*
STARTED .August 5, 1981
COMPLETED .August 5, 1981

METRES FROM	METRES TO	DESCRIPTION
		STORAGE: Stark Creek
0.0	0.65	Down-hole distance from drill shack floor to collar at ground surface.
0.65	1.22	Overburden
1.22	3.04	BW Casing
		DUTCH CREEK FORMATION
3.05	38.33	Grey to black argillite (lithologic unit 5a)

Predominantly black laminations with local grey laminations or bands. The grey bands commonly are tinted green by chlorite. The laminations and bands have a wide range of inclinations relative to the core axis. In some intervals, a lenticular grey mineral, up to 0.2 cm in size, is present. These masses of grey mineral often contain laminations that are rotated relative to the laminations that exist in the surrounding argillite. Iron staining is common along fractures. Pyrite is common but generally is present only in minor amounts. In some zones, however, pyrite constitutes up to 5 per cent of the rock. Pyrite occurs as small, lenticular or prismatic masses which rarely exceed 0.5 centimetre in size inclined parallel with the laminations in the rock. Pyrite cubes are rare. Pyrrhotite generally is associated with pyrite and typically is concentrated in the noses of folds or in quartz veins.

(3.05 - 6.79) Characterized by lenticular masses, up to 0.3 cm in size, of limonite with the long axes of the masses subparallel to the laminations. Limonite-rich quartz veins and limonite-lined cavities are present. Pyrite exists in minor amounts and occurs in irregular-shaped masses which are up to 0.4 cm in size but are more commonly less than 0.2 cm in size. Pyrite also occurs as rims on limonite lenses.

(4.96 - 5.16) Red and grey lenticular masses, up to 0.3 cm in size, of argillite are present. All of the grey lenses and a few of the red lenses are laminated; the inclination of the laminations is at various angles to those that exist in the surrounding rock. The lenticular masses constitute 5% of the rock. The red lenses may simply be iron-stained grey lenses.

(6.79 - 6.91) Characterized by abundant grey lenses similar to (4.96 - 5.16) m. These constitute about 10% of the rock. No red lenses exist.

(9.01 - 9.11) Characterized by irregular blebs, up to 0.4 cm in size, of pyrite which constitute 3% of the rock.

(11.15 - 12.08) Characterized by grey lenses, up to 0.6 cm in size, that constitute 15% to 20% of the rock. The lenses are best developed in areas that are highly folded or microfractured.

(12.92 - 14.29) Light grey argillite. The upper contact is sharp and inclined at 35° to the core axis; the lower contact is gradational. Laminations are well developed and are inclined parallel to the core axis. The subunit contains several thin quartz veins up to 0.6 cm in size; the light grey colour may be due to alteration about these quartz veins. From 1% to 2% pyrite is present as irregular masses less than 0.4 cm in size, and, locally, as larger, rounded black masses which probably are tarnished pyrite. The larger black masses are associated with the quartz veins. Minute black spots of pyrolusite are common.

(13.96 - 14.12) Contains fewer quartz veins and pyrite. Both the upper and lower contacts are sharp. The upper contact is inclined at 58° to the core axis; the lower contact is inclined at 36° to the core axis.

(14.57 - 17.29) Similar to (11.15 - 12.08) m. Abundant lenticular masses.

(17.58 - 17.73) Green to grey chloritic alteration zone adjacent to a thin quartz vein. Pyrite constitutes 2% of the rock and occurs as irregular masses less than 0.4 cm in size. Pyrrhotite exists in minor amounts and reaches a maximum size of 0.6 cm.

(18.01 - 18.56) Characterized by an abundance of grey lenticular bodies. Similar to (11.15 - 12.08) m. Minor amounts of pyrite exist as irregular masses up to 1.0 cm in size.

(18.56 - 18.72) Iron-stained interval.

(19.22) Orange quartz vein, 3 cm thick, that contains minor amounts of limonite and pyrite as masses up to 0.7 cm thick.

* To test a geochemical and an induced polarization anomaly and an east dipping contact between Dutch Creek Formation argillite and dolostone.

CORE SAMPLES NUMBER	FROM	TO	WIDTH

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(19.83 - 19.97) Quartz vein. The vein contains cream dolostone and angular black argillite fragments. Minor amounts of pyrite and a green powdery mineral, which is probably chlorite, are present.				
		(21.66 - 21.77) Green-grey alteration zone exists adjacent to a quartz vein. Both contacts are sharp. The upper contact is inclined at 63° to the core axis and the lower contact is inclined at 60° to the core axis. Laminations within the adjacent black argillite terminate against the alteration zone contacts. About 2% pyrite exists as euhedral cubes less than 0.1 cm in size. Iron staining along fractures is common. Limonite also exists locally on the same fracture surfaces.				
		(22.02 - 22.24) Similar to (21.66 - 21.77) m. The upper contact is gradational; the lower contact is sharp and inclined at 26° to the core axis. An iron-stained quartz vein contains minor amounts of pyrite which occur as irregular masses less than 0.1 cm in size.				
		(23.83 - 24.18) Pale green alteration zone exists adjacent to a quartz vein. The zone contacts are sharp; the upper contact is inclined at 53° to the core axis and the lower contact is inclined at 56° to the core axis. The zone contains no well developed laminations. Minor amounts of iron staining exist in the quartz vein.				
		(25.39 - 25.46) Crushed core that contains fragments of quartz vein and powdered material. The quartz vein contains minor limonite. The interval is probably a fault.				
		(26.24 - 26.53) Light green alteration zone. Quartz veins are present but do not appear to be the cause of the alteration. The upper contact of the zone is sharp and is inclined at 69° to the core axis. The rock laminations are subparallel to the contact. The colour of this subunit is apparently due to epidote rather than chlorite which occurs in other alteration zones.				
		(27.12 - 27.30) Light grey alteration zone. The upper contact is sharp and is inclined at 69° to the core axis; the lower contact is gradational. The laminations are not well defined within this zone.				
		(27.63 - 28.26) Zone of more abundant sulphide. The pyrite content increases to 3% downward in the zone. The grain size of pyrite also increases downward and reaches 0.5 cm in size. The pyrite occurs as irregular masses. Minor amounts of pyrrhotite exist locally in thin bands along the laminations. Pressure shadows around grey lenticular masses are present.				
		(28.26 - 29.26) Light grey argillite. The upper part is poorly laminated. Pyrite constitutes about 1% of the rock and occurs in small irregular masses. Thin quartz veins are common in the bottom part of the subunit.				
		(29.26 - 29.43) Quartz vein. Greenish-grey argillite exists in the quartz. Pyrite constitutes 3% of the rock and is prismatic and better crystallized than the majority of the pyrite which exists in the upper part of the hole. Pyrite is more abundant at the quartz vein-argillite contacts. Pyrrhotite exists in minor amounts and locally constitutes up to 0.1% of the rock. Pyrrhotite exists as small irregular masses, less than 0.3 cm in size, within the quartz.				
		(29.43 - 29.50) Quartz vein. The vein contains greenish-grey argillite fragments. Pyrite constitutes about 3% of the rock and is particularly abundant at the quartz vein-argillite contacts. Pyrite usually exists as prismatic crystals. Pyrrhotite is present and constitutes about 0.1% of the rock. Pyrrhotite occurs as small irregular concentrations, less than 0.3 cm in size, in quartz.				
		(29.84 - 29.92) Pyrite constitutes up to 5% of the rock. Pyrite occurs as thin laminations or as small lenses less than 0.3 cm in size.				
		(30.76 - 31.31) Sulphides are abundant and constitute from 7% to 10% of the rock. Pyrite constitutes 65% of the sulphides present and pyrrhotite constitutes the remaining 35%. Pyrite commonly occurs as bands less than 0.1 cm in size along laminations. Pyrite in the upper part of the subunit also occurs as lenses less than 0.4 cm in size. The average sulphide content of the rock is higher, that is from 1% to 2%, below this subunit compared to the less than 1% sulphide content above the subunit.				
		(32.08 - 32.64) Pyrite occurs along laminations or, rarely, as lenticular masses. Pyrite constitutes from 5% to 7% of the rock. Pyrrhotite is rare.				
		(33.37 - 37.91) Very finely laminated, appearing massive. The contacts are gradational. Laminations are inclined at 76° to the core axis. Iron-stained grey spots occur only at the top and constitute less than 1% of the rock.				
		(33.81 - 34.01) Pyrite exists along laminations in the argillite and, more commonly, as lenses about 0.2 cm in size. Pyrite constitutes 7% of the rock; pyrrhotite constitutes 3% of the rock. Pyrrhotite is commonly more abundant in the noses of small folds. The laminations in argillite are inclined at 60° to the core axis.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	LEAD	ZINC	SILVER	COPPER
				m	m	%	%	g/t	%
				WIDTH m					
		(34.86 - 35.63) Characterized by grey spots that constitute from 7% to 10% of the rock. Laminations are inclined at 50° to the core axis.							
		(35.63 - 35.94) Numerous orange limonite fracture coatings occur with limonite-rich quartz veins. Limonite in the quartz exists as irregular masses.							
		(36.14 - 36.30) Iron staining along fractures is common.							
		(38.17 - 38.33) Laminations are inclined at 82° to the core axis. Characterized by grey spots that constitute 10% of the rock.							
38.33	56.69	Grey to buff dolostone which locally grades to limestone (lithologic units 5b and 5c)							
		The unit generally is poorly laminated and the fabric is massive to brecciated. The limestone beds are commonly coarsely crystalline, with crystals up to 2.0 centimetres in size, and contain prominent solution cavities. Pyrite is common in the upper part of the unit and exists as minute grains that occur along laminations. Galena occurs locally in quartz veins or in poorly laminated, grey dolostone. Pyrrhotite occurs at the bottom of this unit.							
		(38.33 - 38.99) Grey dolostone. The upper contact is gradational with small seams, less than 0.2 cm thick, of black argillite occuring at the top. The argillite contains abundant disseminated pyrite grains less than 0.1 cm in size. No well developed laminations exist. Large rounded masses of white dolostone up to 3.0 cm in size are present and constitute 30% to 45% of the rock. The white dolostone masses commonly contain pyrite and pyrrhotite grains, less than 0.1 cm in size, which constitute 5% to 7% of the rock. The white dolostone masses may be filled cavities.							
		(38.99 - 39.08) Quartz vein.							
		(39.08 - 46.00) Massive grey dolostone. A few poorly developed laminations exist. The laminations consists of brown, gritty dolostone or pyrolusite. Minute quartz grains exist and are subparallel to laminations. Iron staining occurs along some fractures. At 41.97 m a 0.5 cm thick quartz vein is inclined at 43° to the core axis and contains minute euhedral grains of pyrite and one irregular galena grain less than 0.1 cm in size. A breccia zone occurs immediately below the quartz vein, and consists of angular white dolostone fragments up to several centimetres in size in a quartz matrix.							
		(43.97 - 44.08) Quartz vein that contains a blade of galena 1.2 cm long. The galena blade may be a filled fracture.							
		Laminations are inclined, relative to the core axis, as follows: 39.44 m 75° 42.95 m 63° 41.23 m 88° 43.89 m 89° 41.80 m 88° 44.78 m 87° 42.44 m 72° 45.38 m 79°							
		(46.00 - 46.25) White dolostone. Well laminated with laminations inclined at 74° to the core axis. A few euhedral pyrite grains, about 0.1 cm in size, are concentrated along some laminations and constitute about 3% of the rock. Pyrolusite occurs along some fracture surfaces.							
		(46.25 - 46.51) Pyrite masses, up to 0.5 cm in size, constitute 30% of the white dolostone. Minor amounts of limonite are present.							
		(46.51 - 46.77) White dolostone grades to grey dolostone which contains 15% quartz grains that are less than 0.1 cm in size and exist along laminations. At 46.71 m a 0.4 cm long blade of galena is present; the blade may be a filled fracture.							
		(46.77 - 46.93) Grey dolostone grades downward to a zone of brecciated white dolostone that locally contains interstitial grey dolostone and minor amounts of pyrite grains up to 0.2 cm in size.							
		(46.93 - 47.55) Well laminated grey dolostone. The laminations are inclined at 59° to the core axis. Abundant quartz grains, which are less than 0.1 cm in size, exist along laminations. Minute grains of a metallic mineral occur locally in minor amounts along laminations; the mineral may be tarnished galena.							
		(47.43 - 47.51) Quartz vein. Contains 1.5 cm blade of galena and a 1.2 cm mass of a black mineral that is probably sphalerite.	81MR7-AGM006	47.45	48.35	0.11	0.14	2.06	0.01
				0.90					
		(47.55 - 47.95) Grey limestone. Well laminated with laminations inclined at 63° to the core axis. Galena exists in quartz veins. Galena occurs as irregular grains up to 0.7 cm in size. Galena constitutes up to 1% of the rock. Iron staining occurs locally along fractures. Also present are a few elongate white crystals up to 0.4 cm in size along fractures. This white mineral is probably dolomite.							

