

5302

104E/6E

DIAMOND DRILL LOGS

BIRD #1, Sno #5, Sno #6 Full Size Mineral Claims
and
Id #3 Fractional Mineral Claim

Located at Schaft Creek B. C. at
57°21'North - 130°56' West

in

LIARD MINING DIVISION

by

James Mackie, P.Eng.
Hecla Operating Company
November 28, 1974

Owner: Liard Copper Mines Ltd.

Operator: Hecla Operating Company

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 5302 MAP



TABLE OF CONTENTS

	<u>Page</u>
Diamond Drill Hole #98	1
Diamond Drill Hole #100	3
Diamond Drill Hole #101	5
Diamond Drill Hole #102	8
Diamond Drill Hole #103	11
#1 Index Map (1 inch = 4 miles)	14
#2 Claim map (1" = 200')	15
#3 Claim Map (1 inch = 1,000 feet)	rear
Statement of Account - Canadian Longyear Ltd.	16
Appendix A - Drilling contract	17

DIAMOND DRILL HOLE #98 **

Location: 245+00 North, 9410 East
Elevation: 3123'
Inclination: -90°
Core Diameter: NQ (1-7/8")
Started: July 4, 1974
Completed: July 14, 1974
Core Storage: Schaft Creek, B. C.



- 0 - 30' Overburden; triconed.
- 30 - 81' Feldspar Porphyry Basalt Dike; high chlorite-sericite alteration; fair gypsum; traces of pyrite.
51 - 52' Sand seam.
59 - 72' Strong fault zone; highly ground core.
- 81 - 107' Andesite; light green colour; numerous K-spar rimmed quartz sealed fractures; moderate bornite, fair chalcopryrite and low molybdenite.
- 107 - 175' Basalt Dike; moderate sericite-chlorite alteration; trace of pyrite.
- 175 - 376' Andesite; numerous quartz-chlorite sealed fractures; some K-spar; good bornite, low chalcopryrite and molybdenite, trace of biotite.
336 - 359' Fault breccia at 10° to core axis; traces of gypsum and tourmaline.
368 - 376' Strong faulting at 25° to core axis.
- 376 - 395' Diorite(?); weakly albitized, equigranular, granitic textured rock; moderate sericite alteration; low chalcopryrite and bornite.
- 395 - 465' Fragmental(?) Andesite; 3 to 5% dark grey, vague, 1/8 - 1" clasts, occasional 1 - 2" of moderate to strong biotite; local K-spar alteration; low sulphides.*
462 - 465' Fine fault breccia at 40° to core axis.
- 465 - 540' Diorite(?); light greenish buff colour; high sericite-chlorite alteration; minor disseminated chalcopryrite and bornite; moderate biotite.
483 - 495' Andesite; moderate albitization; local K-spar rimmed quartz veinlets; moderate bornite, low chalcopryrite, trace of molybdenite.
- (538 - 775' Major fault zone at 15 - 30° to core axis.)

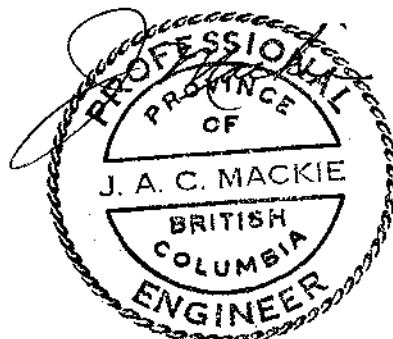
*Sulphides refer to chalcopryrite, bornite and molybdenite.

**See, "B. C. Dept. of Mines & Pet. Res., G.E.M., 1970, pp. 49-57" for rock type descriptions.

- 540 - 604' Fragmental(?) Andesite; generally vague, subangular biotite-rich clasts in light grey coloured groundmass; strong chlorite alteration; moderate K-spar alteration; moderate bornite, low chalcopyrite and molybdenite, low gypsum.
- 604 - 757' Andesite; rock as 540 - 604', with rare suggestion of fragments.
- 757 - 775' Healed Fault Gouge; chlorite gouge with strongly crenulated foliation at 30 - 45° to core axis; aligned, rounded pieces of Andesite and quartz to 1/4", moderate chalcopyrite and molybdenite.
- 776 - 864' Andesite; bleached white colour; moderate chalcopyrite, bornite and molybdenite; quartz stockwork predominantly at 60° to core axis.
824 - 847' Chlorite sealed breccia (low matrix); pieces 1/4 - 1" long; moderate chalcopyrite and bornite; good molybdenite.
847 - 864' Chlorite (50 - 70%) sealed breccia; pieces are well rounded and oriented at 60° to core axis; very fine epidote and gypsum network.
- 864 - 887' Basalt Dike; fine to medium grained with local feldspar eyes; rare fine quartz-epidote veinlet; trace of pyrite.
- 887 - 894' Andesite; bleached to light grey colour; low sulphides; occasional fine veinlet of epidote.
- 894 - 908' Healed Fault Gouge; chlorite gouge foliated at 30 - 50° to core axis; low epidote as veinlets and clots to 1/2"; pieces of well rounded Andesite 1/8 - 1"; low sulphides; some gypsum.
- 908 - 975' Fragmental Andesite; 15 - 30% distinct, 1/8 - 1", angular to sub-rounded fragments; abundant epidote in patches 1 - 2-1/2" and veinlets; trace to moderate sulphides.
- 975 - 1016' Basalt Dike; fine grained; trace of pyrite.
- 1016 - 1043' Fragmental Andesite; as 908 - 975', except decreased and more vague fragments; less epidote, mostly as veinlets; traces chalcopyrite, bornite, molybdenite and pyrite.
- 1043' End of hole.

