82-#739

ROBB LAKE ASSESSMENT WORK REPORT

DIAMOND DRILLING PROGRAM

MAY - JULY 1982

ON

CLAIMS: Rob 15, 16, 17

Cleo 4

MV 23

by

A.J. Boronowski

S.C. James

Liard Mining Division

NTS 94B/13E

Approx. 56°55'N 123°42'W

Owners: Kidd Creek Mines Ltd.

Arrow Inter-America Corp.

Barrier Reef Resources Ltd. (N.P.L.)

Manager: Kidd Creek Mines Ltd.

October, 1982

Vancouver, B.C.

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INTRODUCTION

Location, Access and Terrain

The Robb Lake property is situated near the headwaters of the Halfway River in the Rocky Mountains of northeastern B.C. about 200 km west-northwest of Fort St. John, and about the same distance north of Mackenzie. The closest highway point is on the Alaska Highway about 72 km to the east-northeast of the property near the very small community of Pink Mountain. (Figure 1).

Access to the property is by air and the most suitable points of departure are Ft. St. John, Mackenzie, or Pink Mountain. A 915 m gravel airstrip was constructed on the property in 1972, and can be used by a limited number of aircraft types. Robb Lake, six km west of camp, can be used to a limited extent by float planes. Good docking facilities are available at the lake. (Figure 2).

The claims are located in the eastern part of the rugged Rocky Mountain belt. Local relief varies from 1,325 m in creek valleys to over 2,250 m on ridges. Vegetation cover includes relatively open forest and alpine meadows. Snow cover remains until the beginning of June. No permafrost was encountered during drilling but it is present at higher elevations.

Property History and Definition

The Robb Lake claims were staked in 1971, with a few later additions, by Peregrine Exploration (now Barrier Reef Resources), Arrow

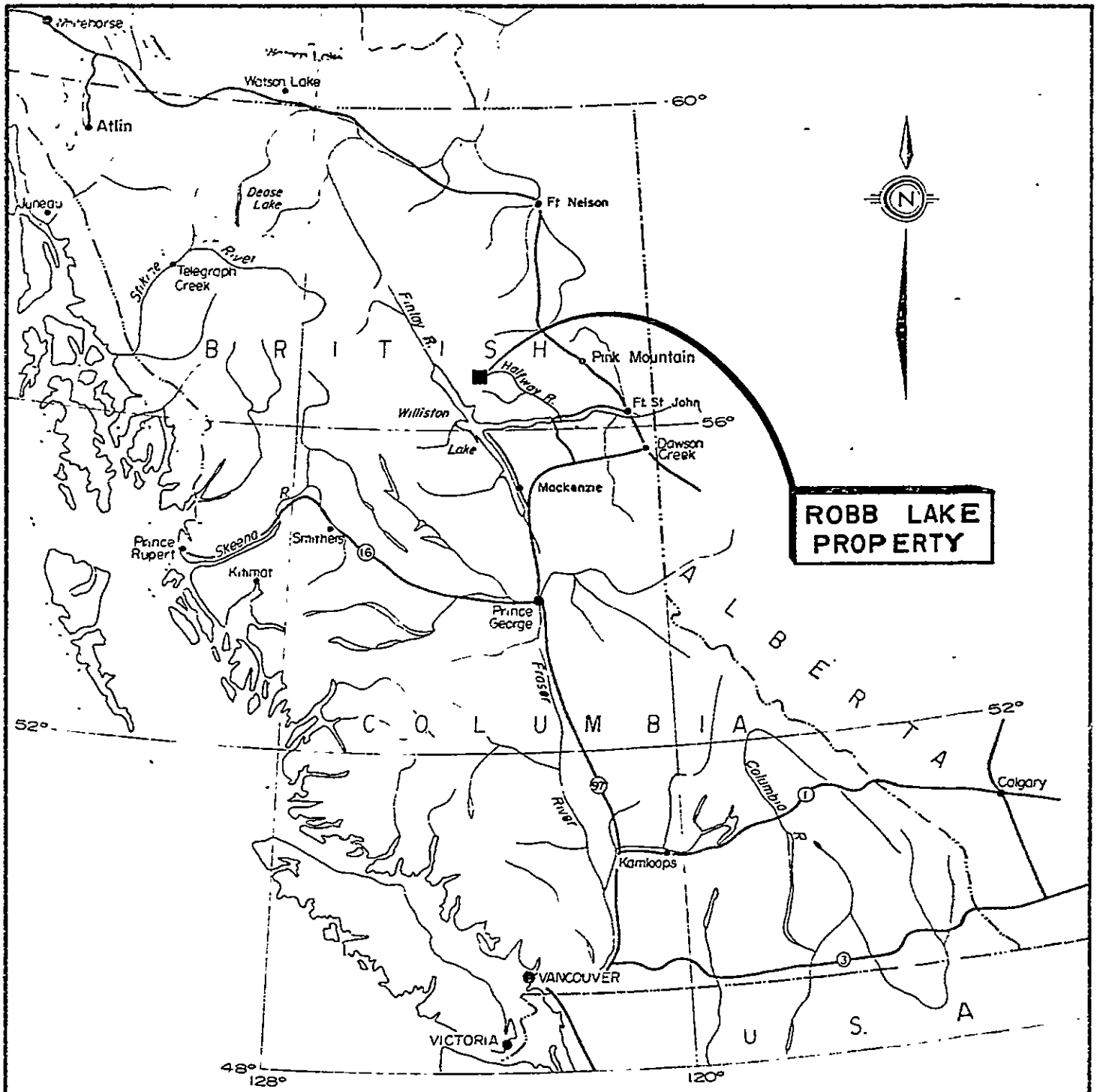
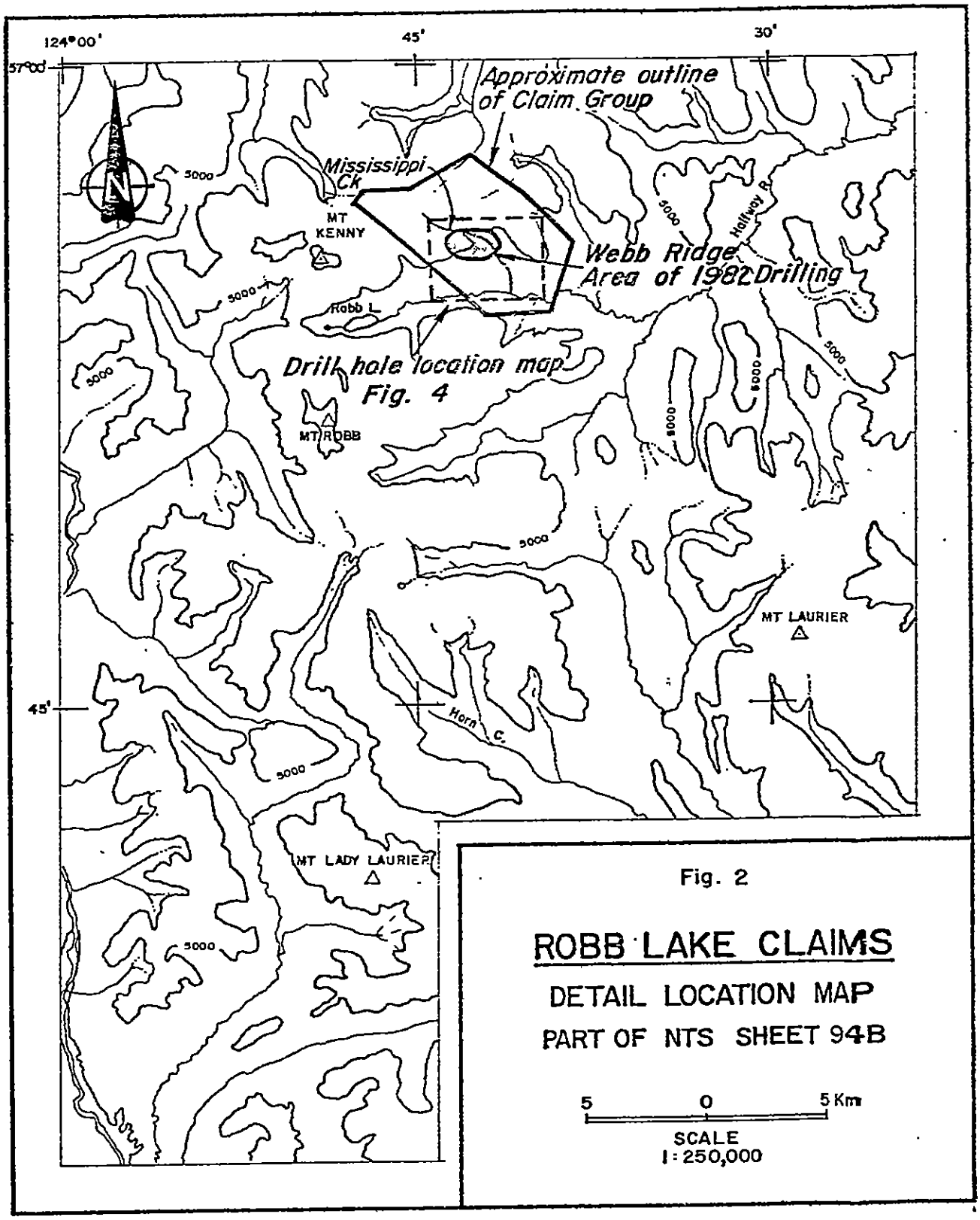