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM m	TO m	LEAD %	ZINC %	SILVER g/t	COPPER %
					WIDTH m				
		(47.95 - 48.26) White to cream, angular dolostone fragments, up to 1.0 cm in size, in a matrix of grey limestone. At the bottom of the subunit, light green staining occurs. Minor amounts of galena exist in minute grains at the contacts between white dolostone and grey limestone.							
		(48.26 - 48.54) Grey limestone exists adjacent to a cream dolostone lens and a 0.8 cm wide quartz vein. Irregular galena grains, up to 1.2 cm in size, exist at the quartz-dolostone contacts. Minor amounts of minute pyrite grains also exist at the quartz-dolostone contacts. The limestone consists of calcite/aragonite crystals up to 2.0 cm in size.							
		(48.54 - 49.02) Well laminated white dolostone. Contains minute grains of pyrite along laminations. The laminations are parallel to the core axis.							
		(49.02 - 49.25) Iron-stained orange dolostone.							
		(49.25 - 49.63) Well laminated grey dolostone with grey-greenish-brown laminations inclined at 72° to the core axis.							
		(49.63 - 49.83) Iron-stained orange dolostone.							
		(49.83 - 49.89) Well laminated, grey dolomitic argillite. Laminations are inclined at 79° to the core axis. Minute grains of pyrite occur along laminations and constitute 1% of the rock.							
		(49.89 - 50.10) Massive grey dolostone. Laminations consist of minute grains of quartz inclined at 79° to the core axis. A few solution cavities, less than 0.5 cm in size, occur along the laminations.							
		(50.10 - 50.27) Poorly laminated tan dolostone.							
		(50.27 - 50.33) Grey limestone with a sharp, irregular upper contact and a gradational lower contact. A 1.0 cm thick seam of smoky quartz is present.							
		(50.33 - 50.60) Grey dolostone which grades to white dolostone. Well laminated at 77° to the core axis.							
		(50.60 - 51.07) Brown to grey limestone. About 50% of the rock is solution cavities. The cavities are up to 1.5 cm in size, are interconnected and are generally elliptical in shape. The cavities are coated by an unidentified dusty-grey mineral(s). This subunit may be an aquifer.	81MR7-AGM007	50.60	51.12	<0.01	<0.01	<0.69	<0.01
					0.52				
		(51.07 - 56.69) Cream to grey dolostone. Laminations are poorly developed. Minor amounts of minute pyrite grains and solution cavities up to 0.3 cm in size occur along the laminations.							
		(52.00 - 52.12) Porous, yellow-tinted limestone. Similar to (50.60 - 51.07) m.							
		(52.12 - 52.23) Grey dolostone. A large orange-stained porous zone exists near 52.23 m. Minor amounts of pyrrhotite exist in this porous zone.	81MR7-AGM009	52.12	53.12	<0.01	<0.01	<0.69	<0.01
					1.00				
		(52.23 - 52.32) Orange limestone that is 20% solution cavities and, locally, is iron stained.							
		(52.32 - 52.35) Similar to (52.12 - 52.23) m but contains 7% to 10% pyrite and pyrrhotite.							
		(54.21 - 54.49) Grey to brown limestone that is 20% solution cavities. Similar to (50.60 - 51.07) m.							
56.69		END OF HOLE							

DRILL CORE ASSAYED

Sample	Metrage	Lead %	Zinc %	Silver g/t	Copper %
81MR7-AGM006	47.45 - 48.35	0.11	0.14	2.06	<0.01
81MR7-AGM007	50.60 - 51.12	<0.01	<0.01	<0.69	<0.01
81MR7-AGM009	52.12 - 53.12	<0.01	<0.01	<0.69	<0.01

Thin Section 81MR7-001 4.99 - 5.26 ~ See Appendix IX for petrographic description.

DIAMOND DRILL HOLE LOG

CLIENT .ECHO BAY MINES LTD.

PROPERTY .MIN2 MINERAL CLAIM

TRIGG, WOOLLETT CONSULTING LTD.

LOCATION .31+00S, 40+50W
SECTION .31+00S
LATITUDE
DEPARTURE
ELEVATION .(Collar) 1,390 m
CORE .BQ
LOGGED BY .M. Kengler

HOLE NO. 81MR-8
AZIMUTH .237°
DIP .-60°
LENGTH .74.98 m
PURPOSE .*
STARTED .August 6, 1981
COMPLETED .August 7, 1981

DIP TESTS

TEST	Metres FROM	TO	TOTAL	DIP CORR	DIP	LATITUDE CUM	DEPARTURE CUM
1	74.68			-45°			

METRES FROM	TO	DESCRIPTION
		STORAGE: Stark Creek
0.0	0.51	Down-hole distance from drill shack floor to collar at ground surface.
0.51	1.22	Overburden
1.22	2.43	BW Casing
		DUTCH CREEK FORMATION
2.43	46.96	Black to grey argillite (lithologic unit 5a)

Black to grey argillite. Laminated. The rock is dominantly black with minor grey laminations or bands. Locally, however, the rock is predominantly grey with minor black laminations and/or bands. The grey layers are commonly tinted green by chlorite. The laminations and bands have a wide range of inclinations relative to the core axis. In a few intervals, small, lenticular, grey masses, up to 0.2 centimetre in size, occur. These grey masses often contain laminations that are rotated relative to the laminations that exist in the surrounding argillite. Iron staining is commonly developed along fractures. Pyrite is common but is present in minor amounts. In some intervals pyrite is more abundant and constitutes up to 5 per cent of the rock. Pyrite occurs as small, lenticular or prismatic masses which rarely exceed 0.5 centimetre in size, that are parallel to the laminations in the rock. Pyrite occurs rarely as cubes. Pyrrhotite is commonly associated with pyrite, and is usually concentrated in the noses of small folds or in quartz veins.

(3.05 - 3.57) Characterized by abundant limonite spots up to 0.3 cm in size that increase in abundance downward. Minor amounts of iron staining caused by minute grains of limonite exist in the noses of folds at the base of the subunit.

(5.33 - 5.57) Iron-stained interval with minute grains of limonite or hematite concentrated in a few laminations. Small spots, up to 0.3 cm in size, of limonite also are present. Spots of soft brown material that effervesce in dilute hydrochloric acid may contain calcite.

(5.57 - 5.80) Pale green dolomitic argillite. Laminations are accentuated by pyrolusite coatings. Minor amounts of pyrite and pyrrhotite occur within a quartz vein at (5.63 - 5.68) m and at the quartz vein-argillite contacts.

Laminations are inclined, relative to the core axis, as follows:

6.10 m	50°	10.98 m	55°
6.97 m	61°	13.35 m	52°
9.41 m	70°	13.85 m	43°

(7.14 - 7.58) Characterized by limonite spots, up to 0.4 cm in size, that constitute up to 2% of the rock. The abundance of limonite spots increases downward; the size of spots decreases.

(7.58 - 7.84) Core is fractured parallel to the rock laminations. Abundant iron staining exists on fracture surfaces.

(8.20 - 8.80) The top 2.0 cm of the subunit contains 6% limonite spots and iron staining. The remainder of the subunit consists of lenticular grey masses, up to 0.2 cm in size, that constitute 7% of the rock; laminations within the spots are rotated relative to those in the adjacent rock.

(13.37 - 13.49) Alteration zone adjacent to an orange calcite vein. The zone contains euhedral pyrite cubes, 0.2 cm in size, pyrolusite and small pyrrhotite streaks. The zone is light grey and is poorly laminated.

(15.33 - 16.16) Lenticular grey masses, up to 0.2 cm in size, constitute 15% to 20% of the rock, and contain laminations that are rotated relative to those in the adjacent rock. The laminations are inclined at 41° to the core axis. The interval (15.56 - 15.73) m is iron stained and contains a few limonite spots.

(17.50 - 17.65) Alteration zone adjacent to a quartz vein. The zone is orange near the quartz vein and grades to a light grey further away. The upper contact is gradational while the lower contact is sharp. The interval is well laminated and laminations are inclined at 51° to the core axis. Pyrite, which constitutes 3% of the rock, occurs as small, irregular grains less than 0.1 cm in size.

(17.65 - 17.75) Iron-stained interval that contains lenticular grey masses that are rotated similar to (8.20 - 8.80) m. Limonite spots are present.

(18.39 - 18.85) Orange to light grey alteration zone adjacent to a quartz vein. The upper contact is gradational whereas the lower contact is sharp and is inclined at 32° to the core axis. Laminations are poorly developed.

(18.59 - 18.55) Quartz vein. Contains pyrite cubes, up to 0.3 cm in size, and small, irregular pyrite grains. The upper alteration zone is tinted orange and pyrite grains, about 0.1 cm in size, constitute 3% to 5% of the rock. The lower alteration zone is grey and contains minor pyrite and minute black spots of tarnished pyrite.

* To test if mineralization in 81MR-7 continues.

CORE SAMPLES NUMBER	FROM m	TO m	WIDTH	LEAD %	ZINC %	SILVER g/t	COPPER %
81MRB-AGM001	4.99	5.03	0.04	-	<0.01	-	-

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		Laminations are inclined, relative to the core axis, as follows: 20.12 m 49° 21.64 m 45° 23.94 m 51°				
		(20.12 - 20.64) Intensely microfractured zone. Contains about 5% to 7% lenticular grey masses, up to 0.2 cm in size, in which the laminations are rotated relative to those in the surrounding rocks.				
		(20.88 - 21.64) Similar to (20.12 - 20.64) m. Contains rotated grey masses that constitute 10% to 15% of the rock in the top part and 3% to 5% in the bottom part of the subunit.				
		(23.17 - 23.29) Orange-brown alteration zone occurs between two quartz veins. Laminations are inclined at 47° to the core axis. Iron staining and limonite spots up to 0.1 cm in size exist along a fracture. The upper quartz vein contains irregular patches of pyrrhotite up to 1.0 cm in size.				
		(24.53 - 24.69) Grey alteration zone with an orange tint adjacent to two quartz veins. Laminations are poorly developed. Minor pyrite cubes, up to 0.3 cm in size, exist.				
		(27.05 - 27.09) Grey dolostone with sharp contacts inclined at 60° to the core axis. The laminations in the surrounding black argillite are inclined at 55° to the core axis. The dolostone contains poorly developed laminations and, rarely, pyrite.				
		(27.09 - 27.19) Grey alteration zone adjacent to a quartz vein. The alteration zone has an orange tint immediately adjacent to the quartz vein.				
		(27.81 - 27.93) Grey alteration zone occurs between two quartz veins. The upper contact is gradational while the lower contact is sharp and is inclined at 52° to the core axis. The quartz veins contain pyrite lenses and blebs. The quartz veins are partially iron-stained orange.				
		(28.78) Laminations are inclined at 55° to the core axis.				
		(29.66 - 29.98) Green chlorite-rich zone. Laminations are inclined at 48° to the core axis.				
		(30.42 - 31.03) Chlorite-rich zone. The zone has a yellower tint than in (29.66 - 29.98) m. The yellow tint may be due to epidote.				
		(30.78 - 31.03) Black argillite with faint, fine laminations that are inclined at 38° to the core axis.				
		(31.34 - 31.38) Yellow-tinted alteration zone. The zone is softer than the surrounding rock. The contacts are sharp and are inclined at 26° to the core axis. No laminations exist. This subunit may be a zone of epidote alteration.				
		(31.67 - 31.71) Similar to (31.34 - 31.38) m but contains a zone of grey fault gouge, 0.3 cm thick.				
		(32.17) Laminations are inclined at 44° to the core axis.				
		(33.04 - 33.69) Chloritized zone parallel to the core axis. The contacts are sharp. The upper contact is inclined at 41° to the core axis; the lower contact is inclined at 50° to the core axis.				
		(34.60 - 34.82) Green-tinted alteration zone. Contains several quartz veins. Chlorite is typically concentrated at the margins of the quartz veins. Pyrite cubes, up to 0.2 cm in size, constitute 1% of the rock and are more abundant along the bottom contact. The laminations in this section are very poorly developed.				
		(35.75 - 35.82) Green-brown alteration zone adjacent to quartz vein. Laminations are inclined at 64° to the core axis. Pyrrhotite and pyrite occur in small amounts near the upper contact.				
		(36.08 - 36.14) Alteration zone. Similar to (35.75 - 35.82) m. Contains laminations inclined at 46° to the core axis. The upper contact is sharp and is inclined at 48° to the core axis.				
		(36.25) Laminations are inclined at 38° to the core axis.				
		(36.41 - 36.45) Grey alteration zone. Similar to (35.75 - 35.82) m. Adjacent to a quartz vein with gradational contacts. Below this alteration zone the sulphide content of the rocks increases to about 1% of the total rock volume.				
		(37.23 - 37.64) Characterized by numerous quartz veins, up to 0.5 cm thick, that are subparallel and are inclined at 50° to 55° to the core axis. Sulphides constitute 1% of the rock and comprise pyrrhotite and pyrite in equal proportions as lenticular masses along laminations.				
		(37.96 - 38.04) Sulphides constitute 5% to 7% of the rock and comprise pyrite and pyrrhotite in the ratio of 3:2. Pyrite occurs as elongate, irregular crystals or as lenses up to 0.5 cm in size. Pyrrhotite occurs as coatings along laminations or in a quartz vein as irregular masses.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	LEAD	ZINC	SILVER	COPPER
				m	m	%	%	g/t	%
				WIDTH					
				m					
		(41.45) Laminations are inclined at 54° to the core axis.							
		(43.24 - 44.76) Brown-grey alteration zone. Similar to (36.41 - 36.45) m. Laminations are poorly developed and pyrite is rare.							
		(46.00) Laminations are inclined at 42° to the core axis.							
46.96	74.98	Grey to buff dolostone which locally grades to limestone (lithologic units 5b and 5c)							
		The unit generally is poorly laminated and the fabric ranges from massive to brecciated. The limestone beds are commonly coarsely crystalline, with crystals up to 2.0 centimetres in size, and contain prominent solution cavities. Pyrite is common in the upper part of the unit and exists as minute grains along laminations. Galena occurs locally in quartz veins or in poorly laminated grey dolostone. Pyrrhotite exists near the bottom of the unit.							
		(46.96 - 48.80) Light massive grey dolostone with a gradational upper contact. Thin laminations, 0.1 cm thick, of green argillite exist at the top and are inclined at 59° to the core axis. The subunit contains numerous small quartz veins parallel to the laminations.							
		(47.20 - 47.24) Quartz vein. Inclined at 63° to the core axis. Contains a blade of galena 0.2 cm in length.							
		(47.88 - 47.96) Quartz vein. Contains an irregular blade of galena, 0.9 cm in length.							
		(48.51 - 48.80) Grey argillite similar in appearance to adjacent dolostone but which differs from the dolostone in that it does not react with hydrochloric acid. Laminations are inclined at 47° to the core axis.							
		(48.80 - 60.33) Massive grey dolostone. Contains grey-green argillite seams 0.2 cm thick. A few of the argillite seams are coated by minute crystals of pyrite.							
		(52.39) Narrow quartz vein. Contains a light brown sphalerite crystal 0.3 cm in size.							
		(56.76 - 56.88) Grey dolostone breccia with a quartz matrix. Contains abundant pyrolusite.							
		(57.07) Quartz vein. Contains a tiny blade, 0.2 cm in size, of galena.	B1MR8-AGM003	58.08	60.08	0.05	0.02	0.69	<0.01
				2.00					
		(58.23) Thin zone of grey dolostone breccia adjacent to a quartz vein.							
		(59.21) A thin zone comprising numerous tiny quartz grains in grey dolostone. Contains a blade, 0.2 cm in length, of galena and irregular pyrite grains that constitute 1% of the rock.							
		(59.63) Small irregular blade of galena in massive grey dolostone.							
		Laminations are inclined, relative to the core axis, as follows:							
		49.05 m 42° 50.60 m 46° 52.60 m 35° 55.31 m 48° 58.82 m 42° 49.63 m 35° 50.96 m 48° 53.36 m 37° 56.35 m 47° 59.77 m 56° 49.97 m 52° 52.07 m 42° 54.05 m 42° 57.45 m 45°							
		(60.33 - 60.94) Grey to white, mottled limestone. Contains from 30% to 50% round solution cavities which are coated by a grey powder. The zone is porous and permeable, and may be an aquifer.							
		(60.94 - 62.22) Laminated grey limestone. Laminations are inclined at 55° to the core axis and contain a few solution cavities. A few brown, elliptical dolostone fragments exist and are up to 1.5 cm in length. A few calcite-filled cavities are present.							
		(62.22 - 62.38) Grey limestone. Similar to (60.33 - 60.94) m.							
		(62.38 - 62.53) Well laminated white dolostone. Minute grains of pyrite exist along the laminations. The laminations are subparallel to the core axis.							
		(62.53 - 62.86) Massive grey dolostone.							
		(62.86 - 63.77) Grey limestone. Contains 10% solution cavities. Similar to (60.33 - 69.94) m.							
		(63.77 - 66.18) Broken core consisting of laminated dolostone.							
		(64.31) Quartz vein contains a black crystal, 1.2 cm in size, of sphalerite.							
		(66.18 - 66.39) Breccia. Brown, round dolostone fragments up to 3.0 cm in size exist in grey limestone. A few solution cavities, up to 2.5 cm in size, exist and locally constitute 15% to 20% of the rock. A grey powder coats the cavities.							
		(66.39 - 68.47) White to grey dolostone. Laminations comprise minute grains of pyrite in green argillite layers. Laminations are inclined at 54° to the core axis.							
		(68.47 - 68.74) Massive grey dolostone containing dendritic pyrolusite.							