DIAMOND DRILL HOLE #100

Location: 249+94 North, 9813 East
Elevation: 3258'
Inclination: -90°
Core Diameter: NQ (1-7/8")
Started: July 18, 1974
Completed: July 29, 1974
Core Storage: Schaft Creek, B. C.



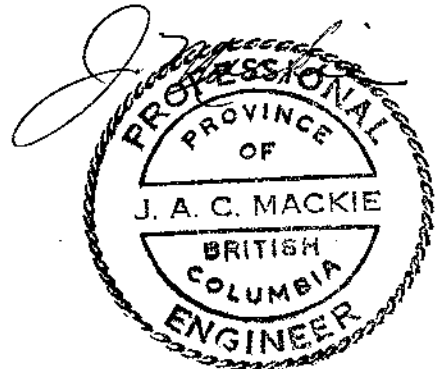
- 0 - 37' Overburden; triconed.
- 37 - 47' Monzonite Porphyry; abundant biotite; low sulphides*,; traces of epidote.
- 47 - 70' Andesite; dark grey colour; low sulphides; traces of tourmaline; moderate biotite.
62 - 70' Driller reports sand zone.
- 70 - 667' Fragmental Andesite; 5 - 25% black, fine grained, 1/4 - 1" angular fragments; variable, usually low to moderate albitization; low sulphides; variable, usually low biotite; traces of epidote along fractures.
135 - 151' Shatter zone; poor recovery.
264 - 271' Quartz Monzonite Porphyry; low sulphides.
277 - 283' Basalt dike paralleling core.
313 - 324' Quartz vein; fair molybdenite, low chalcopryrite and pyrite.
324 - 347' Tightly packed Fragmental Andesite.
347 - 353' Monzonite; high sericite and chlorite alteration; low chalcopryrite, molybdenite and pyrite.
364 - 371.5' Quartz Monzonite; low chalcopryrite and pyrite.
403 - 405' Monzonite.
473 - 481' Quartz Monzonite.
515 - 530' Tightly packed Fragmental Andesite.
545 - 551' Intense K-spar alteration, K-spar locally evident below this section; some epidote along fractures.
- 667 - 691' Andesite; similar to Fragmental Andesite without evidence of fragments.
- 691 - 940' Fragmental Andesite as 70 - 667'; moderate bornite and chalcopryrite, low molybdenite; local gypsum.
740 - 788' Shatter zone; local chlorite-epidote-quartz breccia.
788 - 816' Quartz Monzonite; sericite-chlorite alteration; moderate sulphides.

*Sulphides refer to chalcopryrite, bornite and molybdenite.

- 940 - 970' Andesite; moderate to high albite alteration; fair chalcopyrite, lesser bornite and molybdenite; low gypsum.
- 970 - 1310' Fragmental Andesite; 15 - 30%, angular and rounded fragments 1/4 - 3", generally 1/2"; fair sulphides and gypsum; low epidote.
- 1048 - 1310' High pervasive albite alteration; fragments mostly vague; fair chalcopyrite and bornite; molybdenite.
- 1117 - 1127' Major faulting at 20° and 65° to core axis; high chlorite alteration.
- 1146 - 1149' Basalt dike; fine grained; calcite replaced augite phenocrysts.
- 1149 - 1165' Fragmental Andesite; highly broken, then sealed by chlorite.
- 1166 - 1172' Basalt dike as 1146 - 1149'.
- 1183 - 1257' Traces of tourmaline.
- 1268 - 1271' Quartz Monzonite Porphyry; good disseminated bornite and chalcopyrite.
- 1280 - 1294' Healed shear zone; mottled grey to purple colour; low sulphides; high hematite.
- 1281 - 1284' Chilled basic dike with acicular feldspar phenocrysts to 1/4" long.
- 1310 - 1470' Andesite; moderate to high albite alteration; low sulphides; abundant grains and irregular clots of epidote.
- 1377 - 1406' Strong fault zone at 30 - 50° to core axis; quartz, epidote and tourmaline infilled.
- 1410 - 1425' Basalt dike; fine calcite eyes and feldspar phenocrysts; traces of disseminated pyrite.
- 1425 - 1470' High hematite gives andesite purplish colour.
- 1455 - 1465' Feldspar Porphyry Basalt dike; some calcite eyes.
- 1470' End of hole.

DIAMOND DRILL HOLE #101

Location: 244+99 North, 9648 East
Elevation: 3181'
Inclination: -73°
Azimuth: Due East
Core Diameter: NQ (1-7/8")
Started: July 31, 1974
Completed: August 8, 1974
Core Storage: Schaft Creek, B. C.