Fig. 1

LOCATION MAP

ROBB LAKE JOINT VENTURE


124°00'
45'
30'
57°00'
Approximate outline of Claim Group
Mississippi Ck
MT KENNY
Webb Ridge Area of 1982 Drilling
Hallway R.
Robb L.
Drill hole location map Fig. 4
MT ROBB
MT LAURIER
Horn C.
MT LADY LAURIER
45'
5000
N
Fig. 2
ROBB LAKE CLAIMS
DETAIL LOCATION MAP
PART OF NTS SHEET 94B
5 0 5 Km
SCALE
1:250,000

Inter-America Corp. and Ecstall Mining (now Kidd Creek Mines Ltd.). The three companies later pooled their claims and formed a joint venture to explore them. A total of 427 two-post claims and 16 units of one mineral claim remain in good standing. Each of the three companies owns some of the claims outright. The rest are held jointly by the three. Kidd Creek Mines Ltd. is the manager of the project and financed the 1982 program.

The claims were staked originally to cover lead-zinc showings in carbonates of assumed Middle Devonian age. From 1972 until 1975, successive field programs of geological mapping and diamond drilling added much information on the structure, stratigraphy and mineralization controls in the area. Over the four year period, 91 holes totalling 43,478 ft were diamond drilled. Drilling was aimed at a number of showings and in three of them significant mineralization was found. A total of 6.1 million short tons grading 7.3% combined lead and zinc was inferred in three separate deposits: the Lower Showing, East Webb and West Webb.

From 1976 until 1979, the project was dormant. It was reactivated in 1980, when it was decided to carry out a grid diamond drilling program to explore for further zones of mineralization in an area where the potentially mineralized horizons lie at some depth below surface. This was a new approach to exploration at Robb Lake and was taken

because mineralization associated with the known surface showings was insufficient to make a viable mining operation. The first part of the planned program was carried out in 1980, and it was essentially completed in 1981. The 1980 and 1981 programs completed 7314.48 m of drilling. This drilling verified that the stratigraphy and structure in the Webb Ridge area is close to what was predicted and therefore can assist in directing future drilling. The reconnaissance grid drilling led to new discoveries of significant mineralization and proved to be a successful method for further property development. Reconnaissance grid drilling is useful in determining the paleo-environment and also for defining the boundaries of economic potential.