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(68.74 - 70.50) Broken core consisting of of grey limestone. Similar to (66.18 - 66.39) m but with 20% voids.				
		(70.50 - 72.76) Massive dolostone. Contains abundant quartz veins. Calcite commonly exists at the outer margins of the veins. The quartz veins constitute from 20% to 30% of the rock. The subunit contains a 3.0 cm wide pyrite vein.				
		(72.76 - 73.88) Grey limestone with 10% to 20% solution cavities. The abundance of solution cavities decreases downward. Similar to (66.18 - 66.39) m.				
		(73.88 - 74.59) Laminated, brown dolostone. Contains quartz grains which are less than 0.1 cm in size and constitute from 10% to 20% of the rock.				
		(74.59 - 74.74) Grey limestone with 5% to 10% solution cavities.				
		(74.74 - 74.98) Laminated, brown, sandy dolostone. Similar to (73.88 - 74.59) m.				
74.98		END OF HOLE				

DRILL CORE ASSAYED

Sample	Metrage	Lead %	Zinc %	Silver g/t	Copper %
81MR8-AGM001	4.99 - 5.03	-	<0.01	-	-
81MR8-AGM003	58.08 - 60.08	0.05	0.02	0.69	<0.01

Thin Section 81MR8-004 59.04 - See Appendix IX for petrographic description

DIP TESTS

Metres TEST	FROM	TO	TOTAL	DIP CORR	LATITUDE CUM	DEPARTURE CUM
1	39.93			-47°		

DIAMOND DRILL HOLE LOG

CLIENT ECHO BAY MINES LTD.

PROPERTY RED LEDGE 1 MINERAL CLAIM

TRIGG, WOOLLETT CONSULTING LTD.

LOCATION 38+50S, 39+50W
SECTION 38+50S
LATITUDE
DEPARTURE
ELEVATION (Collar) 2,071 m
CORE BQ
LOGGED BY M. Vangier

HOLE NO. BIMR-9
AZIMUTH 055°
DIP -47°
LENGTH 76.81 m
PURPOSE *
STARTED August 14, 1981
COMPLETED August 16, 1981

METRES FROM	TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		STORAGE: Stark Creek * To test 82K81MYM001 and 82K80SHM007 at depth.				
0.0	3.40	Down-hole distance from drill shack floor to collar at ground surface.				
3.40	6.47	BW Casing				
		MOUNT NELSON FORMATION				
6.47	34.63	Quartzite and interbedded argillite (lithologic units 6a and 6c)				
		The unit is highly variable in colour and fabric. Colours include green, brown, red, orange, grey and white. The quartzite contains several interbeds of nonlaminated green argillite. The argillite bands range from 0.1 to 2.5 centimetres thick. The lower contact of the unit is gradational, comprising quartzite interbedded with numerous argillite bands. From the top to the base of the unit, quartzite bands become thinner and less common. The fabric of the rock is fine grained to granular, and massive; the granular beds are highly friable. Limonite is abundant and imparts a red colour to the rock in several intervals. Limonite occurs as spots that are up to 0.8 centimetre in size. Pyrite is not common but, when present, exists as euhedral crystals up to 0.5 centimetre in size. Limonite is probably derived from pyrite by weathering because limonite locally rims pyrite grains.				
		(6.47 - 6.60) Dark green argillite with a platy fabric. Contains olive-green laminations less than 0.2 cm thick inclined at 24° to the core axis. Limonite makes up 3% to 5% of the rock and occurs as elliptical spots 0.3 cm in size.				
		(6.60 - 8.97) White quartzite which, locally, is tinted orange by orange calcite. Numerous green argillite bands occur. Most argillite bands are less than 0.2 cm thick but a few are up to 10.1 cm thick. The bands are inclined at 26° to the core axis. Orange calcite also occurs in argillite bands. The calcite constitutes 2% to 3% of the rock and occurs as crystals less than 0.1 cm in size. The top of the subunit has a brown granular appearance due to limonite spots less than 0.1 cm in size that, locally, constitute 70% to 80% of the rock. Downward, limonite occurs as larger prismatic spots up to 0.7 cm in size that are inclined parallel to the laminations and constitute 5% of the rock.				
		(8.97 - 9.16) Quartz vein.				
		(9.16 - 9.74) Grey quartzite. Contains green argillite layers with laminations inclined at 36° to the core axis. The grey colour of the quartzite is due to abundant pyrolusite which causes the rock to have a mottled appearance. Limonite constitutes 10% to 15% of the rock and occurs as spots up to 0.6 cm in size.				
		(9.74 - 10.12) Massive, green, platy argillite. Contains angular fragments of grey quartzite which are up to 0.4 cm in size. Limonite constitutes 10% to 5% of the rock and occurs at the argillite-quartzite contacts.				
		(10.12 - 10.65) Orange quartzite interbedded with platy, dark green argillite. Argillite is more abundant at the top of the subunit, whereas quartzite predominates at the bottom. Banding is inclined at 30° to the core axis. The upper quartzite contains limonite spots less than 0.1 cm in size which constitute 20% of the rock. Downwards limonite constitutes only 1% of the rock and occurs as spots 0.7 cm in size.				
		(10.65 - 11.01) Massive white quartzite. Contains 7% voids that are up to 0.6 cm in size and are coated by limonite. Orange calcite and green argillite fragments less than 0.4 cm in size exist. Pyrite crystals up to 0.5 cm in size exist locally and are rimmed by argillite.				
		(11.01 - 11.79) Interbedded red and orange quartzite. The red quartzite bands contain up to 80% limonite which occurs as small layers up to 0.2 cm thick.				
		(11.79 - 11.94) Platy, nonlaminated, green argillite. Contains pyrolusite as small spots or as dendrites.				
		(11.94 - 12.22) Massive, white, granular quartzite. Contains a few small calcite crystals. The upper contact consists of 80% limonite as spots which are 0.1 cm in size.				
		(12.22 - 13.71) Massive white quartzite, similar to (11.94 - 12.22) m, interbedded with olive-green argillite bands that are up to 1.3 cm thick but which are generally much thinner. The bands are inclined at 40° to the core axis. The upper 2 cm of argillite is grey due to abundant dendritic pyrolusite. Limonite spots, which range from 0.1 cm to 0.5 cm in size, constitute 2% to 7% of the rock. Granular, orange limonite exists in fractures at the bottom of the subunit.				
		(13.71 - 13.98) Massive, platy, green argillite.				
		(13.98 - 14.02) Quartz vein with numerous limonite-coated voids.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(14.02 - 24.42) Red to orange quartzite interbedded with green argillite. Granular zones of limonite within quartzite are common. Limonite within the upper granular zones constitutes 1% to 2% of the rock but increases rapidly to 20% to 25% of the rock in lower zones. The granular zones are at (14.23 - 14.42) m, (15.42 - 15.49) m, (15.78 - 15.87) m, (16.49 - 16.56) m, (16.80 - 16.83) m, (19.13 - 19.22) m, (19.70 - 19.74) m, (21.95 - 22.26) m, (22.48 - 22.59) m and (23.09 - 23.16) m. Laminations are inclined, relative to the core axis, as follows: 16.05 m 38° 16.72 m 30° 20.11 m 20° (18.28 - 18.67) Platy green argillite is predominant. (24.42 - 25.28) Orange tinted quartzite interbedded with dark green argillite which has bedding inclined at 22° to the core axis. Hematite occurs as prismatic crystals, 0.2 cm in size, that are most abundant at argillite-quartzite contacts or within the quartzite. Limonite is uncommon but near the bottom of the subunit argillite is iron-stained red. Dendritic pyrolusite is common along fractures. Orange calcite crystals less than 0.1 cm in size exist throughout the subunit. (25.28 - 25.47) Quartz vein. Contains orange dolostone and fragments of brown, granular quartzite. (25.47 - 25.73) Orange-tinted quartzite interbedded with green argillite. Banding is inclined at 35° to the core axis. Limonite spots, about 0.1 cm in size, constitute 5% of the quartzite. Orange calcite is abundant in a quartz vein. (25.73 - 25.82) Brown, granular, limonitic quartzite. Limonite constitutes greater than 60% of the rock. (25.82 - 25.99) Quartz vein. Contains small prismatic crystals of hematite that constitute 1% of the rock. (25.99 - 26.13) Brown, granular, limonitic quartzite. Similar to (25.73 - 25.82) m. (26.13 - 26.42) Quartzite interbedded with green argillite. The quartzite is orange where calcite is abundant, or red where hematite is abundant. The banding is inclined at 35° to the core axis. Limonite is rare. (26.42 - 29.19) White quartzite interbedded with green argillite. Banding is inclined at 26° to the core axis. The quartzite commonly contains iron-stained fractures. (29.19 - 34.63) Quartzite interbedded with argillite. Quartzite is brown, orange or white depending on the secondary minerals present. The brown variety is caused by limonite spots which are up to 0.3 cm in size. The upper quartzites are orange due to tiny, poorly formed crystals of orange calcite. Argillite is black or dark green and exists as bands up to 4.0 cm thick. Dark green argillite is more common than black argillite. The bands are inclined, relative to the core axis, as follows: 29.78 m 31° 30.35 m 34° 32.11 m 25° (31.68 - 31.84) White quartzite. Quartz grains are 0.1 cm in size.				
34.63	58.85	Argillite (lithologic unit 6c) The argillite is very fine grained and predominantly green but, locally, is grey-brown or black. The argillite is generally well laminated. The laminations exhibit a wide range of inclinations relative to the core axis and the inclination can change over very short distances. Limonite is common in some argillite bands and occurs as spots which are generally less than 0.2 centimetre in size. (34.63 - 40.20) Green argillite interbedded with thin layers of quartzite which contain abundant orange calcite. Argillite predominates at the base of the subunit. The quartzite layers are up to 0.6 cm thick and occur at regular intervals. The argillite laminations are inclined at 24° to the core axis near the top of the subunit whereas at 37.23 m the laminations are inclined at 22° to the core axis. In several intervals the laminations are inclined parallel to the core axis. Red hematite spots exist within quartzite and argillite along the laminations. Hematite constitutes up to 40% of the rock in a few argillite bands. Pyrite is rare and, when present, exists as grains less than 0.2 cm in size. (37.99 - 38.04) Zone of granular limonite concentration in quartzite. Similar to (25.73 - 25.82) m. (38.49) Brown fault gouge.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(42.20 - 48.72) Dark green argillite. Orange calcite-rich bands exist within the argillite. Laminations are inclined, relative to the core axis, as follows: 42.00 m 33° 46.48 m 31° 43.47 m 22° 46.86 m 10° The laminations are intensely microfractured at several locales. Quartz veins containing abundant limonite are common. Some limonite contains calcite. Pyrite is rare and, when present, is small. (42.82 - 43.10) Massive black argillite adjacent to a quartz vein. (49.59 - 53.64) Laminated, green argillite. Laminations at the top are inclined at 27° to the core axis; at the base the laminations are inclined at 34° to the core axis. Laminations between the top and bottom are parallel to the core axis. The laminations comprise olive green argillite seams, 0.1 cm thick, spaced at intervals of up to 7.0 cm. A few orange dolostone fragments are present. Several bands of white dolostone up to 2.0 cm thick are present. (53.64 - 58.78) Green argillite grades downward to black argillite, then grades back to green argillite. The rocks are well laminated with laminations disrupted and offset by microfractures. Laminations are inclined at 38° to the core axis and microfractures are inclined at 20° to the core axis. Limonite, which has replaced pyrite, exists in spots that increase in size and frequency within the black argillite. The spots are up to 0.2 cm in size and constitute 7% of the rock. (55.81 - 55.94) White calcitic or dolomitic fault gouge. (56.19 - 56.78) Quartz vein. Contains large, cream-white to orange-tinted dolomite crystals up to 2.0 cm in size. (57.60 - 57.91) Similar to (55.81 - 55.94) m. (58.10 - 58.41) Black argillite adjacent to a quartz vein. Laminations are inclined, relative to the core axis, as follows: 55.57 m 24° 57.91 m 32° 56.43 m 55° 58.50 m 37° (58.41 - 58.78) Dark, grey argillite which grades rapidly to light grey. Laminations are inclined at 24° to the core axis. (58.78 - 58.85) Massive black argillite. Contacts are sharp and are inclined at 30° to the core axis. Iron staining occurs along fractures.				
58.85	76.81	Dolostone interbedded with argillite (lithologic units 6b and 6c) Dolostone generally is orange and massive. The orange colour is more intense near fracture surfaces. The dolostone is commonly hard due to the presence of up to 20 per cent quartz grains. Quartz grains are more abundant in the bottom of the subunit. Minor amounts of quartzite exist. (58.85 - 58.96) Orange dolostone which grades downward to brown dolostone. Dark grit or pyrolusite exists at the upper contact. Microfractures are common locally. A few pyrite cubes, 0.1 cm in size, occur in the brown dolostone. (58.96 - 59.04) Black argillite that is well laminated in the top and middle portions of the subunit. Laminations are inclined at 49° to the core axis. Pyrolusite locally is abundant. (59.04 - 59.37) Orange dolostone. Contains a few brown and black laminations that may be filled fractures. The rock is crenulated. The crenulations are inclined at 31° to the core axis. The bottom of the subunit is massive. The lower contact is sharp but very irregular and jagged. (59.37 - 59.80) Grey-green argillite with thin interbeds of orange-tinted, grey dolostone. Laminations are parallel to the core axis. Pyrolusite exists as a sooty coating along fractures. (59.80 - 59.93) Laminated, orange dolostone. Laminations are inclined at 36° to the core axis. Similar to section (59.04 - 59.37) m. (59.93 - 60.31) White quartzite interbedded with platy green argillite. Contacts are gradational. (60.31 - 60.75) Grey quartzite. Contains faint black laminations that are inclined at 32° to the core axis. The upper contact has hematite and limonite concentrated near it. Euhedral pyrite crystals, less than 0.1 cm in size, also occur at the upper contact. (60.75 - 61.10) Tan argillite. Contains chocolate-brown argillite laminations. The laminations are highly contorted. (61.10 - 61.31) Massive orange-tinted quartzite. Contains numerous voids, less than 0.2 cm in size, which occur in bands inclined at 29° to the core axis.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		(61.31 - 61.68) Massive orange dolostone that is extremely hard. The dolostone is probably siliceous.				
		(62.09 - 63.75) White to orange-tinted dolostone. Contains a few very faint laminations which are parallel to the core axis. Dendritic pyrolusite exists along fractures.				
		(62.40 - 62.66) Massive brown argillite layer that divides massive orange dolostone in the upper part from white, siliceous dolostone in the lower portion. The siliceous dolostone contains small quartz grains, up to 0.5 cm in size, that constitute 20% of the rock.				
		(63.28 - 63.61) Dark brown argillite. Contains a band of orange dolostone parallel to the core axis. The argillite predominates and is intensely microfractured. Pyrolusite, pyrite and iron staining are associated with the dolostone-argillite contact.				
		(63.75 - 64.06) Grey argillite grades rapidly to brown argillite. Laminations are inclined at 45° to the core axis. Laminations locally are offset by microfractures. Dendritic pyrolusite is common along fractures.				
		(64.06 - 76.81) Massive orange dolostone. The dolostone is deeper orange adjacent to fractures. The upper contact is gradational. Several beds of dolostone contain quartz grains which are less than 0.1 cm in size. The quartz-rich beds generally are whiter than the orange dolostone.				
		(64.34 - 64.44) Contains 20% quartz grains. The grains are less than 0.05 cm in size and occur in layers inclined at 48° to the core axis.				
		(65.33 - 65.43) Brown argillite. Well laminated and inclined at 38° to the core axis.				
		(66.17 - 66.20) Brown argillite with sharp contacts. Contains a few dolostone layers. Bedding is subparallel to the core axis.				
		(66.40 - 66.78) Brown dolostone grades to orange dolostone. Abundant dendritic pyrolusite exists in brown dolostone.				
		(66.78 - 67.16) Contains 10% quartz grains and small round voids which are less than 0.1 cm in size.				
		(67.16 - 67.85) Dolostone with abundant argillite seams that are inclined at 43° to the core axis. A few zones of dendritic pyrolusite radiate from the argillite seams.				
		(67.85 - 68.17) Brown argillite with green laminations. Bedding is inclined at 49° to the core axis. One orange dolostone band, 1.0 cm thick, is present.				
		(68.17 - 69.04) Grey argillite with green laminations. Bedding is inclined at 53° to the core axis. The upper contact is gradational. The lower part grades rapidly from grey to orange.				
		(69.17 - 69.28) Brown argillite. Well laminated parallel to the core axis.				
		(69.28 - 72.80) Quartz-rich dolostone. Similar to (64.34 - 64.44) m.				
		(70.31 - 70.38) Well laminated brown argillite. Bedding is inclined at 58° to the core axis.				
		(71.53 - 71.63) Massive brown argillite.				
		(72.90 - 74.50) Orange dolostone. Contains bands of argillite that range from 0.1 cm to 2.0 cm thick. The bands are inclined at 42° to the core axis at the top, and are inclined at 38° to the core axis at the bottom of the subunit. In a few intervals banding is subparallel to the core axis.				
		(74.50 - 74.75) Massive, grey, quartz-rich dolostone. Gradational contacts. Similar to (64.34 - 64.44) m.				
		(74.75 - 76.61) Orange dolostone. Containing many seams, 0.1 cm thick, of brown argillite. Bedding is subparallel to the core axis.				
		(76.61 - 76.81) Brown fault gouge.				
76.81		END OF HOLE				