- 0 - 32' Overburden; triconed.
- 32 - 60' Fragmental Andesite; wholly irregular to angular clasts generally 1/4 - 1/2", occasionally to 1-1/2" mostly fine grained porphyritic texture, with spectrum of other textures.
- 32 - 48' Strong quartz stockwork and K-spar lined fractures at 40 - 60° to core axis; strong molybdenite, good bornite, lesser chalcopyrite.
- 36 - 39' Diorite dike; high interstitial biotite, good bornite, lesser chalcopyrite.
- 54' One foot of loosely cemented sand and rock chips.
- 60 - 94' Triconed; no recovery; suspect fault zone with weakly cemented sand and rock chips.
- 94 - 555' Andesite; medium to dark grey colour; locally bleached; porphyritic texture; low bornite, lesser chalcopyrite, very low molybdenite; variable fine grained biotite, usually low to moderate.
- 150 - 161' Fault zone at 30° to core axis; high chlorite-quartz-calcite sealing of fractures.
- 275 - 285' Abundant K-spar along fractures and rimming quartz veinlets.
- 320 - 329' Moderate fault zone 25 - 40° to core axis; very high sericite; moderate chalcopyrite and pyrite.
- 352 - 370' Chlorite-quartz fault breccia parallel to core axis; high albitization; fair chalcopyrite, traces of pyrite, bornite and molybdenite; fair gypsum.
- 400 - 423' High biotite and moderate sericite alteration.
- 423 - 435' Quartz Monzonite; locally porphyritic; moderate sericite alteration; low disseminated chalcopyrite with some pyrite.
- 435.5' Trace of tourmaline.
- 443 - 448' Quartz Monzonite Porphyry; locally equigranular; low disseminated chalcopyrite, some pyrite along fractures.
- 487 - 490' Quartz Monzonite; moderate sericite alteration; high quartz veining; fair disseminated bornite and chalcopyrite.
- 500 - 502' Quartz Diorite(?); greenish colour; prominent quartz eyes.

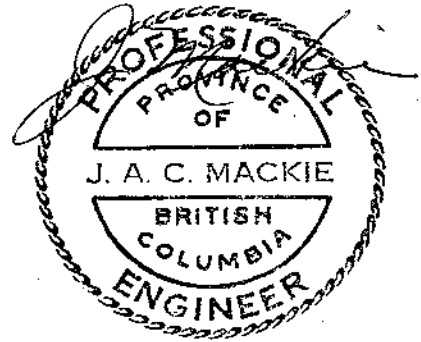
- 507 - 555' Major Fault; foliation of shears at 20 - 40° to core axis; intervening rock finely brecciated and healed; fair quartz, bornite and chalcopryrite; some gypsum.
- 555 - 836' Andesite; spotted texture (mafic clots); biotite common in mafic rich clots; low bornite, chalcopryrite, molybdenite, and quartz.
555 - 565' Abundant gypsum.
577 - 630' Traces of epidote along fractures.
638 - 741' Moderate to high pervasive albitization; mafic clots look somewhat like fragments.
757 - 791' Moderate, pervasive albite alteration.
791 - 836' High albite alteration; abrupt beginning along shear at 30° to core axis; locally some quartz eyes - thus might be highly albitized quartz monzonite; good disseminated chalcopryrite, lesser bornite, good molybdenite; traces of tourmaline.
- 836 - 865' Fragmental Andesite; 20 - 40%, 1/2 - 2" fragments in a matrix of similar texture; locally no fragments over 2 - 3'; fair bornite and chalcopryrite; low molybdenite.
- 865 - 888' Tuff; very fine grained brown to medium grey; occasional fine grained 1 to 2" angular or rounded Andesite fragments in upper half; low sulphides.*
- 888 - 897' Andesite; somewhat bleached, sheared and brecciated; some pyrite along shear strands.
- 897 - 908' Tuff; fine grained brownish grey; low sulphides.
- 908 - 998' Fragmental Andesite; fragments tightly packed, generally less than 1/2", consisting of medium grained, and porphyritic textures; local albitization; low sulphides and gypsum.
- 998 - 1048' Fragmental(?) Andesite; wholly albitized; ghost outlines of a few fragments; variable sulphides.
1031 - 1034' Quartz Monzonite Porphyry; modest disseminated chalcopryrite.
- 1048 - 1106' Andesite; wholly albitized, low sulphides; traces of tourmaline.
1075 - 1078' Grains of epidote after feldspar.
1081 - 1083' Quartz Monzonite; fair disseminated chalcopryrite.
1093' A few irregular clots of epidote.
1095 - 1097' Quartz Monzonite.
- 1106 - 1173' Quartz Monzonite; high chlorite sealed fractures; low sulphides; traces of tourmaline; abundant gypsum.
1150' Beginning of abundant disseminated epidote.

*Sulphides refer to chalcopryrite, bornite and molybdenite.

- 1173 - 1184' Andesite; dark grey colour; high chlorite alteration.
- 1184 - 1189' Healed Fault Gouge; yellowish chlorite gouge containing aligned rounded clasts to 1/4" of Andesite and quartz; crenulated foliation at 50° to core axis.
- 1189 - 1230' Andesite; dark green to purple colour; abundant epidote in disseminations and clots; variable hematite.
- 1230' End of hole.

DIAMOND DRILL HOLE #102

Location: 254+99 North, 9098 East
Elevation: 3123'
Inclination: -90°
Core Diameter: NQ (1-7/8")
Started: August 9, 1974
Completed: August 21, 1974
Core Storage: Schaft Creek, B. C.