Summary of Work Completed

Diamond drilling

Following mobilization of camp and drill equipment early in June, a total of 16 BQ diamond drill holes, totalling 3,592.85 m were completed between June 8 and July 25, 1982 on the Robb Lake property. Drilling was accomplished by Longyear Canada Ltd. using a Longyear 38 machine. All core was logged and mineralized sections split and assayed for lead and zinc. Core is stored at the camp beside the airstrip on the property.

McElhanney Associates surveyed collar location and elevation of all holes drilled in 1982 (see Appendix C).

Work Distribution

The 16 holes totalling 3,593.0 m were drilled on five claims as follows:

Hole No.	Claim	Depth (m)
104-82	Cleo 4	287.1
105-82	Cleo 4	279.5
106-82	Cleo 4	276.4
107-82	Cleo 4	279.5
108-82	MV 23	135.6
109-82	MV 23	136.25
110-82	Rob 15	142.3
111-82	MV 23	146.9
112-82	Rob 17	296.9
113-82	Rob 17	254.8
114-82	MV 23	108.8
115-82	MV 23	124.7
116-82	Rob 17	322.2
117-82	MV 23	215.8
118-82	Rob 16	440.7
119-82	MV 23	145.4

GEOLOGY

The property is underlain by a thick sequence of Lower and Middle Paleozoic sedimentary rocks, the Devonian carbonate succession being the host to sphalerite and galena mineralization.

Earlier work had shown that the Devonian carbonate succession in the Robb Lake area is about 700 m thick and that it could be divided into four units: A, B, C, D in descending order. The units of particular economic interest are B and C and each is about 300 m thick. Strata on the property are only slightly folded but have been affected by extensive thrust faulting.

RESULTS OF DIAMOND DRILLING

Drilling and assay results are summarized in Appendices A and B respectively.

Previous diamond drilling indicated that the highest grade and most extensive mineralization occurred as continuations of showings found on Webb Ridge. It was also shown that mineralization occurred dominantly at two stratigraphic levels, one in mid Unit C, the other in Unit B. Because it appeared that both these units have considerable lateral extensions at a fairly constant level below surface to the south of Webb Ridge, a grid drilling program was initiated in 1980 to explore both

units in this region for further zones of mineralization. The program was amended in 1981 to include some ground north and east of Webb Ridge.

The 1982 program, consisting of diamond drilling across three fences on the East Webb zone, in the Webb ridge area was designed to further evaluate the East Webb zone, to test trends defined previously by drilling and to evaluate newly discovered significant mineralization.

Generally, the B and C units consist of carbonates deposited in a subtidal to supratidal environment. The carbonates are dolomitized. Minor, soft sediment deformation suggests unstable conditions. Cyclicity is evident in both units but is more strongly developed in the B unit. A cycle, from base to top, progresses from a dark, deep water-deposited to a lighter, shallower water carbonate. The basal portion of a cycle in the B unit contains quartz sand and silt whereas the cycles within the C unit are quartz free. The upper, or most shallow water parts of cycles were affected by solution activity which dissolved part of the sediment; led to minor stratiform collapse brecciation, and left cavities which were filled by secondary dolomite. Because solution activity has most commonly affected parts of the sequence deposited in a supratidal environment, it is possible that material removed may have been dominantly anhydrite. There is, however, no direct evidence that anhydrite was originally present.

The stratiform solution breccias occur throughout the section drilled but are most strongly developed in the mid B unit and upper two-thirds of the C unit. Mineralization is associated with collapse breccias although extensive volumes of breccias have remained unmineralized. Sparry dolomite and pyrobitumen form the matrix of the breccias.

The intensity of the brecciation can vary to include one or more cycles. Likewise, the fabric can also vary considerably from a rubble breccia with intense rotation and settling of individiual fragments, to a mosaic breccia with minor rotation and settling, to a crackle breccia with no rotation and minor settling.

Southern Fence

Holes 104-82 and 106-82 were drilled 50 and 100 metres, respectively, west of Hole 84-80 and Holes 105-82 and 107-82 were drilled on similar step-outs to the east.

The holes on this fence intersected well-developed crackle breccia in the B unit and moderately developed mosaic and rubble breccias in the C unit.

The best grade of mineralization was intersected in Hole 105-82 within the C unit. This intersection of 7.06% Zn over a 2.5 m width reduced to less than 1.0% Zn over a 2.5 m width in the holes 50 m to the east or west.

Northern Fence

The purpose of this drilling was to assess the rather shallow, high-grade mineralization of the Cascade area.

Six holes, totalling 794.5 metres, were completed. Four holes centred on Hole 97-81 with Hole 108-81 and 110-82, located 50 and 100 metres, respectively, to the west, and Holes 109-82 and 111-82 similar step-outs to the east. Holes 114-82 and 115-82 were drilled 50 metres south and north of Hole 97-81.

Three of the holes intersected mineralization assumed to correlate with the zone cut by Hole 97-81. The best minerlaization of 3.0 m of 12.38% Zn and 6.97% Pb was intersected in Hole 114-82. All but hole 115-82 are collared in the C unit. Hole 115-82 is collared in the B unit suggesting that thrust faults and associated imbricate faulting may play an important part in the geometry of the mineralized pods. This is likely to be a major factor in determining the continuity of mineralization over large distances within the property.

Central Fence

Hole 113-82 and Hole 117-82 were drilled 50 and 150 metres east of Hole 35-73. Holes 112-82, 116-82, 118-82 are situated 50 m, 100 m and 485 m west of hole 35-73. Hole 119-82 is collared approximately midway between the Central and Northern fences along the NNW trending East Webb zone.