DIAMOND DRILL HOLE LOG

CLIENT . ECHO BAY MINES LTD.

PROPERTY . RED LEDGE 3 MINERAL CLAIM

TRIGG, WOOLLETT CONSULTING LTD.

LOCATION . 38+50S, 19+50W
SECTION . 38+50S
LATITUDE
DEPARTURE
ELEVATION . (Collar) 2,071 m
CORE . NQ
LOGGED BY . M. Yeaglor

HOLE NO. . BJMR-10
AZIMUTH . 031°
DIP . -50°
LENGTH . 53.04 m
PURPOSE . *
STARTED . August 25, 1981
COMPLETED . August 27, 1981

DIP TESTS

Metres TEST	FROM	TO	TOTAL	DIP CORR	DIP CUM	LATITUDE CUM	DEPARTURE CUM

METRES FROM	TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		STORAGE: Stark Creek * To test 82KB1MYM001 and 82KB0SHM007 at depth.				
0.0	3.27	Down-hole distance from drill shack floor to collar at ground surface.				
3.27	6.47	NW Casing				
		MOUNT NELSON FORMATION				
4.32	35.66	Quartzite and interbedded argillite (lithologic units 6a and 6c)				
		The unit is highly variable in colour and fabric. Colours present include green, brown, red, orange, grey and white. The quartzite contains several interbeds of nonlaminated green argillite. The argillite bands range from 0.1 to 25 centimetres thick. The lower contact of the unit is gradational, comprising quartzite interbedded with numerous argillite bands. From the top to the base of the unit quartzite bands become thinner and less abundant. The fabric of the rock is fine grained, to granular and massive; the granular beds are highly friable. Limonite occurs as spots up to 0.8 centimetre in size. Pyrite is uncommon in this unit but, when present, exists as euhedral crystals up to 0.5 centimetre in size. Limonite has formed from the weathering of pyrite because limonite locally rims pyrite grains.				
		(4.32 - 8.45) White quartzite locally tinted orange, interbedded with numerous green argillite bands, some of which are up to 10 cm thick. Orange calcite, which causes the colour of the quartzite, exists within argillite bands. Calcite within the quartzite and argillite constitutes 2% to 3% of the rock and occurs as crystals less than 0.1 cm in size. The quartzite locally has a brown granular appearance caused by spots of limonite, less than 0.1 cm in size that constitute 70% to 80% of the rock. Limonite also occurs as prismatic laths up to 1.0 cm in size that have their long axes parallel to the bedding surfaces and which constitute 5% of the rock. Limonite also rims pyrite cubes.				
		(8.45 - 8.61) Brown, granular quartzite composed of 70% to 80% limonite spots 0.1 cm in size.				
		(15.09 - 15.55) Brown, granular quartzite. Similar to (8.45 - 8.61).				
		(17.55 - 17.81) Quartz vein. Contains abundant limonite.				
		(20.32 - 21.56) Brown, granular quartzite. Similar to (8.45 - 8.61).				
		(22.10 - 23.92) Olive-green limonite predominates in this unit. Dark green laminations are inclined at 20° to 30° to the core axis. Limonite spots up to 0.3 cm in size constitute 5% of the rock.				
		(26.09 - 26.52) Zone of broken core. Probable fault gouge.				
		(27.18 - 27.89) Green argillite band. Contains limonite spots, up to 0.6 cm in size, that constitute 30% of the rock.				
		(27.89 - 29.90) Quartz vein.				
		(32.61) Brown fault gouge within green argillite band.				
		Laminations are inclined, relative to the core axis, as follows:				
		4.32 m 24° 6.53 m 20° 10.16 m 24° 19.50 m 16° 30.05 m 23° 4.52 m 19° 8.41 m 18° 15.89 m 30° 22.25 m 25° 32.92 m 19° 6.16 m 31° 7.93 m 30° 17.04 m 12° 28.83 m 14°				
35.66	53.04	Argillite (lithologic unit 6c)				
		Argillite is very fine grained and predominantly green but, locally, is grey, brown or black. The argillite is generally well laminated. The laminations exhibit a wide range of inclinations relative to the core axis, and change attitude quickly over short distances. Limonite is abundant in some argillite bands and occurs as spots which generally are less than 0.2 centimetre in size.				
		(40.69 - 41.07) Granular quartzite. Similar to (8.45 - 8.61) m.				
		(42.75 - 43.31) Granular quartzite. Similar to (8.45 - 8.61) m.				
		(44.73) Fault gouge.				

METRES FROM	METRES TO	DESCRIPTION	CORE SAMPLES NUMBER	FROM	TO	WIDTH
		Laminations are inclined, relative to the core axis, as follows:				
		35.66 m 31°				
		36.12 m 26°				
		37.18 m 26°				
		40.47 m 15°				
		42.67 m 11°				
		50.60 m 20°				
		51.20 m 30°				
53.04		END OF HOLE				

APPENDIX VIII

CERTIFICATES OF ASSAY

To: TRIGG, WOOLLETT, CONSULTING

REPORT NO. A21-1493

PAGE No. 1

DATE: October 27, 1981

10504 - 103rd Street
Edmonton, Alberta
T5H 2V4

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

CORRECTED REPORT

I hereby certify that the following are the results of assays made by us upon the herein described ORE samples.

MARKED	GOLD		SILVER		Cu	Pb	Zn					
	Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
81 MR5-AGM 001			-		-	0.01	0.01					
002			-		-	L0.01	L0.01					
81 MR7-AGM 006			0.06	2.06	L0.01	0.11	0.14					
007			L0.02	L0.69	L0.01	L0.01	L0.01					
009			L0.02	L0.69	L0.01	L0.01	L0.01					
81 MR8-AGM 003			0.02	0.69	L0.01	0.05	0.02					

Note: L denotes less than

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged.

Registered Assayer, Province of British Columbia

To: [redacted]

REPORT NO. [redacted] A21 - 1654

PAGE No. 1

DATE: October 23, 1981

BONDAR-CLEGG & COMPANY LTD.

10504 - 103 Street
EDMONTON, ALBERTA T5H 2V4

CERTIFICATE OF ASSAY

Samples submitted: October 15, 1981
Results completed: October 23, 1981

PROJECT: 1101

I hereby certify that the following are the results of assays made by us upon the herein described core samples.

MARKED	GOLD		SILVER		Zn							
	Ounces per Ton	Grams per Metric Ton	Ounces per Ton	Grams per Metric Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
81 MR 8 001					<0.01							

NOTE:
Rejects retained three weeks
Pulps retained three months
unless otherwise arranged.

Registered Assayer, Province of British Columbia

APPENDIX IX

PETROGRAPHIC REPORTS ON SPECIMENS FROM DIAMOND DRILL CORE

PETROGRAPHIC REPORT

Examiner M. VAEGLER Date October 29, 1981

Section: no. 81MR6-002 T.S. ☑ P.T.S. ☐ P.S. ☐

location Core from diamond drill hole 81MR-6 at a down-hole depth of 85.93 to 86.02 metres

Specimen: no.

description, field name

Fine grained, laminated, grey argillite containing several dolomite veins cross cutting and parallel to the rock lamination. Thin elongated masses of pyrrhotite are oriented parallel to laminations within the rock.

Microscopic examination

A. Minerals	%	Optical properties	Mode of occurrence, distribution
Quartz Plagioclase	20- 29	- low relief - first order birefringence colours	The quartz occurs as elongated grains in quartz-rich bands that are separated by muscovite-rich bands
Muscovite Sericite	70- 78	- Strong birefringence with upper 2nd order colours - parallel extinction	Muscovite occurs as small laths between quartz grains within quartz-rich bands or in muscovite-rich bands. The muscovite has a preferred orientation parallel to that of the quartz grains.
Carbonate (Dolomite?)	2	- Extreme birefringence - variable relief	Carbonate occurs in veins cross cutting muscovite-and quartz-rich bands and also in veins parallel to muscovite preferred orientation. The carbonate also commonly rims pyrrhotite.
Pyrrhotite	1	Opaque	Pyrrhotite occurs as irregular grains that are elongated parallel to muscovite preferred orientation.
Chlorite	accessory	- anomalous extinction green colour under plane polarized light (PPL)	Chlorite occurs in quartz-rich bands as minute laths parallel to the quartz preferred orientation.

B. Texture

1. Fabric (grain or xl relations, orientation, cementation, porosity, packing)

Quartz and muscovite occur in parallel alternating

fine quartz forms margins. The quartz and muscovite are in a contact

framework.