- 0 - 8' Overburden; triconed.
- 8 - 18' Andesite; light to medium grey colour; high sericite alteration; 3 - 5% pyrite disseminated and fracture filled, trace of chalcopyrite; fine grains and seams of tourmaline (.25%).
- 18 - 132' Basalt Dike; fine grained porphyritic texture; traces of pyrite.
- 132 - 223' Quartz Monzonite; white, locally pink colour; highly sericitized; high (3 - 7%) disseminated and fracture filled pyrite, traces of chalcopyrite; traces of tourmaline.
221 - 223' Brecciated and sealed by 10% tourmaline.
- 223 - 315' Andesite; light grey to green, locally dark grey colour, very high pyrite (3 - 5%), predominantly as fine veinlets.
223 - 238' Fine network of tourmaline (1 - 3%) veinlets.
238 - 315' Up to 1% tourmaline as disseminated crystals.
- 315 - 351' Basalt Dike; fine grained; abundant calcite eyes and fine feldspar phenocrysts, traces of disseminated pyrite.
336 - 338' Inclusion of tourmaline rich and weakly pyritized Andesite.
- 351 - 370' Andesite; greenish grey colour; veinlets of pyrite (1/4 - 1/2%) and tourmaline (1/2 - 3/4%).
- 370 - 395' Quartz Monzonite; pink to buff colour; moderate sericite alteration, disseminated pyrite (2 - 4%), traces chalcopyrite.
- 395 - 396' Basalt Dike; chilled phase.
- 396 - 477' Andesite; high pervasive albitization; high K-spar along fractures and quartz veins, predominantly at 60°, lesser at 10°; local biotite along fractures; low bornite generally more abundant than chalcopyrite, and molybdenite.
445 - 476' Generally vague, locally sharp chlorite-quartz breccia; increased molybdenite.
476 - 477' Chilled Basalt dike; traces of disseminated pyrite.

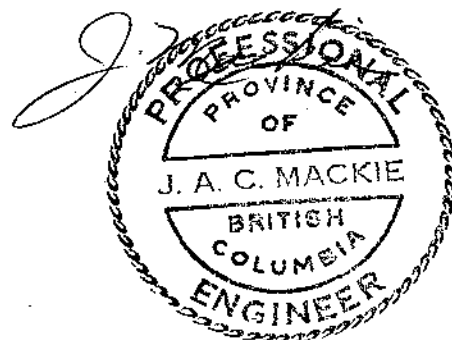
- 477 - 1023' Andesite; decreased albitization and K-spar; low, fine, discontinuous veinlets of chalcopyrite, lesser bornite, fair to good molybdenite; rare fine grained biotite.
- 490 - 769' Moderate to high breakage of Andesite which has been sealed by chlorite, quartz, gypsum and K-spar, locally brecciated.
- 545' End of K-spar, weak albitization continues.
- 736 - 762' Major fault zone at 25 - 35° to core axis; variable pervasive albitization; high chlorite sealing of fractures; decreased gypsum.
- 784 - 812' Strong pervasive albitization; equal bornite and chalcopyrite.
- 835 - 858' Totally albitized Andesite; intermixed with Monzonite Porphyry. Could be all highly altered Monzonite Porphyry.
- 858 - 875' Occasional fracture filled with up to 1" of Monzonite Porphyry.
- 875 - 879' Possibly a highly albitized Monzonite, locally porphyritic.
- 879 - 918' Chlorite sealed fractures; highly variable albitization; fine veinlets and local disseminations of chalcopyrite, lesser bornite.
- 918 - 946' Very low albite alteration, mostly along fractures; dark grey colour; blebs, lesser fine veinlets of chalcopyrite, lesser bornite; low to moderate gypsum sealing.
- 946 - 980' Moderate pervasive albite alteration; texture variable fine grained to fine grained porphyritic to medium grained; locally up to 3" of Monzonite Porphyry injected along fractures.
- 980 - 990' Mafic poor rock; probably Monzonite and Monzonite Porphyry alternating at 3 - 6" intervals; rock texture similar to preceding Andesite; intense fracturing at 25° to core axis controls fair chalcopyrite and excellent molybdenite.
- 1023 - 1068' Monzonite Porphyry; high pervasive albite alteration; variable chalcopyrite, good molybdenite.
- 1068 - 1105' Andesite; very similar to intrusive from 1023 - 1068'; greenish grey colour; moderate chalcopyrite, traces of bornite and good molybdenite along fractures.
- 1084 - 1100' Strong faulting; gouge strands at 15° and 60° to core axis; rock brecciated and chlorite sealed.
- 1105 - 1110' Basalt Dike; black with fine calcite eyes and veinlets; traces of fine grained disseminated pyrite.
- 1110 - 1139' Quartz Monzonite; locally porphyritic; moderate sericite alteration; rare quartz eyes; moderate disseminated chalcopyrite and pyrite.
- 1139 - 1144' Andesite; total albite alteration; very low sulphides*; high quartz veinlets at 40 - 60° to core axis.

*Sulphides refer to chalcopyrite, bornite and molybdenite.