The purpose of these holes was; to follow-up significant mineralization in the East Webb Zone, determine the continuity of mineralization; and verify the NNW mineralized trend.

Hole 113 intersected 15.02% Zn/Pb over 3 m at 200.5 metres depth. This significant mineralization, as well as that in Holes 112-82, 116-82 and 117-82, is situated in rubble breccias within the C unit. Hole 117-82 intersected 2.5 m of 4.85% Zn/Pb at 162.9 metres. Hole 112-82 intersected 13.13% Zn/Pb over 3.0 m at 174.5 metres depth. Hole 116-82 intersected 7.90% Zn/Pb over 3.22 m at 192.92 metres depth. Several other mineralized intersections of lesser significance occur within these holes. The stratigraphic levels where mineralization occurs varies considerably from hole to hole.

Hole 118-82 tested the possible east-west trend between the West and East Webb zones and significant mineralizaion within the West Webb zone. The hole intersected 10.53% Zn/Pb over 3 m at 59.0 m depth. This significant mineralization occurs within mosaic and rubble breccias of the B unit.

Hole 119-82 tested the NNW trend of the East Webb zone. The hole intersected 3.88% Zn/Pb over 2.5 m at 112.6 metres depth. The mineralization is associated with mosaic and rubble breccias of the C unit.

CONCLUSIONS

Reconnaissance drilling on a grid pattern is a successful method to find and define ore trends.

The NNW trend of the East Webb zone has not been negated from drill hole information. A possible east-westerly trend of mineralization exists.

The apparent lack or vague continuity of mineralization between 50 m spaced holes may be due, in part, to the structural complexity resulting from imbricate thrusting.

Alexander J. Boronowski

A. J. Boronowski

S. O. James

S. O. James

APPENDIX A

Summary Logs of Diamond Drill Core

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 104-82

CLAIM: CLEO No. 4

SECTION:

LOGGED BY: S.C. James

DATE LOGGED: June.10-12, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION(grid) NE B.C. 94 B/13

LOCATION(survey) 72249.7N 60593.0E

AZIM: ELEV: 1451.6 m DIP : Vert

DEPTH: 287.1 m CORE SIZE: BQ

STARTED: June 8, 1982

COMPLETED: June 11, 1982

CORE RECOVERY: > 95%

DIP TEST

DEPTH	AZIM	DIP
143.2 m	165°	88.5°
286.5 m	355°	89.5°

SUMMARY GEOLOGICAL LOG - DDH 104-82

Depth (metres)	Description
0 - 18.4	Overburden. Large dolsotone boulders and talus blocks.
18.4 - 95.8	Unit B Dolostones

18.4-34.0: Dolostones; medium to light grey colour cycles 1.5-3 metre wide of slightly silty packstone to wackestone with narrow carbonaceous laminations and birdseye texture in places. Well developed crackle brecciation interrupted by 0.2 -0.5 metre mosaic breccias. Trace sphalerite and galena associated with sparry dolomite cement.

34.0-49.5: Dolostone; alternating dark to light grey silty wackstone, strongly laminated to thinly bedded in the upper interval. Minor peloidal and bioturbation features, occasional slumping in laminated zones. Birdseye common. Predominantly crackle brecciated with occasional 0.2 metre mosaic breccia. Pyrite disseminated throughout and as selvages between early grey dolomite (D2) and later white dolomite (D3) crackle fill. Traces sphalerite in places. Occasional 3-5 mm galena aggregates with cement.

49.5-66.4: Dolostone; medium light grey silty packestone - wackestone, slightly sandy, vaguely thin bedded, peloidal and birdseye textured in places. Trace pyrite disseminated throughout and minor concentrations on occasional stylolites. Minor sphalerite, galena and pyrite with D2 and D3 dolomite crackle breccia cement. Tectonic breccias in fracture/fault zone 61.2-62.4. Fault with tectonically brecciated fragments in ground matrix

at 66.2-66.4.

66.4-78.5: Dolostone; silty to sandy medium grey wackestone with faint bedding, birdseye and peloidal texture in places. Narrow mosaic breccias with minor sphalerite, pyrite and pyro-bitumen traces. Colloform pyrite 70.35-70.6 in vugs. Hairline fractures 75.5-78.5.

78.5-80.3 : Fault zone. Tectonic breccia and ground matrix. 80.2-80.3 gouge and sand (open fault, sand sucked in from surface?).

80.3-95.8: Dolostone; medium to medium light grey silty to sandy wackstone, faintly laminated to thinly bedded with carbonaceous partings, peloidal and birdseye texture in places. Cryptalgal at 90.6, grapestone at 88.4, trace pyrite throughout. Very minor crackle and mosaic breccia in places, trace sphalerite. Tectonic breccia 4 cm wide at 94.0.

95.8 -287.1 Unit C Dolostones

95.8-113.6: Dolostones; dark to medium grey slightly silty packestone-wackestone. Well developed birdseye texture 95.8-101.4 (B/C contact by 1980-81 definition. Although this interval has the primary characteristics of the B unit dolostones, the top of the lowest birdseye textured zone above the light grey rubble breccias, porphyrotopic textures and pseudobreccias characteristic of the C unit dolostones was arbitrarily defined as the contact. To avoid confusion this practice will be continued at present although the contact would be more reasonably placed where the overall primary character changes, 113.6 in this instance.)

Peloidal texture and slightly sandy 108.6-113.6. Argillaceous 113.23-113.31, scoured lower contact. Well developed crackle breccia throughout, 0.2-1.0 metre mosaic breccia intervals. Trace to 3% sphalerite in places. Fault 105.4 to 106.0 with tectonic brecciation, ground matrix. Fracture at 112 metre with sparry cement, 20% galena, 5% sphalerite.