2. Grain or xl size Quartz 0.21 mm to 0.01 mm, modal value [illegible] mm

Muscovite 0.005 mm to 0.05 mm, modal value 0.03 mm

Carbonate 0.1 mm to 1.3 mm, modal value 0.5 mm

3. Angularity, sphericity

Rock has been recrystallized

4. Maturity

C. Diagenesis

D. Paragenesis

Economic importance; bearing on problem(s) This rock does not correspond to the dolostone on surface at occurrence 82K80SHM001

Rock name Moderately well sorted argillite

PETROGRAPHIC REPORT

Examiner M. VAEGLER Date October 29, 1981

Section: no. 81 MR 6 -003 T.S. ☐ P.T.S. ☑ P.S. ☐

location core from diamond drill hole 81MR6 at a down-hole depth of 110.43 m to 110.55 metres

Specimen: no. same

description, field name Fine-grained, finely laminated grey, argillite. Laminations are gently folded and are cut by irregular masses of pyrrhotite that are elongated parallel to laminations. Pyrite and pyrrhotite constitute 5% of the rock. Pyrite cubes up to 2mm in size and pyrrhotite coat fracture surfaces

Microscopic examination (transmitted and reflected light)

A. Minerals	%	Optical properties	Mode of occurrence, distribution
Muscovite, Sericite and	75	Strong birefringence with upper 2nd order colours, parallel extinction	Similar to 81MR6-002 Minute hematite grains are included within the Muscovite
Quartz	20	- low relief - first order birefringence colours	Similar to 81MR6-002
Pyrrhotite	5	anisotropic · pink tint under reflected light	- irregular crystal groups that form masses elongated parallel to bedding laminations.
Chalcopyrite	minor	- anisotropic - yellow colour under reflected light	rounded isolated masses
Chlorite	minor	anomalous extinction	Chlorite occurs in muscovite-rich kink bands

BIMP 6-003

B. Texture

1. Fabric (grain or xl relations, orientation, cementation, porosity, packing)

2. Grain or xl size Microvik less than 0.05mm Pyrrhotite 0.05 to 1.4mm
Quartz 0.02 mm to 0.12 mm, modal value 0.05 mm modal value .57 mm
Chlorite less than .3 mm Chalcopyrite 0.05 to 0.07 mm

3. Angularity, sphericity

4. Maturity

C. Diagenesis

D. Paragenesis

Economic importance; bearing on problem(s) The rock contains a minor amount of chalcopyrite

Rock name Argillite

PETROGRAPHIC REPORT

Examiner M. VAEGLER Date October 29, 1981

Section: no. 81MRB-004 T.S. ☐ P.T.S. ☑ P.S. ☐

location Core from diamond drill hole 81MR-B at a down-hole depth of (59.04')

Specimen: no. Same

description, field name Grey dolostone containing small pyrite cubes and minute galena grains and a black amorphous mineral which may represent Sphalerite

Microscopic examination (transmitted and reflected light)

A. Minerals	%	Optical properties	Mode of occurrence, distribution
Carbonate (Dolostone?)	85	Extreme birefringence variable relief	The carbonate occurs as subhedral crystals in veins or as the matrix.
Plagioclase	10	low birefringence parallel extinction	The plagioclase occurs as small laths or as plumose masses within veins
Quartz	4	low birefringence colours, low relief	Quartz occurs in veins or as angular grains of high sphericity.
Pyrite	1		
Galena	minor	white under reflected light	Galena occurs as small cubes or rounded blebs
Sphalerite?	minor	grey under reflected light	

MRB-004

B. Texture

1. Fabric (grain or xl relations, orientation, cementation, porosity, packing)

Euhedral carbonate grains and interstitial sulfate laths with weakly developed preferred orientation

2. Grain or xl size Carbonate 0.3 mm to 0.0052 mm, modal value 0.041 mm
Plagioclase 0.062 mm to 0.0205 mm, modal value 0.05 mm
Quartz 0.02 mm
Galena 0.02 mm
Sphalerite 0.03 mm

3. Angularity, sphericity

4. Maturity

C. Diagenesis

D. Paragenesis

Economic importance; bearing on problem(s) This rock contains minor amounts of galena and possibly sphalerite.

Rock name Dolostone

PETROGRAPHIC REPORT

Examiner M. VAEGLER Date October 28, 1981

Section: no. 81MR7-001 T.S. ☑ P.T.S. ☐ P.S. ☐

location Core from diamond drill hole 81MR-7 at a down-hole depth of 4.99 m to 5.26 m

Specimen: no. Same

description, field name Fine grained laminated black to grey, argillite containing disrupted, convoluted laminations. Red to grey pressure-shadows exist around laminated balls of argillaceous material. The balls are rotated relative to the surrounding rock. Several S surfaces have developed; S_0 corresponds to bedding, S_1 represents pressure-solution bands inclined relative to S_0. The pressure-shadows around the argillite balls are parallel to S_1, hematite often coats argillite balls

Microscopic examination

A. Minerals	%	Optical properties	Mode of occurrence, distribution
Quartz and plagioclase	95-15 mean 40	low birefringence colour, low relief	Quartz and plagioclase occur in quartz-rich bands that range from moderatly well sorted to well sorted. Some of the quartz has recrystallized
Muscovite Sericite	2-85% mean 58	Strong birefringence with upper second order colours - parallel extinction	Muscovite occurs in bands that contain up to 20% quartz, or in quartz-rich bands as small laths. Minute hematite is included within all the muscovite.
Carbonate (Dolomite?)	2%	Extreme birefringence with variable relief	The carbonate occurs as rounded or broken fragments with a round core that has a banded appearance caused by grit forming along certain planes. The laminations of grit have been rotated relative to the surrounding rocks laminations. Carbonate in optical continuity with the "core" or, less commonly, quartz grains form pressure-shadows. Muscovite layers are commonly draped around the carbonate, 80% of the carbonate occurs in the above fashion, the remaining 20% occurs in quartz-rich bands as small rhombohedrons
Chlorite	accessory	anomalous extinction	
Hematite	accessory	red colour	

R7-001

B. Texture

1. Fabric (grain or xl relations, orientation, cementation, porosity, packing) Quartz- and muscovi rich bands occur. Quartz-rich bands are often stratified by grain size; abrupt transitions occu between layers of different grain size. The muscovite bands are of secondary metamorphic origin and a inclined to the quartz bands.

2. Grain or xl size

Quartz 0.021 mm to 0.11 mm, modal value, .04mm Carbonate, 0.05 to 2.28 mm, modal value 1.00mm
Muscovite, less than 0.03 mm Grit, less than 0.015 mm

3. Angularity, sphericity Quartz - sub angular to sub rounded with high sphericity.

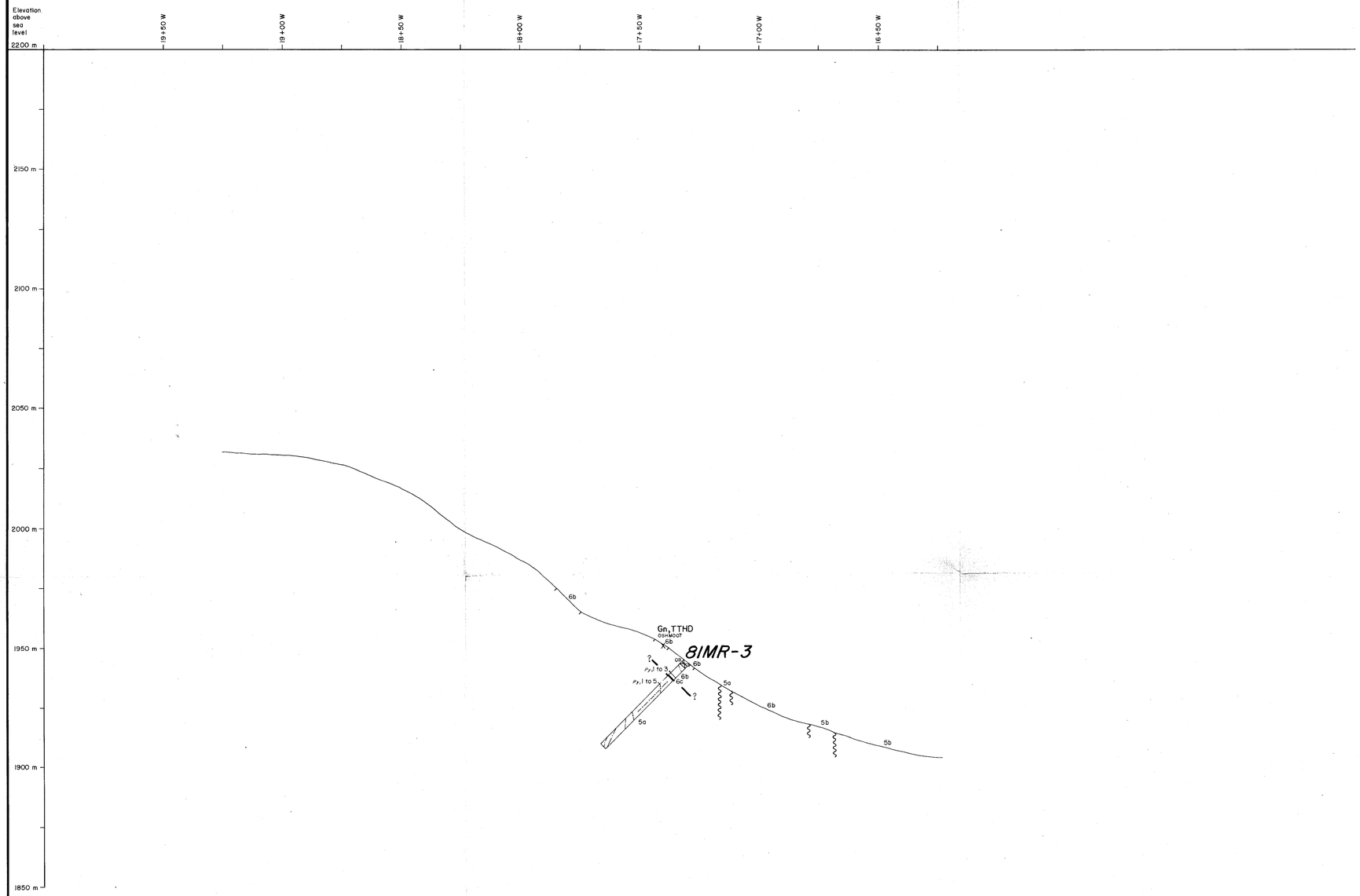
4. Maturity

C. Diagenesis

D. Paragenesis

Economic importance; bearing on problem(s) The rock has undergone low grade metamorphism causing rotation of some gritty layers and formation of calcite pressure-shadows around the rotated grit.

Rock name Moderately- to poorly-sorted silt- to clay-sized argillite.



LEGEND

HELIKIAN

Purcell System

6 — MOUNT NELSON FORMATION: 6a, massive or thin- to thick-bedded, fine- to medium-grained, white and pale green quartzite; 6b, massive to laminated, medium- to thick-bedded, grey dolostone; 6c, green, grey and black argillite and dolomitic argillite.

5 — DUTCH CREEK FORMATION: 5a, thin-bedded, grey, green, black and white argillite, siltstone, fine-grained quartzite and calcareous argillite; 5b, massive to finely laminated, cream dolostone; 5c, light grey, massive, laminated or brecciated limestone.

SYMBOLS

Ground surface: measured by altimeter

Outcrop or area of outcrop

Geological boundary: defined, assumed, gradational

Fault: defined, assumed

8IMR-6 — Diamond drill hole: identifier

OB — Geological boundary in core: OB denotes overburden

Cased interval: no core recovery

Inclination of bedding in core: dot indicates metrage at which measurement was made

Inclination of cleavage in core

Py,2 / Gn,Q — Sulphide occurrence in core: Py denotes pyrite, Prh denotes pyrrhotite, Gn denotes galena, Sp denotes sphalerite, Lm denotes limonite, Q denotes an occurrence within a quartz vein; visual estimate of sulphide content in volume per cent is given if the amount exceeds 1 per cent

8IMR7-AGMOO6 0.11,0.14,2.06,<0.01 — Assayed interval: sample identifier, lead in per cent, zinc in per cent, silver in grams per tonne, copper in per cent; < denotes less than

Gn, TTHD OSHMOO7 X — Mineral occurrence: identifier, prefix 82K8 omitted; Gn denotes galena, TTHD denotes tetrahedrite

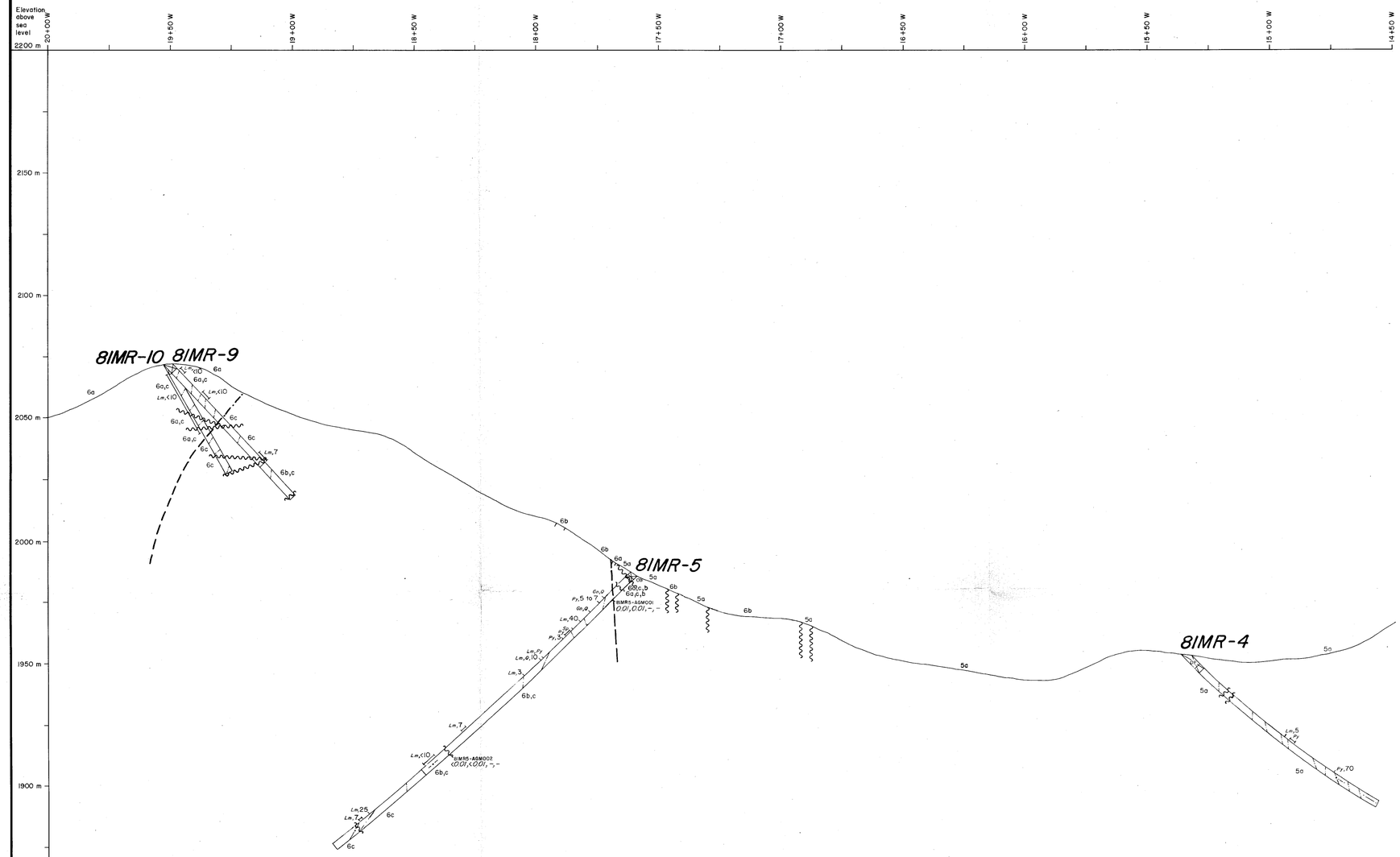
ECHO BAY MINES LTD.