- 1144 - 1216' Quartz Monzonite; locally porphyritic; high albite and low K-spar alteration; moderate disseminated chalcopyrite and pyrite.
1160 - 1164' Inclusion of wholly albitized Andesite; some crenulated foliation at 40° to core axis which could be an albitized fault zone.
1181 - 1187' Strong fault at 30° to core axis.
- 1216 - 1255' Andesite; mottled shades of brown and grey; low albite and K-spar alteration; variable chalcopyrite and molybdenite along fractures; locally hematite along fractures.
1228 - 1229' Quartz Monzonite Porphyry.
1245 - 1255' Strong fault at 15° to core axis; 1/2 - 1" pieces of Andesite sealed with quartz and chlorite.
- 1255 - 1281' Fragmental(?) Andesite; medium grey colour; very hard silicified looking rock with flowage at 30 - 60° with inclusions of irregular medium grained Andesite up to 4", generally less than 1"; locally strong disseminated and fracture fillings of hematite; moderate to high albite and low K-spar alteration; moderate chalcopyrite along fractures.
- 1281 - 1351' Monzonite Porphyry; highly altered and faulted; mostly broken into pieces 2" or less; high pervasive albite and low sericite alteration; strongest shearing at 10°, lesser 40° to core axis; good chalcopyrite and molybdenite along fractures.
1290' Healed fault gouge at 50° to core axis.
1315 - 1357' Sand breccia; pieces (1/2" or less) of quartz and porphyry in 30% gougy, semi-consolidated sand matrix.
- 1351 - 1474' Andesite; possibly Fragmental; fine grained to medium grained, highly albitized; highly faulted; low sulphides.
1360 - 1370' Totally sheared at +25° to core axis.
1370 - 1378' Breccia; fragments generally less than 1/2" in sand-gouge matrix.
1386 - 1396' Healed fault gouge; foliation 40 - 50° to core axis.
1396 - 1404' Wholly albitized Andesite which has been shattered and sealed by chlorite-quartz matrix (20 - 50%).
1404 - 1437' Healed fault gouge; chloritic gouge (70%) containing albitized Andesite and quartz eyes lined at 50°; locally abundant gypsum.
1437 - 1474' Fragmental(?) Andesite; clastic texture, mottled grey-green to purple colour; high disseminated and fracture filled hematite; low sulphides.
- 1474' End of hole.

DIAMOND DRILL HOLE #103

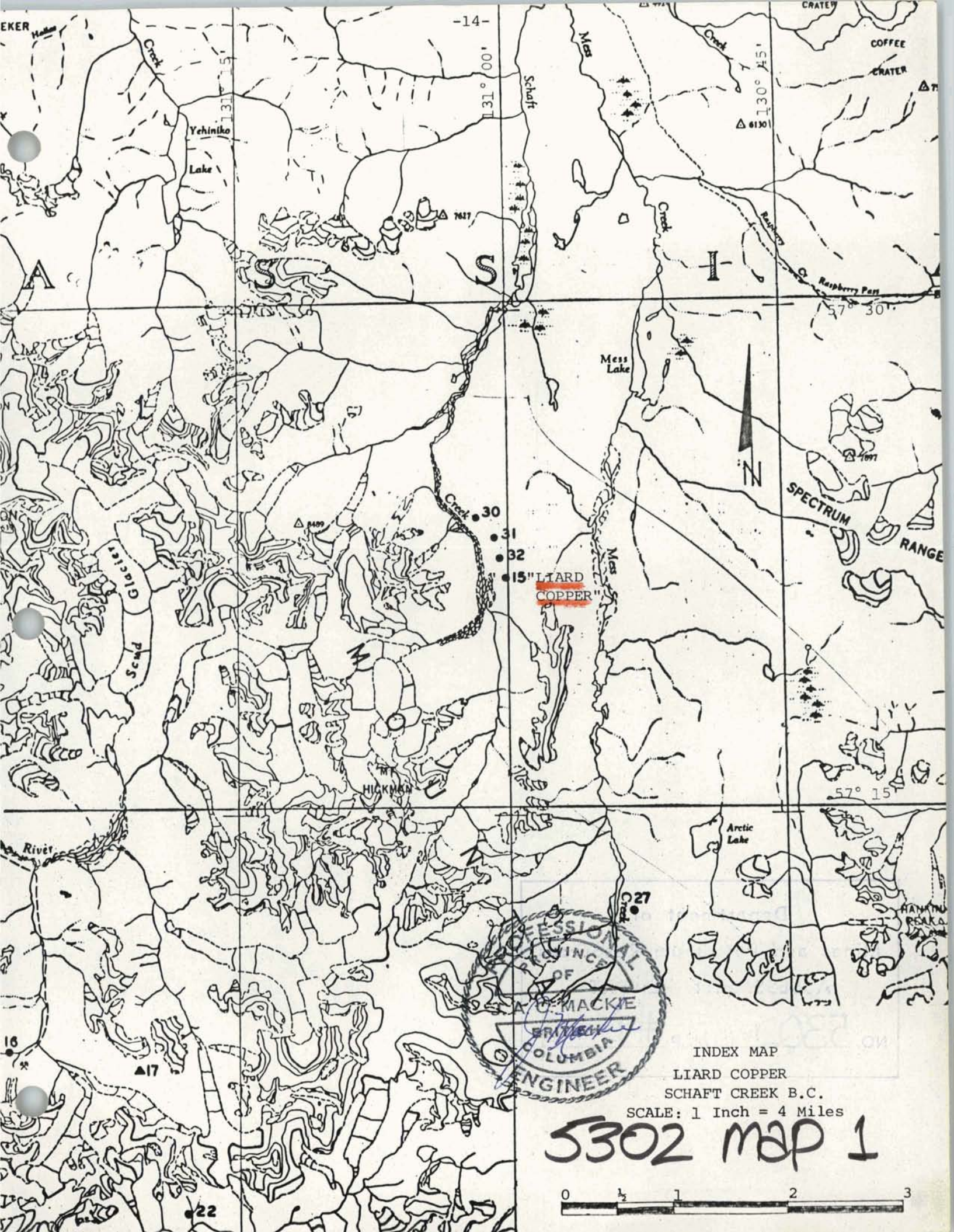
Location: 260+13 North, 9126 East
Elevation: 3202'
Inclination: -90°
Core Diameter: NQ (1-7/8")
Started: August 22, 1974
Completed: September 11, 1974
Core Storage: Schaft Creek, B. C.