113.6-141.4: Dolostones; light grey rubble breccia. No primary features preserved. Occasional porphyrotopic textured bands, zebroid texture preserved 126.4-127.4 and 136.2. Narrow, $<$0.5 metre bands with minor pyrobituminous matrix in places. Moderate dolomite cementing throughout with minor corrosion of fragments in places. Minor sphalerite in places, pyrite mainly on occasional stylolites. Fractured at 130.7. Pelecypod fragment at 137.0.

141.4-152.8: Dolostones; medium grey crackle brecciated dolostone, occasional sparse filled vugs. Birdseye in laminate 149.0-150.0. Fracture at 144.8.

152.8-163.8: Dolostone; light grey few primary features. Minor small dolomite filled vugs, geopetals and stylolites. Primary features include amphipora bafflestone 153.3-154, slightly silty texture and faint mottling in places. Occasional pseudobreccia.

163.8-169.6: Dolostone; light grey rubble breccia. Corroded clasts, moderate amounts sparry cement, minor narrow bituminous zones. Finely disseminated sphalerite (1%).

169.6-175.7: Dolostones; light grey predominantly porphyrotopic. Fractures and tectonic breccia 171.6-172.2.

175.7-186.4: Dolostone; light grey, few discernable primary features, fossil fragments at 181.0, pelecypod 181.9, amphipora bafflestone pyrobituminous matrix 183.15-183.7. Porphyrotopic textured, minor pseudobreccia, zebroid and rubble breccia 181.6-182.0. Trace to 1% sphalerite in places.

186.4-207.3: Dolostone; medium to light grey finely crystalline dolostone, diffuse cycles to 2 metres in upper interval. Slightly silty with faint bedding lamina 188.2-192.6, occasional amphipora and bioturbation. Fracture zone 188.9-194.2. Rubble breccia, corroded clasts 195.2-196.4.

207.3-218.4: Dolostone; light to medium grey colour cycles on average 3 metre wide, finely crystalline to porphyrotopic with pseudobreccia. Rubble breccias at 207.3-210.4, corroded fragments with pyrobituminous basal matrix, 216.0-218.4 minor pyrobitumen, pyrite and sphalerite.

218.4-219.2: Fault; tectonic breccia, ground matrix.

219.2-242.3: Dolostone; light grey porphyrotic and pseudobreccia textured dolostone interrupted by rubble breccias with basal carbonaceous trash and 2-3% pyrite and sphalerite between 231.8 and 237.8.

242.3-243.4: Dolostone; ANGULAR SAND MARKER. Trace to 5% siliclastics.

243.4-254.2: Dolostone; medium grey porphyrotopic dolostone with minor pseudobreccia. Carbonaceous lamina and partings, mottled pseudobreccia (bioturbation or soft sediment deformation) in places.

254.2-274.4: Dolostone; monotonous light grey, porphyrotopic to finely crystalline dolostone with occasional pseudobreccia and mottled pseudobreccia texture caused by bioturbation or soft sediment deformation. 269.5-278.2 minor fractures, core blocky.

274.4-274.8: Fault, tectonic brecciation.

274.8-277.1: Dolostone; similar to 254.2-274.4 interval.

277.1-287.1: Dolostone; medium to light grey becoming light grey monotonous porphyrotopic dolostones with increasing depth. Occasional pseudobreccia and mottled (bioturbated ?) zones. Minor carbonaceous lamina and partings in places. 279.2-281.2 rubble breccia, trace pyrite and sphalerite.

287.1 END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 105-82

DIP TEST

DEPTH	AZIM	DIP
137.2 m	110°	89.5°
279.5 m	0°	89.0°

CLAIM:	CLEO No. 4
SECTION:	
LOGGED BY:	S.C. JAMES
DATE LOGGED:	June 13-16, 1982
DRILLING CO.:	Longyear Canada Inc.
PROPERTY:	Robb Lake
LOCATION (grid)	NE B.C. 94 B/13
LOCATION (survey)	72281.0N 60946.2E
AZIM:	ELEV: 1460.5 m DIP: Vert
DEPTH:	279.5 m CORE SIZE: BQ
STARTED:	June 12, 1982
COMPLETED:	June 14, 1982
CORE RECOVERY:	> 95%

SUMMARY GEOLOGICAL LOG - DDH 105-82

Depth (metres)	Description
0 - 23.3	Overburden.
23.3 - 81.9	Unit B Dolostones

23.3-50.4: Dolostone; medium to light medium and light grey irregular cyclic colour variation. Individual cycles 2-8 metres wide. Predominantly slightly silty packstone with trace pyrite throughout. Minor birdseye, mottling, faint lamina and stylolites in places. Occasional white dolomite (D3) filled crackle or narrow mosaic breccia with trace sphalerite and pyro-bitumen blebs.

50.4-58.6: Dolostone; medium grey slightly silty pyritic wackestone. Lower interval crackle brecciated with minor sphalerite selvages in D3 and trace galena aggregated blebs.

58.6-59.0: Fault, tectonic breccia, ground matrix.

59.0-74.2: Dolostone; medium to light grey silty to sandy wackestone, faint lamina to thin bedding in places, minor peloidal zones and slumps. Very minor crackle, mosaic breccia and stylolites.

74.2-81.9: Dolostone; packstone with well developed crackle and mosaic breccias, minor sphalerite and trace galena. Amphipora at 75.4.

81.9 -279.5 Unit C Dolostones

81.9-87.3: Dolostone; medium to dark grey, silty, peloidal, pyritic wackestone with well developed birdseye texture at 81.9-83.8 marking B/C contact

as per present definition. More logical contact at 96.0 (See Log 104-82 discussion). Occasional stylolites. Crackle and mosaic breccia 84.4-84.8 with minor sphalerite and pyrite.

87.3-96.0: Dolostone; medium dark grey wackestone, peloidal. Well developed crackle and mosaic brecciation. Honey coloured sphalerite disseminations and selvages with D3.