RED LEDGE 2 MINERAL CLAIM

SECTION 38+00 S
(19+25W - 16+25W)

NTS 82K/8W
GOLDEN MINING DIVISION, BRITISH COLUMBIA
10 0 10 20 40
Scale Metres
TRIGG, WOOLLETT CONSULTING LTD.
EDMONTON, ALBERTA NOVEMBER, 1981

DWG. 1101-13



LEGEND

HELIKIAN

Purcell System

6 — MOUNT NELSON FORMATION: 6a, massive or thin- to thick-bedded, fine- to medium-grained, white and pale green quartzite; 6b, massive to laminated, medium- to thick-bedded, grey dolostone; 6c, green, grey and black argillite and dolomitic argillite.

5 — DUTCH CREEK FORMATION: 5a, thin-bedded, grey, green, black and white argillite, siltstone, fine-grained quartzite and calcareous argillite; 5b, massive to finely laminated, cream dolostone; 5c, light grey, massive, laminated or brecciated limestone.

SYMBOLS

- Ground surface: measured by altimeter
- Outcrop or area of outcrop
- Geological boundary: defined, assumed, gradational
- Fault: defined, assumed
- 8IMR-6 — Diamond drill hole: identifier
- OB — Geological boundary in core: OB denotes overburden
- Cased interval: no core recovery
- Inclination of bedding in core: dot indicates metrage at which measurement was made
- Inclination of cleavage in core
- Py,2 / Gn,0.7 — Sulphide occurrence in core: Py denotes pyrite, Prh denotes pyrrhotite, Gn denotes galena, Sp denotes sphalerite, Lm denotes limonite, Q denotes an occurrence within a quartz vein; visual estimate of sulphide content in volume per cent is given if the amount exceeds 1 per cent
- 8IMR7-AGM006 0.11,0.14,2.06,<0.01 — Assayed interval: sample identifier, lead in per cent, zinc in per cent, silver in grams per tonne, copper in per cent; < denotes less than

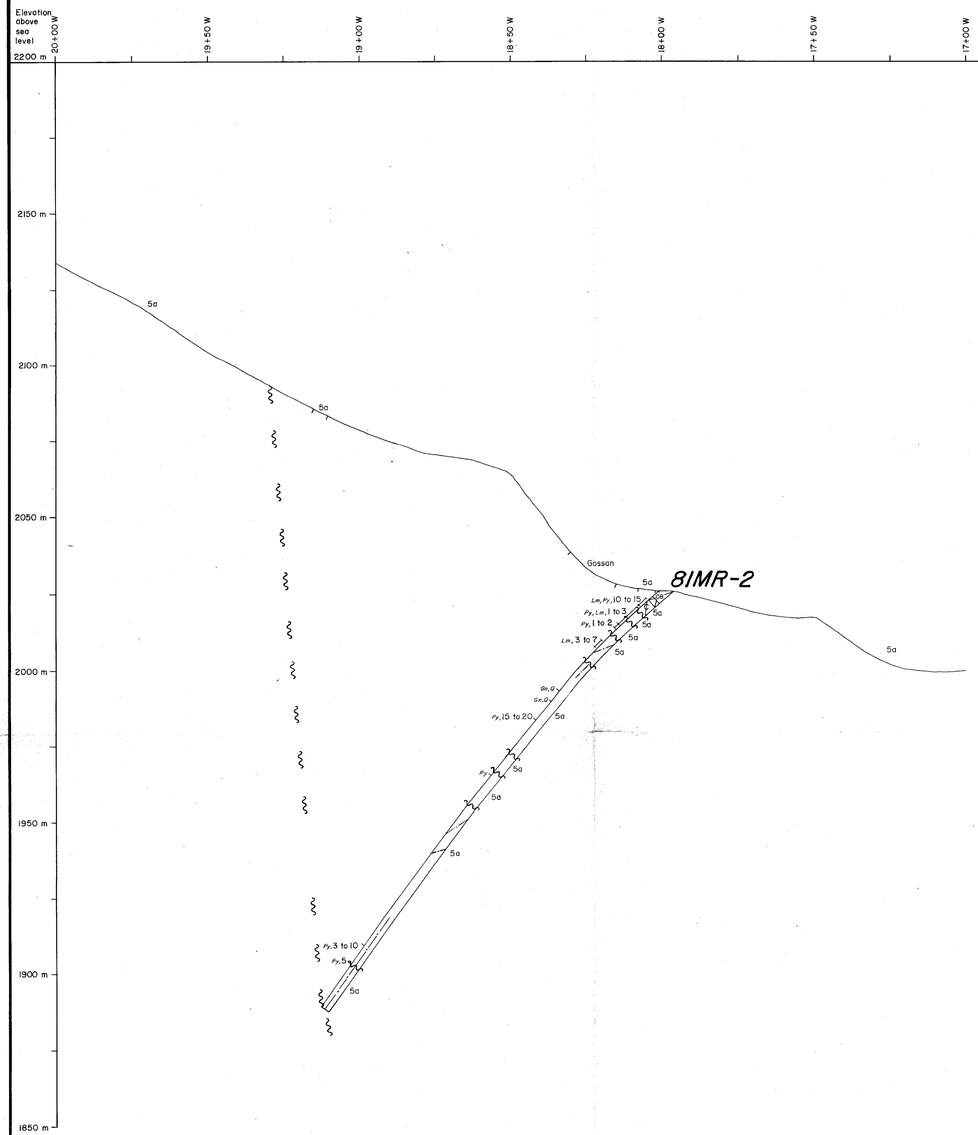
ECHO BAY MINES LTD.

RED LEDGE 1, RED LEDGE 2 MINERAL CLAIMS

SECTION 38+50S (20+00W-14+50W)

NTS 82K/8W
GOLDEN MINING DIVISION, BRITISH COLUMBIA
10 0 10 20 40
Scale Metres
TRIGG, WOOLLETT CONSULTING LTD.
EDMONTON, ALBERTA NOVEMBER, 1981

DWG. 1101-14



LEGEND

HELIKIAN

Purcell System

6 — MOUNT NELSON FORMATION: 6a, massive or thin- to thick-bedded, fine- to medium-grained, white and pale green quartzite; 6b, massive to laminated, medium- to thick-bedded, grey dolostone; 6c, green, grey and black argillite and dolomitic argillite.

5 — DUTCH CREEK FORMATION: 5a, thin-bedded, grey, green, black and white argillite, siltstone, fine-grained quartzite and calcareous argillite; 5b, massive to finely laminated, cream dolostone; 5c, light grey, massive, laminated or brecciated limestone.

SYMBOLS

- Ground surface: measured by altimeter
- Outcrop or area of outcrop
- Geological boundary: defined, assumed, gradational
- Fault: defined, assumed
- 81MR-6 ◇ Diamond drill hole: identifier
- OB — Geological boundary in core: OB denotes overburden
- Cased interval: no core recovery
- Inclination of bedding in core: dot indicates metrage at which measurement was made
- Inclination of cleavage in core
- Py,2 / Gn,Q — Sulphide occurrence in core: Py denotes pyrite, Prh denotes pyrrhotite, Gn denotes galena, Sp denotes sphalerite, Lm denotes limonite, Q denotes an occurrence within a quartz vein; visual estimate of sulphide content in volume per cent is given if the amount exceeds 1 per cent
- 81MR7-A6M006 0.11,0.14,2.06,<0.01 — Assayed interval: sample identifier, lead in per cent, zinc in per cent, silver in grams per tonne, copper in per cent; < denotes less than

Dec 3 1981 — Registered Professional Engineer, British Columbia

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER P 2374
TRIGG, WOOLLETT CONSULTING LTD.

Dec 3, 1981 — Professional Geologist, Province of Alberta

ECHO BAY MINES LTD.

RED LEDGE I MINERAL CLAIM

SECTION 49+00S
(20+00W-17+00W)

NTS 82K/8W
GOLDEN MINING DIVISION, BRITISH COLUMBIA
Scale 10 0 10 20 40 Metres

TRIGG, WOOLLETT CONSULTING LTD.
EDMONTON, ALBERTA — NOVEMBER, 1981

DWG. 1101 - 15

MINI

SMINI

MIN2

RED LEDGE 2

RED LEDGE 1

Creek

Toby

Stark

50°20'

116°24'

5000 (1524)

5500 (1676)

6000 (1829)

6500 (1981)

7000 (2134)

SYMBOLS

GEOPHYSICAL ANOMALIES

INDUCED POLARIZATION (50m dipole spacing unless otherwise noted)

- Definite
- Probable
- Possible

RESISTIVITY

VLF-EM

- Definite : Seattle TX , Cutler TX
- Probable : Seattle TX , Cutler TX
- Possible : Seattle TX , Cutler TX

CENTRE OF ANOMALOUS ZONE IDENTIFIER (A)

50m Survey limits along line, dipole spacing

Note Geophysical anomalies are taken from Cartwright and DiSpirito (1980, 1981)

PHOENIX GEOPHYSICS LIMITED

INDUCED POLARIZATION AND RESISTIVITY SURVEY

PLAN MAP

Grid line identifiers shown

MINI Mineral claim boundary claim name, legal corner post shown

5000 (1524) Topographic contour after 1:50,000 NTS map sheet 82K/8 elevation in feet (metres)

NOTE: TO ACCOMPANY GEOPHYSICAL REPORT FOR TRIGG-WOOLLETT CONSULTING LTD. PROJECT EBI, GOLDEN MINING DIV., B.C. BY PAUL CARTWRIGHT B.Sc., AND FRANK DISPIRITO B.A.Sc., PEng. DATED OCT. 30, 1981.

9829 NO.

part 1 of 2

APPROVED PAC

DATE: Oct 29/81

ECHO BAY MINES LTD.

MINI , MIN2 , SMINI, RED LEDGE 1, RED LEDGE 2

GEOPHYSICAL ANOMALIES

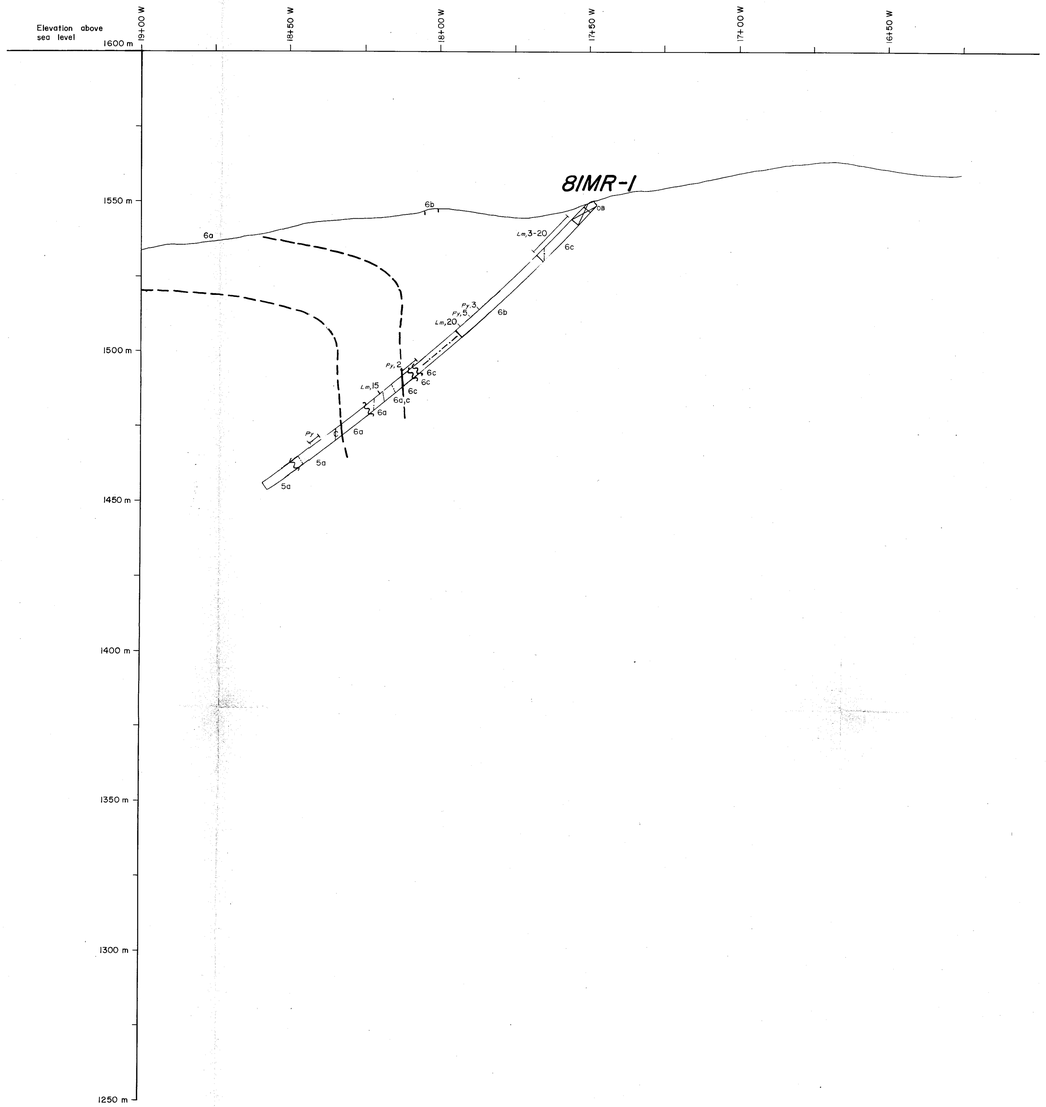
1980 AND 1981

NTS 82K/8W

GOLDEN MINING DIVISION, BRITISH COLUMBIA

SCALE 0 50 100 200 METRES

DWG. 1101 - 9



LEGEND

HELIKIAN

Purcell System

6 — MOUNT NELSON FORMATION: 6a, massive or thin- to thick-bedded, fine- to medium-grained, white and pale green quartzite; 6b, massive to laminated, medium- to thick-bedded, grey dolostone; 6c, green, grey and black argillite and dolomitic argillite.