- 0 - 40' Overburden; triconed.
- 40 - 123' Fragmental Andesite; 10 - 15%, 1/4 - 1-1/2" fragments in a similar groundmass.
40 - 55' Strongly pyritized to 5% as disseminations and fracture fillings.
57 - 58' Basalt dike; fine grained.
- (114 - 364' Fault zone at 0 - 30° to core axis.)
- 123 - 158' Monzonite; locally porphyritic moderate disseminated pyrite; traces of fine grained tourmaline.
- 158 - 171' Basalt Dike; black colour.
- 171 - 239' Monzonite; locally porphyritic; disseminated pyrite to 5%.
214 - 235' Triconed; no recovery.
- 239 - 254' Basalt Dike; feldspar eyes.
- 254 - 291' Andesite; medium grained; grey colour; some pyrite, tourmaline and epidote.
- 291 - 352' Monzonite; locally porphyritic; disseminated pyrite to 4%; some tourmaline.
- 352 - 364' Triconed; no recovery.
- 364 - 380' Basalt Dike.
- 380 - 415' Feldspar Porphyry Basalt Dike; medium grained.
- 415 - 435' Quartz Monzonite; locally porphyritic; minor quartz eyes; some gypsum.
- 435 - 447' Feldspar Porphyry Basalt Dike; fine to medium grained.
441 - 450' Fault breccia; foliation at 35° to core axis; quartz-gypsum matrix; minor pyrite, chalcopyrite and molybdenite.

- 447 - 556' Monzonite and Monzonite Porphyry; disseminated pyrite to 2%; minor chalcopyrite and molybdenite; traces of tourmaline; moderate sericite alteration; strong shearing at 0 - 30° to core axis.
- 556 - 562' Basalt Dike.
- 562 - 587' Monzonite and Monzonite Porphyry; disseminated pyrite to 1%; some tourmaline; moderate sericite alteration; strong shearing at 0 - 30° to core axis.
- 587 - 616' Quartz Monzonite; disseminated pyrite (1 - 3%) with traces of chalcopyrite; high fracturing sealed by quartz, tourmaline and gypsum.
- 616 - 627' Andesite; shattered with 10% quartz-tourmaline sealing; minor gypsum; disseminated and fracture filling pyrite to 10%; traces chalcopyrite and epidote.
- 627 - 632' Basalt Dike.
- 632 - 635' Andesite; as 616 - 627'.
- 635 - 644' Basalt Dike; traces of disseminated pyrite.
- 644 - 650' Andesite; brecciated; 30 - 40% quartz-tourmaline-pyrite-gypsum-chlorite matrix.
- 650 - 653' Basalt Dike; traces of disseminated pyrite.
- 653 - 682' Andesite; medium grained porphyritic; some pyrite, tourmaline and gypsum.
- 682 - 742' Brecciated Andesite; chlorite-quartz matrix; minor chalcopyrite and molybdenite; traces of bornite; high gypsum.
719 - 721' Quartz Monzonite Porphyry dike.
726 - 729.5' Basalt dike.
735 - 740' Basalt dike.
- 742 - 744' Basalt Dike.
- 744 - 788' Andesite; low pyrite, chalcopyrite and molybdenite, moderate gypsum.
- 788 - 814' Quartz Monzonite; locally porphyritic.
- 814 - 816' Basalt Dike.
- 816 - 850' Andesite; low sulphides.
- 850 - 921' Quartz Monzonite Porphyry; low pyrite, chalcopyrite and molybdenite.
- 921 - 945' Andesite; variable usually low chalcopyrite, bornite and molybdenite.

- 945 - 954' Basalt Dike.
- 954 - 1131' Andesite; local K-spar alteration along fractures, variable, usually low chalcopyrite, bornite and molybdenite.
- 1131 - 1156' Feldspar Porphyry Basalt Dike; occasional disseminated pyrite.
- 1156 - 1238' Andesite; porphyritic texture; fair sulphides.
- 1238 - 1242.5' Feldspar Porphyry Basalt Dike.
- 1242.5 - 1287' Andesite; porphyritic texture; moderate sulphides; some epidote along fractures, irregular clots and filled fractures by hematite and/or magnetite.
- 1287 - 1392' Fragmental Andesite; tightly packed angular to irregular clasts to 1/4"; low sulphides.
- 1392 - 1404' Monzonite Porphyry; greenish brown colour; 1 - 2% disseminated pyrite.
- 1404 - 1442' Fragmental Andesite; 1 - 2% fracture filling pyrite.
1421 - 1423' Monzonite Porphyry; low disseminated pyrite.
- 1442 - 1458' Andesite; porphyritic texture.
- 1458 - 1474' Fragmental Andesite; tightly packed as 1287 - 1392' alternating with porphyritic Andesite at 4 - 16" intervals.
- 1474 - 1505' Fragmental Andesite; 30% clasts to 1" in a porphyritic groundmass; moderate sulphides.
- 1505 - 1520' Quartz Monzonite; 1-1/2% disseminated pyrite; low chalcopyrite.
- 1520 - 1552' Fragmental Andesite; same as 1474 - 1505'
1540 - 1542' Quartz Monzonite.
- 1552 - 1565' Quartz Monzonite; good quartz eyes; some pyrite, chalcopyrite, bornite and molybdenite.
- 1565 - 1722' Andesite; low chalcopyrite, traces of pyrite and bornite, some epidote along fractures.
- 1722 - 1735' Healed Fault Gouge; 60% chlorite matrix containing rounded and aligned 1/8 - 1/2" Andesite and quartz eyes; low disseminated chalcopyrite and bornite; fair molybdenite.
- 1735 - 1750' Basalt or Andesite; very high chlorite and epidote; high hematite; traces of chalcopyrite and bornite.
- 1750' End of hole.