96.0-117.1: Dolostone; light grey rubble breccia with D2 (grey) and D3 (white) dolomite cement. Strong corrosion of original fragments. Basal 0.5-1.0 metre pyrobituminous matrix. Pelecypod fragment at 117.0. Trace sphalerite at 115.5-115.95.

117.1-123.0: Dolostone; light grey porphyrotopic and pseudobreccia textured dolostone. Numerous stylolites. Slightly sheared at 120.5-120.7. Moldic fabric 122.1.

123.0-132.1: Dolostone; light grey porphyrotopic dolostone. Stylolites with carbonaceous residues. Minor birdseye.

132.1-143.6: Dolostone; light grey porphyrotopic dolostone with mosaic breccia, sphalerite bearing, and pseudobreccia in the upper interval. Fracture and shearing at 141.3 and 143.4 to 143.6.

143.6-158.5: Dolostone; light medium grey finely crystalline dolostones interrupted by crackle, mosaic and rubble breccias with corroded fragments 1-3 metres in width.

158.5-166.6: Dolostone; rubble breccia with pseudobreccia and coarse sparry dolomite fill in upper contact zone. Low grade sphalerite mineralization and zones with pyrobitiminous matrix in places.

166.6-172.8: Dolostone; light medium grey porphyrotopic dolostone. Narrow mosaic breccia, 0.2 metre, at 170.0. 10 cm sphalerite (3%) at 171.8.

172.8-180.5: Dolostone; alternating pseudobreccia, porphyrotopic dolostone and rubble breccias with approximately 6% sphalerite (honey coloured and Fe-rich) throughout.

180.5-188.3: Dolostone; light to medium grey dolostone with minor birdseye and mottling (bioturbation ?) in places, Porphyrotopic dolostone with minor crackling, Trace pyrite and pyrobitumen in places.

188.3-194.4: Dolostone; predominantly pseudobreccia, occasional birdseye and very minor mottled pseudobreccia, narrow rubble and mosaic breccia. Trace pyrite and pyrobitumen in places. 191.85-192.1, 8% sphalerite.

194.4-238.2: Dolostone; light to very light grey, finely crystalline to porphyrotopic dolostone, interspersed incipient pseudobreccia and 0.2-1.0 metre mosaic and rubble breccia in places. Scattered low grade mineralization between 216.8 and 227.2 metres. Sparsely distributed primarily features include occasional peloidal, mottled (bioturbated ?) and laminated bands, and amphipora at 206.8. Minor fractures at 206.8, 215.6, 222.6, 228.2-233.0.

238.2-258.4: Dolostone; rubble breccia with moderate amounts of dolomite cement, strongly corroded fragments in places. Low grade sphalerite distributed in upper interval. Increasing pyro-

bituminous from 248.5 to 251.8. Basal breccia 250.0-258.4 consists of frequently alternating rubble, pseudo, and porphyrotopic zones or mixtures. Pyrobituminous matrix in some fragments. Strong corrosion 253-254.1. Minor tectonically brecciated fracture at 257.5.

258.4-261.25: Dolostone; medium grey peloidal dolostone with faint mottling in upper interval. Siliclastics 260.1-261.25. ANGULAR SAND MARKER, Tight hairline and sparry comented fractures with sparsely dispersed sphalerite.

261.25-279.5: Dolostone; colour and texture indicate 1-3 metre cyclicity of light to dark grey dolostone. Peloidal, mottled pseudobreccia (burrowed or soft sediment deformation) and laminated in places. Upper two-thirds of interval is porphyrotopic with 0.5-1.0 metre rubble breccia and pseudobreccia. Scattered low grade sphalerite mineralization, pyrite and pyrobitiminous residues. Lower interval dominated by porphyrotopic to finely crystalline dolostone and mottled pseudo-breccia.

279.5 END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 106-82

CLAIM: CLEO No. 4

SECTION:

LOGGED BY: S.C JAMES

DATE LOGGED: June 17-19, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 72255.2N 60430.4E

AZIM: ELEV: 1448.65 m DIP = Vert

DEPTH: 276.4 m CORE SIZE: BQ

STARTED: June 16, 1982

COMPLETED: June 18, 1982

CORE RECOVERY: > 95%

DIP TEST

DEPTH	AZIM	DIP
137.2 m	270°	88°
298.7 m	253°	88°

SUMMARY GEOLOGICAL LOG - DDH 106-82

Depth (metres)	Description
0 - 21.0	Overburden, talus and large dolostone blocks.
21.0 -104.8	Unit B Dolostones

21.0-75.0: Dolostone; cyclic colour variations light to medium grey, with individual cycles 2-4 metre thick on average. Silty to sandy wackestones often with laminated zones 0.5-2.0 metres wide throughout. Other primary features include birdseye and peloidal textures in places, minor slumping and mottling (bioturbation or soft sediment deformation) in places. Characteristic fine to microscopic pyrite dissemination. Very occasional narrow (0.2-1.0 metre) rubble and mosaic breccias cross-cut the sequence. Crackle brecciation 26.5-29.4. Trace to 1% sphalerite at 36.2 in mosaic breccia cement and 69.1 and 70.4. Minor fractures in places. Fracture zone and some shearing 41.5-47.7, tectonic breccia and shearing 74.5-75.0.

75.0-90.4: Dolostone; predominantly medium to dark slightly silty to sandy in places packstone-wackstone. Faintly laminated 77.0-87.8, grapestone at 80.6 and peloidal at times. Numerous moderately cemented rubble and mosaic breccias 0.2-1.5 metres wide, remainder of interval is crackled. Trace to 1% sphalerite disseminations and very minor galena in lower interval, elsewhere sporadic. Occasional concentrations of pyrite (5% at 85.6-86.0)

90.4-104.8: Dolostone; medium grey, slightly silty packstone with birdseye texture in places. Predominantly crackle brecciated. Minor narrow mosaic and rubble breccia with sparse mineralization. Amphipora 104.1-104.6.