5 — DUTCH CREEK FORMATION: 5a, thin-bedded, grey, green, black and white argillite, siltstone, fine-grained quartzite and calcareous argillite; 5b, massive to finely laminated, cream dolostone; 5c, light grey, massive, laminated or brecciated limestone.

SYMBOLS

- Ground surface: measured by altimeter
- Outcrop or area of outcrop
- Geological boundary: defined, assumed, gradational
- Fault: defined, assumed
- 81MR-6 — Diamond drill hole: identifier
- OB — Geological boundary in core: OB denotes overburden
- Cased interval: no core recovery
- Inclination of bedding in core: dot indicates metrage at which measurement was made
- Inclination of cleavage in core
- Py,2 / Gn,0.5 — Sulphide occurrence in core: Py denotes pyrite, Prh denotes pyrrhotite, Gn denotes galena, Sp denotes sphalerite, Lm denotes limonite, Q denotes an occurrence within a quartz vein; visual estimate of sulphide content in volume per cent is given if the amount exceeds 1 per cent
- 81MR7-A 6M006 0.11, 0.14, 2.06, <0.01 — Assayed interval: sample identifier, lead in per cent, zinc in per cent, silver in grams per tonne, copper in per cent; < denotes less than

ECHO BAY MINES LTD.

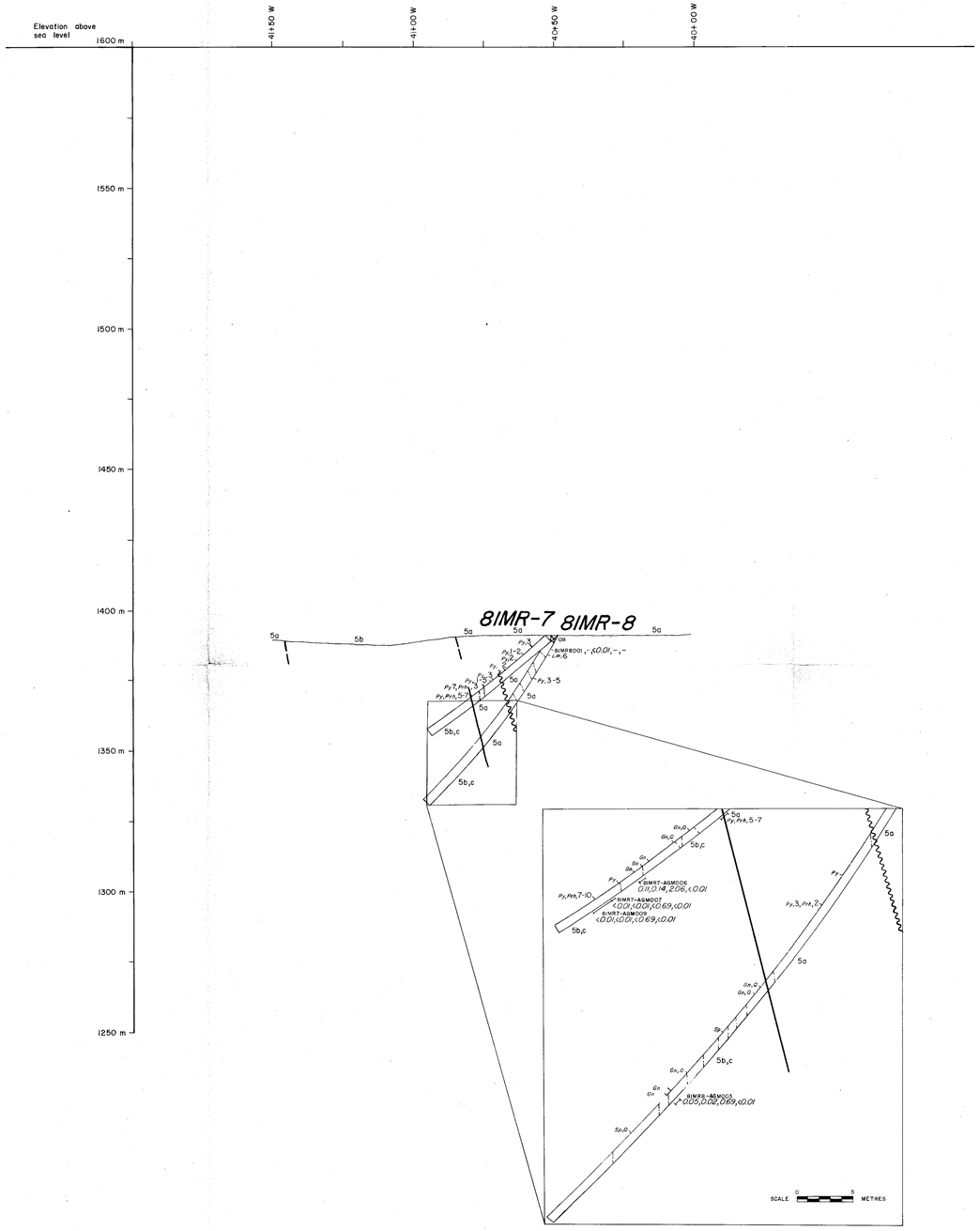
MINI MINERAL CLAIM

SECTION 29+00S
(19+00W - 16+25W)

NTS 82K/8W
GOLDEN MINING DIVISION, BRITISH COLUMBIA
Scale 10 0 10 20 40 Metres

TRIGG, WOOLLETT CONSULTING LTD.
EDMONTON, ALBERTA — NOVEMBER, 1981

DWG. 1101-10



LEGEND

HELIKIAN

Purcell System

6 — MOUNT NELSON FORMATION: 6a, massive or thin- to thick-bedded, fine- to medium-grained, white and pale green quartzite; 6b, massive to laminated, medium- to thick-bedded, grey dolostone; 6c, green, grey and black argillite and dolomitic argillite.

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SYMBOLS

- Ground surface: measured by altimeter
- Outcrop or area of outcrop
- Geological boundary: defined, assumed, gradational
- Fault: defined, assumed
- 8IMR-6 — Diamond drill hole: identifier
- OB — Geological boundary in core: OB denotes overburden
- Cased interval: no core recovery
- Inclination of bedding in core: dot indicates metrage at which measurement was made
- Inclination of cleavage in core
- Py,2 / Gn,Q — Sulphide occurrence in core: Py denotes pyrite, Prh denotes pyrrhotite, Gn denotes galena, Sp denotes sphalerite, Lm denotes limonite, Q denotes an occurrence within a quartz vein; visual estimate of sulphide content in volume per cent is given if the amount exceeds 1 per cent
- 8IMRT-AGMOO6 0.11,0.14, 2.06, <0.01 — Assayed interval: sample identifier, lead in per cent, zinc in per cent, silver in grams per tonne, copper in per cent; < denotes less than

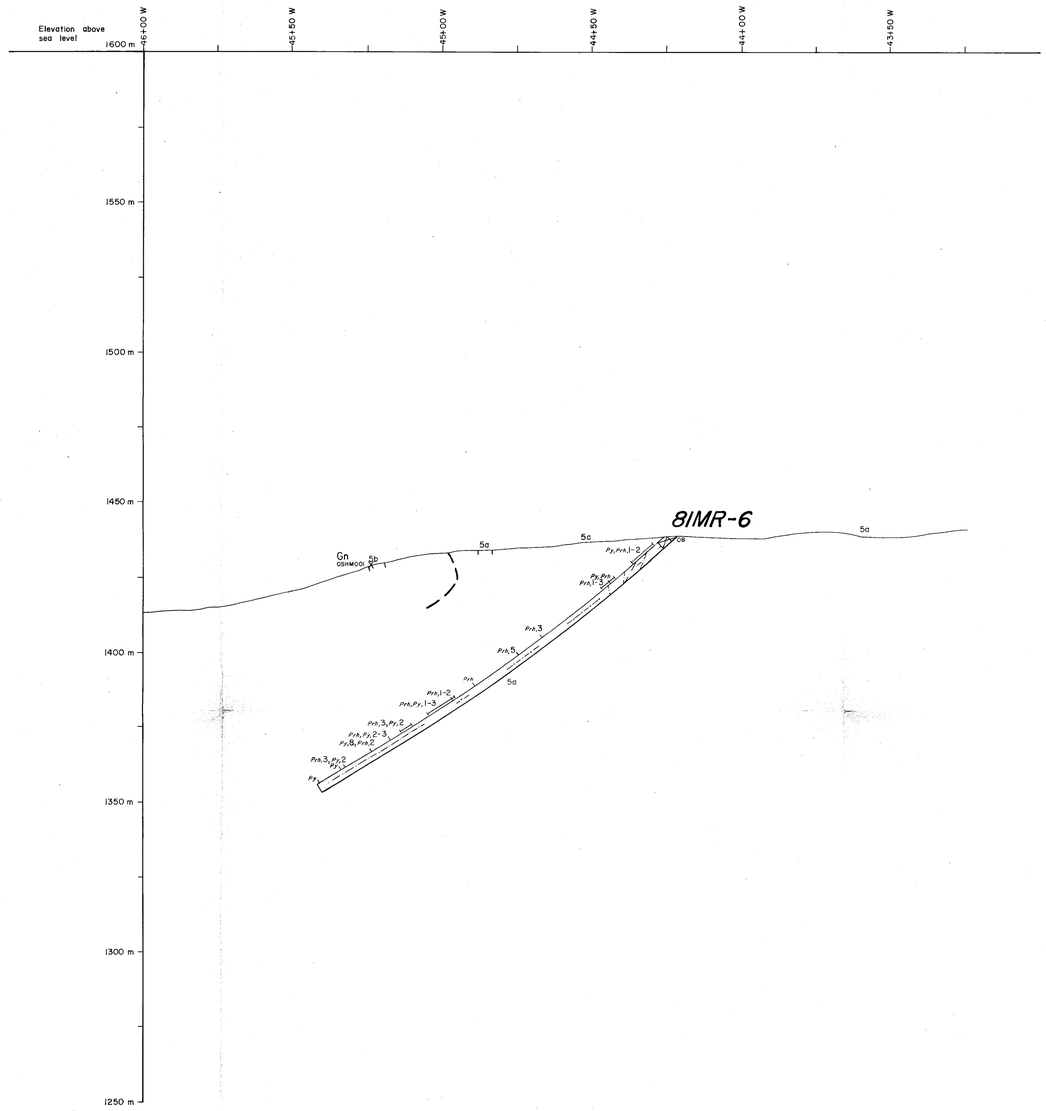
ECHO BAY MINES LTD.

MIN2 MINERAL CLAIM

SECTION 31+00S (41+50W - 40+00W)

NTS 82K/8W
GOLDEN MINING DIVISION, BRITISH COLUMBIA
Scale 10 0 10 20 40 Metres
TRIGG, WOOLLETT CONSULTING LTD.
EDMONTON, ALBERTA NOVEMBER, 1981

DWG. 1101 - 11



LEGEND

HELIKIAN

Purcell System

6 — MOUNT NELSON FORMATION: 6a, massive or thin- to thick-bedded, fine- to medium-grained, white and pale green quartzite; 6b, massive to laminated, medium- to thick-bedded, grey dolostone; 6c, green, grey and black argillite and dolomitic argillite.

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SYMBOLS

- Ground surface: measured by altimeter
- Outcrop or area of outcrop
- Geological boundary: defined, assumed, gradational
- Fault: defined, assumed
- 81MR-6 — Diamond drill hole: identifier
- OB — Geological boundary in core: OB denotes overburden
- Cased interval: no core recovery
- Inclination of bedding in core: dot indicates metrage at which measurement was made
- 6 — Inclination of cleavage in core
- Py,2 Gn,Q — Sulphide occurrence in core: Py denotes pyrite, Prh denotes pyrrhotite, Gn denotes galena, Sp denotes sphalerite, Lm denotes limonite, Q denotes an occurrence within a quartz vein; visual estimate of sulphide content in volume per cent is given if the amount exceeds 1 per cent
- 81MR7-82MD08 0.11,0.14,2.06,<0.01 — Assayed interval: sample identifier, lead in per cent, zinc in per cent, silver in grams per tonne, copper in per cent; < denotes less than
- Gn OSHMOOI X — Mineral occurrence identifier, prefix 82KB omitted; Gn denotes galena

ECHO BAY MINES LTD.

MIN2 MINERAL CLAIM

SECTION 33+00S
(46+00W - 43+25W)

NTS 82K/8W
GOLDEN MINING DIVISION, BRITISH COLUMBIA
Scale 10 0 10 20 40 Metres

TRIGG, WOOLLETT CONSULTING LTD.