LIARD
COPPER



INDEX MAP
LIARD COPPER
SCHAFT CREEK B.C.
SCALE: 1 Inch = 4 Miles

5302 MAP 1





103

Sno 5

102

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT

Bird 1

NO. 5302 MAP #2

143 fr.

100

Sno 6

Liard Copper Mines
1974 drilling

SCALE: 1" = 200'



98

101

99

5302
MAP 2

Bird 3



CANADIAN LONGYEAR LIMITED

721 ALDFORD, ANNACIS ISLAND, NEW WESTMINSTER, B.C. V3M 5P5
TELEPHONE (604) 524-2511 TELEX 04-351280

Nov. 29, 1974

Hecla Mining Co. of Canada Ltd.,
Ste. 2009 - 1177 West Hastings St.,
VANCOUVER, B.C. V6E 2K3

Statement of Account.
Holes 98, 99, 100, 101, 102, 103

<u>Hole No.</u>	<u>Invoice No.</u>	<u>Amount</u>
98	8817, 8819	\$16,194.05
99	8817, 8819	5,006.46
100,	8819	22,855.72
101	8819,8967	20,099.96
102	8967,8968	25,967.22
103	8968,9117	<u>32,338.57</u>
		\$122,461.98

Declared before me at the

at

, in the

Province of British Columbia, this
VANCOUVER, B. C.

day of

DEC 12 1974

, A.D.

Sub-Mining Recorder

.....
A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

Appendix A

Drilling Contract

AGREEMENT entered into this 6th day of March, 1974

BETWEEN:

HECLA MINING COMPANY OF CANADA LIMITED
BOARD OF TRADE TOWER
2009 - 1177 WEST HASTINGS STREET
VANCOUVER, B.C.

the party of the first part, hereinafter referred to as the
Client,

AND:

CANADIAN LONGYEAR LIMITED
721 ALDFORD AVENUE
ANNACIS ISLAND
NEW WESTMINSTER, B.C.

the party of the second part, hereinafter referred to as the
Contractor.

WHEREAS the Client wishes to have performed certain diamond
drilling on mining properties located in the area of Schaft
Creek, B.C. and whereas the Contractor, in consideration of
payments hereinafter contained undertakes to do the said diamond
drilling.

NOW THEREFORE IT IS WITNESSED:

Guaranteed
Footage:

1. The Client guarantees a minimum of eight thousand
(8000) feet of diamond drilling in a series of -45° to -90°
holes, of a maximum depth of fifteen hundred (1500) feet. All
measurements to be taken from top of casing.

Core Size:

2. The Contractor guarantees to sink with standpipe and/or
bore by diamond drill, the specified minimum footage, recovering
NQ Wireline core, approximately 1-7/8 inches in diameter, and
to supply forthwith one (1) drill outfit, Longyear Model 44,
complete with mast, associated equipment, industrial diamonds
and labour, to commence the work within the time limits speci-
fied by the Client, under terms and conditions set forth in this
Agreement.

<u>Schedule of Rates for Diamond Drilling</u> <u>Depth of Hole Range</u>	<u>Size of Core</u> <u>NO Wireline</u>
0 to 500 feet	\$10.30 per ft.
500 to 1000 feet	\$11.80 per ft.
1000 to 1500 feet	\$13.55 per ft.

If holes of a greater depth than fifteen hundred (1500) feet are desired, such drilling shall be performed only upon such conditions and at such rates as may be agreed upon before commencement of such drilling.

3. The Contractor agrees that all its labour, diamond wear and loss, and all other operating expenses, except as hereinafter provided shall be at its own cost and expense and for its own account.

Penetration of Overburden:

4. Wherever overburden is encountered on a setup, it is agreed that the Contractor's charge for penetrating such overburden shall be ten dollars and thirty cents (\$10.30) per foot, for the first fifty (50) feet. If the cost of penetrating the additional overburden is greater than ten dollars and thirty cents (\$10.30) per foot, the Client agrees to pay the Contractor at the Hourly Rate for the penetration of such overburden.

Hourly Rate:

It is agreed that the Hourly Rate shall be interpreted here and hereinafter to be thirty-eight dollars and forty cents (\$38.40) per hour, per drill outfit. It is also agreed that the Contractor shall include in the Hourly Rate the cost of supplying a regular two man drill crew, supervision and maintenance as required, drilling machinery and associated equipment, and board and lodging for the drill crew.

It is further agreed and understood that when the Contractor is working at the Hourly Rate, the cost of pipe or casing lost or left in the hole, diamond articles and materials and supplies consumed in the work shall be for the Client's account at cost, plus ten percent (10%).

Extra Crews:

6. In the event labour over and above the regular two man crew and supervision are required, the Contractor agrees to supply such additional labour at the rate of nine dollars and twenty-five cents (\$9.25) per man per hour.

Caves:

7. In the event that cavities or loose and caving materials are encountered of a nature as to prevent the successful completion of any hole, the Contractor does not under such conditions, guarantee to drill to a predetermined depth, and in the event that it becomes necessary to abandon the hole, the Client agrees to pay for such uncompleted holes at the rates herein specified for all footage completed.