104.8 -276.4 Unit C Dolostones

104.8-111.5: Dolostone; medium to dark grey slightly silty to sandy in basal metre, occasional peloidal and cryptalgal texture. Birdseye textured zone 104.8-108.7 marks B/C contact as defined 1980-81. More logical contact at 111.5 (See LOG 104-82 discussion). Predominantly crackle brecciated with minor mosaic and rubble breccia, trace to 1% sphalerite galena at 106.2, 109.4.

111.5-127.8: Dolostone; medium light grey rubble breccia, some corrosion of clasts in upper interval. Pyrobituminous clasts and carbonaceous fragments in places in the breccia. Moldic fabric at 124.6. Sporadic trace sphalerite.

127.8-141.0: Dolostone; light grey finely porphyrotopic dolostone with minimal primary or secondary features. Fault zones at 129.8-130.4, 137.5-140.3, 30% core loss, tectonic breccia and shearing.

141.0-160.2: Dolostone; broad light to light-medium grey cycles 2-4 metres wide. Finely crystalline, occasional peloids, geopetals stylolites and crackle breccia. Birdseye texture 141.2-142.2, 151.0-153.0, 158.5-158.8.

Amphipora 146.2-149.2. In addition, the lower interval carries a mosaic-rubble and pseudobreccia, trace sphalerite and minor fractures.

160.2-167.0: Dolostone; rubble breccia strong corrosion of clasts, D2 and D3 dolomite cement, 1% sphalerite distributed throughout. Remnant porphyrotopic and pseudobreccia sections. Pyritic and pyrobituminous at 164.2-164.3, 165.0 and 166.0.

167.0-183.5: Dolostone; fairly uniform light grey porphyrotopic dolostone with incipient pseudobreccia in places. "Salt and pepper" textured residues at 170.0-171.4 and traces pyrite on stylolites. 5 cm tectonic breccia at 170.4.

183.5-193.2: Dolostone; light grey finely crystalline dolostone with interval of medium grey birdseye and peloidal textured between 184.2 and 188.8. Minor fractures, porphyrotopic and pseudobreccia 188.8-191.2.

193.2-193.5: Fault; tectonic breccia with ground matrix.

193.6-217.3: Dolostone; 1-4 metre cyclic light to medium-dark grey finely crystalline dolostone with minor mottling (bioturbation) porphyrotopic and zebra to pseudobreccia textures in places. Traces of pyrite on stylolites and in pseudobreccias, "salt and pepper" textured residues were noted.

217.3-217.8: Fault; tectonic breccia.

217.8-224.4: Dolostone; medium to light grey

porphyrotopic dolostone, minor peloidal and zebra textures, pseudo- and rubble breccias. Trace sphalerite and galena.

224.4-233.6: Dolostone; light grey rubble breccias 0.5-1.0 metre wide in predominantly pseudobrecciated sequence with minor porphyrotopic remnants. Heavily mineralized 224.3-225.3, 5-8% with lessor sphalerite in the remainder of the interval.

233.6-237.4: Dolostone; featureless light grey porphyrotopic dolostones.

237.4-239.4: Dolostone; zone of fractured and sheared porphyrotopic dolostone and pseudobreccia. Fault breccia at 237.8-238.0.

239.4-244.0: Dolostone; light to medium grey porphyrotopic to finely crystalline dolostone with narrow mosaic, pseudo- and crackle brecciation in the lower interval. Sandy at 238.6-238.8, laminated 241.0-241.3.

244.0-245.7: Dolostone; ANGULAR SAND MARKER, siliclastics and slight mottling.

245.7-276.4: Dolostone; light grey porphyrotopic dolostone with occasional laminated bands and mottled pseudobreccia in places (burrowed or soft sediment deformation). 0.2-0.5 metre wide pseudo- and mosaic breccias with 1% pyrite, mainly in lower interval. Pyrobituminous seams and residues in places.

276.4 END OF HOLE.

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 107-82

CLAIM: CLEO No. 4

SECTION:

LOGGED BY: S.C. JAMES

DATE LOGGED: June 21-23, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 72293.3N 61108.9E

AZIM: ELEV: 1464.4 m DIP: Vert

DEPTH: 279.5 m CORE SIZE: BQ

STARTED: June 20, 1982

COMPLETED: June 23, 1982

CORE RECOVERY: >95%

DIP TEST

DEPTH	AZIM	DIP
137.2 m	260°	88.5°
274.3 m	205°	87.75°

SUMMARY GEOLOGICAL LOG - DDH 107-82

Depth (metres)	Description
0 - 26.2	Overburden.
26.2 - 99.3	Unit B Dolostones

26.2-57.0: Dolostone; predominantly lightish medium grey packstone with finely disseminated pyrite throughout with narrow intervals being slightly sandy or laminated. Poor mottling (burrowing ?) and occasional birdseye texture is apparent. Minor crackle brecciation, very occasional thin mosaic breccia cycles, stylolites. White (D3) and early grey (D2) dolomite cement with trace to 1% sphalerite selvage between dolomite cement phases. Occasional galena blebs. Fault zone 54.9-57.0, tectonic breccia and ground matrix 55.4-56.0.

57.0-75.7: Dolostone; medium to light-medium grey packstone, slightly silty to sandy in places. Very minor laminated and birdseye textured intervals. Slump breccia at 73.7. Upper and lower intervals dominated by mosaic breccias with an intermediate crackle brecciated interval. Minor sphalerite mineralization associated with D2 and D3 cements.