EDMONTON, ALBERTA — NOVEMBER, 1981

DWG. 1101 - 12

MINI

MIN2

SMINI

RED LEDGE 2

RED LEDGE 1

SYMBOLS

ICRS088 — Soil sample site identifier (prefix 82KB omitted).
A denotes soil sample collected from A horizon;
C denotes soil sample collected from C horizon;
All other samples are from B horizon
NS denotes no sample

Soil survey lines established by compass and topofil

35+00 S — Grid line identifier

MINI — Mineral claim boundaries (claim name, legal corner post shown)

Topographic contour after Surveys, NTS map sheet 82K & extension of text timelines

PROFESSIONAL GEOLOGIST ALBERTA — Ver. Olson — 1980

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER P 2074
TRIGG, WOOLLETT CONSULTING LTD.

PROFESSIONAL ENGINEERS — Dec 23, 1980

part 1 of 2

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9829

ECHO BAY MINES LTD.

MINI , MIN2 , SMINI, RED LEDGE 1, RED LEDGE 2

SAMPLE LOCATION AND IDENTIFIER

1981

NTS 82K/8W

GOLDEN MINING DIVISION, BRITISH COLUMBIA

SCALE 0 50 100 200 METRES

TRIGG, WOOLLETT CONSULTING LTD.

EDMONTON, ALBERTA — NOVEMBER, 1981

DWG. 1101-7

50°20'

116°24'

MINI

MIN2

SMINI

RED LEDGE 2

RED LEDGE 1

Creek

Toby

Stark

6000 (1829)

5500 (1676)

5000 (1524)

4500 (1372)

6500 (1981)

7000 (2134)

30+00S

35+00S

40+00S

45+00S

50+00S

50+00W

41+00W

74

SYMBOLS

○ ○c Sample site

○ ○c BACKGROUND. Geochemical soil or stream sediment sample in which Pb, Zn, Ag and Cd are less than the following concentrations:

Soil			Stream Sediment		
Pb	50	ppm	Pb	50	ppm
Zn	50	ppm	Zn	100	ppm
Ag	0.5	ppm	Ag	0.5	ppm
Cd	>0.2	ppm	Cd	>0.2	ppm

● ●c POSSIBLY ANOMALOUS. Geochemical soil or stream sediment sample in which two or more of Pb, Zn, Ag and Cd are within the following concentration ranges, or one of these elements is above the following concentrations:

Soil				Stream Sediment			
Pb	50	-	<100 ppm	Pb	50	-	<100 ppm
Zn	50	-	<100 ppm	Zn	100	-	<200 ppm
Ag	0.5	-	<1.0 ppm	Ag	0.5	-	<1.0 ppm
Cd	>0.2	-	<0.5 ppm	Cd	>0.2	-	<0.5 ppm

▣ ▣c PROBABLY ANOMALOUS. Geochemical soil or stream sediment sample in which two or more of Pb, Zn, Ag and Cd are within the following concentration ranges:

Soil				Stream Sediment			
Pb	100	-	<500 ppm	Pb	100	-	<500 ppm
Zn	100	-	<500 ppm	Zn	200	-	<1,000 ppm
Ag	1.0	-	<2.0 ppm	Ag	1.0	-	<2.0 ppm
Cd	0.5	-	<2.0 ppm	Cd	0.5	-	<2.0 ppm

■ ■ ■ ■c ANOMALOUS. Geochemical soil or stream sediment sample in which one or more of Pb, Zn, Ag and Cd are greater than or equal to the following concentrations:

Soil		Stream Sediment	
Pb	500 ppm	Pb	500 ppm
Zn	500 ppm	Zn	1,000 ppm
Ag	2.0 ppm	Ag	2.0 ppm
Cd	2.0 ppm	Cd	2.0 ppm

NOTE: c denotes a stream sediment sample
Pb denotes lead
Zn denotes zinc
Ag denotes silver
Cd denotes cadmium
ppm denotes parts per million
> denotes greater than
< denotes less than
1 denotes a sample collected in 1981

35+00S / 30+00W — Grid line identifiers shown

MINI — Mineral claim boundary : claim name, legal corner post shown

5000 (1524) — Topographic contour after 1:50,000 NTS map sheet 82K/8 : elevation in feet (metres)

PROFESSIONAL GEOLOGIST PROVINCE OF ALBERTA — R. M. OLSON — Dec. 3, 1981

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER P 2374
TRIGG. WOOLLETT CONSULTING LTD.

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — Dec 3, 1981

Part 1 of 2

ASSESSMENT REPORT 9829

ECHO BAY MINES LTD.

MINI, MIN2, SMINI, RED LEDGE 1, RED LEDGE 2

LEAD, ZINC, SILVER AND CADMIUM IN SOIL AND STREAM SEDIMENT

1980 AND 1981
NTS 82K/8W

GOLDEN MINING DIVISION, BRITISH COLUMBIA

SCALE 0 50 100 200 METRES

TRIGG, WOOLLETT CONSULTING LTD.

EDMONTON, ALBERTA — NOVEMBER, 1981

DWG. 1101-8

50°20'

118°24'

MINI

MIN2

SMINI

RED LEDGE 2

RED LEDGE 1

Toby Creek

Stark Creek

8IMR-1, -45

8IMR-2, -45

8IMR-3, -45

8IMR-4, -45

8IMR-5, -45

8IMR-6, -45

8IMR-7, -45

8IMR-8, -60

8IMR-9, -45

8IMR-10, -45

6000 (1829)

5800 (1676)

5000 (1524)

4600 (1372)

6500 (1981)

5500 (1676)

5000 (1524)

7000 (2134)

7500 (2287)

LEGEND

PROTEROZOIC

HADRYNIAN

Windermere System

8 — MOUNTAINEER CREEK GROUP: quartz pebble conglomerate, grit, argillite and minor dolomitic limestone

HELIKIAN

Purcell System

6 — MOUNT NELSON FORMATION: 6a, massive and thin- to thick-bedded, fine- to medium-grained white and pale green quartzite; 6b, massive and laminated, medium- to thick-bedded, buff- to brown-weathering grey dolostone; 6c, green, grey and black argillite, and dolomitic argillite; 6d, grit and quartz pebble conglomerate

5 — DUNDAS CREEK FORMATION: 5a, thin-bedded, grey, green, black and white argillite, siltstone, fine-grained quartzite and calcareous argillite; 5b, massive and finely laminated, buff weathering cream dolostone

Intrusive Rocks

A — Dark green chloritic intrusive rock (diorite?)

SYMBOLS

8IMR-5, -45 — Diamond drill hole: identifier, inclination at collar (in degrees)

Diamond drill pad, established but not used

Outcrop or area of outcrop

Frost heaved rock, float

Geological boundary (defined, approximate, assumed, gradational)

Fault (defined, assumed)

Thrust fault (approximate, assumed): teeth indicate upthrust side

Bedding, tops unknown (inclined, vertical)

Foliation (inclined, vertical, dip unknown)

Elevation (geoline)

Drag fold (arrow indicates plunge)

Minor fold axis (inclined, horizontal)

Joint or fracture (dip unknown)

Mineral occurrence (showing defined, approximate, identified; GLEN deposit, CLCP galena, CPH chalcopyrite, ARSP arsenopyrite, STIB stibnite, BART barite, SPHL sphalerite, TTHD tetrahedrite, TENN tennantite)

NOTE: Prefix 82K8 omitted from identifier; 1981 identifiers are italicized; 1980 identifiers are vertical

Mine (open pit, underground)

Prospect

Claims (or fence)

Road (4-wheel drive road established prior to 1981; 4-wheel drive road established or refurbished in 1981; caterpillar tractor road)

45+00S — Grid established by transit or compass, and chain (line) identified

MINI — Mineral claim boundary: claim name, legal corner post shown

5000 (1524) — Topographic contour after 1:50,000 NTS map sheet 82K/8 - elevation in feet (metres)

PROFESSIONAL GEOLOGIST ALBERTA 9526

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER P 2374
TRIGG, WOOLLETT CONSULTING LTD.

Part 2 of 2

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9829

NOTE: Majority of geology is after Jansen and Olson (1980)

ECHO BAY MINES LTD.

MINI, MIN2, SMINI, RED LEDGE 1, RED LEDGE 2

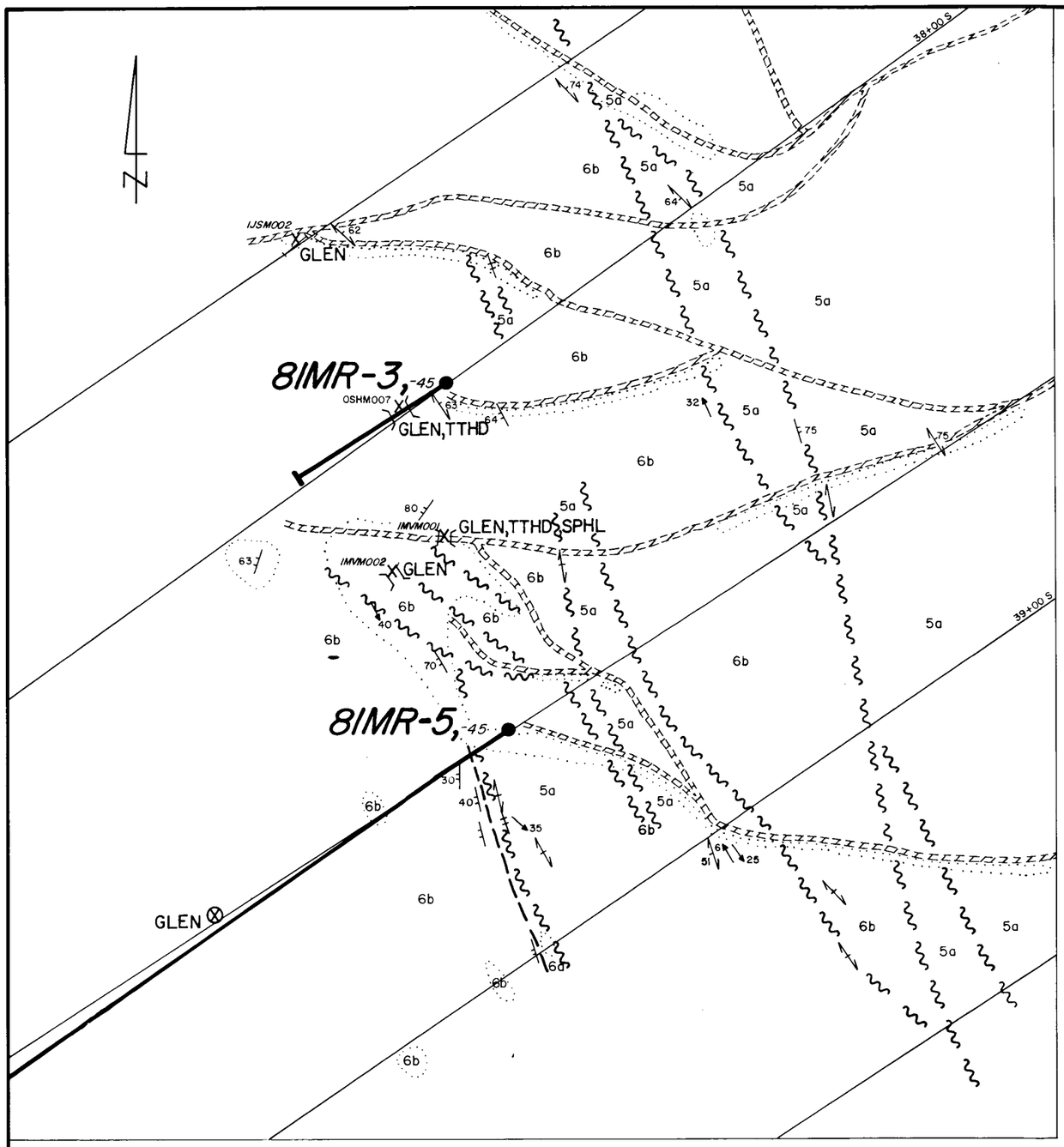
DIAMOND DRILLING, GEOLOGY, MINERAL OCCURRENCES

NTS 82K/8W
GOLDEN MINING DIVISION, BRITISH COLUMBIA

SCALE 0 50 100 200 METRES

TRIGG, WOOLLETT CONSULTING LTD.
EDMONTON, ALBERTA
NOVEMBER, 1981

DWG. 1101-5



LEGEND

HELIKIAN

Purcell System

6 — MOUNT NELSON FORMATION: 6a, massive and thin- to thick-bedded, fine- to medium-grained, white and pale green quartzite; 6b, massive and laminated, medium- to thick-bedded, buff- to brown-weathering, grey dolostone

5 — DUTCH CREEK FORMATION: 5a, thin-bedded, grey, green, black and white argillite, siltstone, fine-grained quartzite and calcareous argillite

SYMBOLS

8IMR-3,-45 — Diamond drill hole: identifier, inclination at collar (in degrees)

Outcrop or area of outcrop

Geological boundary (approximate)

Fault (approximate)

80 — Bedding, tops unknown (inclined, vertical)

63 — Foliation (inclined, vertical, dip unknown)

32 — Minor fold axis (inclined)

Joint or fracture (dip unknown)

IMVM001 X GLEN,TTHD,SPHL — Mineral occurrence (location defined; identifier; GLEN denotes galena, TTHD denotes tetrahedrite, SPHL denotes sphalerite) NOTE: Prefix 82K8 omitted from identifier, 1981 identifiers are italicized; 1980 identifiers are vertical

Float mineral occurrence

Trench

Road built in 1981

39+00 S — Grid established by compass and chain, line identifier

PROFESSIONAL ENGINEER R.A. CESS R.M. Olson Dec. 3, 1981

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF ALBERTA
PERMIT NUMBER P 2374
TRIGG, WOOLLETT CONSULTING LTD.

PROFESSIONAL GEOLOGIST ALBERTA R.M. Olson 1981

ECHO BAY MINES LTD.

RED LEDGE 2 MINERAL CLAIM

DIAMOND DRILLING, GEOLOGY, OCCURRENCE 82K8OSHM007

NTS 82K/8W

GOLDEN MINING DIVISION, BRITISH COLUMBIA

Scale 0 20 40 Metres

TRIGG, WOOLLETT CONSULTING LTD.

EDMONTON, ALBERTA NOVEMBER, 1981

9829

part 1 of 2

DWG. 1101-6