In the event it becomes necessary to resort to cementing, reaming, casing or mud circulation in bedrock or overburden, the Client agrees to reimburse the Contractor at the Hourly Rate, for the cementing, reaming, casing or mud circulation operations. Such costs shall include all costs incurred in the supply of mud and cement, delivered to the job site.

8. Wherever pipe or casing is lost or is left in a hole on the instructions of the Client's Engineer, the Client agrees to pay the Contractor for such pipe or casing at prevailing market

prices, f.o.b. drill site. The Client agrees to pay the Contractor the cost of the diamond set casing shoe bits in addition to the cost of any casing left in the hole.

Tests:

9. The Contractor, when instructed so to do, shall take any clinometer dip tests desired by the Client. The Contractor's charge for such tests shall be at the rate of three (3) feet of drilling at the depth where tested.

Water:

10. If the source of water supply is at a greater distance than two thousand (2000) feet from the drilling site, or over three hundred (300) feet vertical lift, the Client agrees to pay the Contractor the extra cost of supplying water to the drill site in addition to other contract charges.

Transportation
and Service:

11. Within previous contract agreements, it has been understood that the cost of moving equipment from the area to Smithers, B.C. would be for the Client's account. It is understood that the Contractor's equipment has been stored in the area for several years and agreed that the Client still remains responsible for the cost of moving the complete Contractor's outfit to Smithers or to another mutually agreed location or area.

It is agreed and understood that the cost of moving additional drill equipment and supplies required to complete work under this agreement, from the Contractor's warehouse to the Schaft Creek airstrip will be for the Client's account at cost, plus twelve percent (12%). It is understood that such additional equipment will become a part of equipment now located at Schaft

Creek, and the Client will be responsible for the cost of moving the equipment from the area to Smithers or to another mutually agreed to area or location.

It is agreed that the cost of moving the Contractor's personnel from the Contractor's base of operations to Schaft Creek and return from Schaft Creek to the Contractor's base of operations, will be for the Client's account at a lump sum of three thousand and ten dollars (\$3,010.00).

All interim service trips in connection with the regular maintenance of the drilling operation and service of the camps will be for the Contractor's account.

Moves:

12. It is agreed that the moves from the Schaft Creek airstrip to the initial drill site and each move between drill sites, and from the final drill site to the Schaft Creek airstrip will be for the Client's account at a sum of seven hundred and sixty dollars (\$760.00) per move.

Moves shall be interpreted as tearing down, dismantling machinery, moving, securing timber and setting up.

It is understood that the Client will supply a tractor and operator for the purpose of providing access roads and preparing drill sites ahead of the drilling operations, moving drilling equipment between drill sites and servicing the drilling operation as required.

Waiting Time
for Orders:

13. It is understood and agreed that time lost waiting for orders from the Client's Resident Engineer, or Representative, shall be charged to the Client at the Hourly Rate.

17. The Contractor will not give out any information regarding drill results, or permit access to any drill core, to any person other than the Client's accredited Representatives, except upon specific permission of responsible officials of the Client.

Camps:

18. The Client agrees to supply lodgings and cookery to the Contractor at no charge to the Contractor. The Contractor agrees to operate the cookery and provide meals for his own personnel at his own expense and to provide meals to a limited number of the Client's representatives or guests at a rate of three dollars and fifty cents (\$3.50) per meal.

Discipline:

19. The Contractor shall, at all times, enforce strict discipline and maintain good order among its employees and shall not retain on the work any unfit person or anyone not skilled in the work assigned to him.

Any employee of the Contractor who is objectionable or unsatisfactory to the Client shall be removed from the work and replaced by an employee satisfactory to the Client.

Clean Sites;

20. During the course of the work, the Contractor shall at all times keep the site of any drilling and camp sites free from accumulation of waste material, rubbish or garbage, and upon completion of the work and breaking camp shall remove all tools, scaffolding, surplus material, rubbish and garbage and leave the working and camp sites in a clean condition. The Contractor shall observe and comply with all applicable Federal and Provincial laws, regulations and orders relating to prevention of forest fires and sanitation in the bush and shall bear all cost arising from any violation thereof.

Insurance:

21. The Contractor shall maintain such insurance as will protect it from all claims and damage for personal injury, including death resulting therefrom and from claims for property damage arising from the operations under this Contract, in an amount not to exceed five hundred thousand dollars (\$500,000.00) inclusive, for all liabilities for any one accident or occurrence.

22. The Contractor shall be responsible for and will pay promptly all dues and assessments payable under any Workmen's Compensation Act or other similar Act, whether Provincial or Dominion, in respect of its employees.


Payment
for Work:

23. The Client agrees to pay the Contractor, in Canadian funds, the above prices. Payment to be made within thirty (30) days of the date of the account rendered. Invoices shall be submitted twice monthly. Interest at the rate of one per cent (1%) per month shall be charged on overdue accounts.


24. This Agreement may be altered only by written consent of both parties hereto.

25. Time is of the essence in this Agreement.

CANADIAN LONGYEAR LIMITED



Witness



Contractor

HECLA MINING COMPANY OF CANADA LTD.

Witness

Client



Red-Bird 3 grp.
 Yellow-Bird 1 grp
 Blue-Sno 5 grp

**5302
MAP 3**

Department of Mines and Geology Resources		HECLA OPERATING CO.	
ASSESSMENT REPORT		LIARD PROJECT	
No. 5302 MAP #3		SCHAFT CREEK, B.C.	
		CLAIM MAP	
Scale: 1" = 1000'	Date: Oct / 74	DWG No.	