75.7-99.3: Dolostone; medium to dark grey slightly silty to sandy packstone-wackstone with numerous well laminated cycles, 1-3 metres wide, minor peloidal texture and occasional slump breccia. Birdseye texture common below 86.5. Interval is interrupted by mosaic and minor rubble breccias 0.2-2.5 metre thick. Trace to 1% sphalerite and galena often associated with the sparry cement.

99.3 -279.5 Unit C Dolostones

99.3-108.4: Dolostone; medium dark grey slightly silty often birdseye textured packstone, crackle brecciated with minor narrow mineralized mosaic breccias (0.1-0.2 metre). B/C contact as per 1980-81 usage (see Log 104-82 discussion).

108.4-134.0: Dolostone; medium-light grey rubble breccia lacking discernable primary features. Corroded clasts 108.4-109.6, minor pyrobitumen in clasts and increasingly pyrobituminous 109.6-121.4. Strong solution and corrosion of pseudobreccia and rubble clasts 121.4-129.8. Corroded clasts but pyrobituminous matrix in basal zone. Occasional trace sphalerite. Slightly sheared 122.5-122.8.

134.0-148.8: Dolostone; mainly light grey porphyrotopic dolostone with occasional stylolites, rubble breccia at 136.2-138.2 and crackle breccia 144.0-148.8. Amphipora 140.4-141.4, birdseye 145.2-147.2. Rubble breccias with trace sphalerite on stylolite 136.2-138.1.

148.8-164.0: Dolostone; rubble breccias with remnant porphyrotopic and pseudobreccia texture bands (0.2-0.4 metre wide). Pyrobituminous matrix with trace pyrite common except at 156.8-160.6 which is strongly dolomite cemented. Sparse sphalerite, less than 1% 156.6-157.1 and 159.6-160.6

164.0-178.4: Dolostone; medium grey finely crystalline to porphyrotopic dolostone. Birdseye texture preserved at 167.0-167.5, 171.2 and 176.5-177.0, gastropod at 171.1 and relict slump breccia at 166.2. Narrow rubble and pseudobreccia in lower interval.

178.4-206.0: Dolostone; diffuse cyclic colour variation (5 metre wide on average) very light to medium grey in dolostone with few primary features. Amphipora at 182.0-182.5, 196.3 and 197.2. Birdseye texture 186.6-187.0 and minor mottling (burrowing or soft sediment deformation) 183.6-184.0. Mixed secondary features, predominantly porphyrotopic and pseudobreccia in the upper interval. Porphyrotopic dolostone interrupted by 2 metre wide mosaic rubble and crackle breccia in the lower interval. Sparse sphalerite associated with mosaic breccias 191.6-193.5. Minor fractures 190.6-190.8, 193.1-193.8, 197.4-204.8. Incipient tectonic breccia 203.0-203.6.

206.0-224.3: Dolostone; 1-4 metre cyclic variation of light and medium grey finely crystalline dolostones. Poor primary features, narrow zones of birdseye, mottling, amphipora and slump breccia have very limited distribution. Minor narrow (0.2-0.5 metre) rubble breccia with pyrobituminous matrix. Occasional geopetals and stylolites with carbonaceous residues. Sheared 209.4-210.0.

224.3-227.7: 15% core recovery; dolostone chips possible fault.

227.7-233.2: Dolostone; light grey alternating porphyrotopic, pseudobreccia textures and dolomite cemented rubble breccias. Trace sphalerite at 229.3 and 230.3.

233.2-240.8: Dolostone; predominantly very light grey porphyrotopic dolostone with pseudo and rubble breccia.

240.8-245.1: Dolostone rubble breccia, dolomite cemented. Pyrite, 5% at 240.5-240.8, 1-2% dissemination 240.8-242.5.

245.1-247.4: Dolostone; medium grey porphyrotopic dolostone with 0.2 metre wide pseudobreccias. Fractured 246.4-246.8.

247.4-248.7: Dolostone; medium grey peloidal silty dolostone with 5% siliclastics at 248.0-248.05 representing the ANGULAR SAND MARKER.

248.7-258.5: Dolostone; light grey with carbonaceous lamina and mottled pseudobreccia (burrowed, soft sediment deformation) in the lower interval. Minor pyrobituminous rubble and pseudobreccia in the upper section. Incipient tectonic breccia 253.3-253.6.

258.5-279.5: Dolostone; uniformly light grey relatively featureless porphyrotopic dolostone with occasional stylolites. Zebra texture at 258.6 and 260.6. Narrow rubble breccia cycles cross-cut mottled zone at 271.8-274.1.

279.5 END OF HOLE.

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 108-82

CLAIM: MV No. 23

SECTION:

LOGGED BY: S.C. JAMES

DATE LOGGED: June 25-26, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 75828.5N 59416.3E

AZIM: ELEV: 1569.6 m DIP: Vert

DEPTH: 135.6 m CORE SIZE: BQ

STARTED: June 24, 1982

COMPLETED: June 25, 1982

CORE RECOVERY: >95%

DIP TEST

DEPTH	AZIM	DIP
121.9 m	20°	89°

SUMMARY GEOLOGICAL LOG - DDH 108-82

Depth (metres)	Description
0 - 9.8	Overburden. Alluvium and talus.
9.8 -135.6	Unit C Dolostones

9.8-10.8: Dolostone fragments.

10.8-18.7: Dolostone; rubble breccia with dolomite cement, finely disseminated sphalerite, no distinct primary features, fractured at 13.2 and 18.4-18.8 m.

18.7-21.2: Dolostone; finely crystalline light grey, slightly sheared at 20.9.

21.2-26.4: Dolostone; rubble breccia with dolomite cement 20.2-20.6, and minimal dolomite cement but pyrobituminous from 20.6-26.4 with heavy sphalerite dissemination and galena aggregates.

26.4-65.2: Dolostone; cyclic colour variations from grey to light grey, the grey intervals often are birdseye textured. Cycles vary from 2 to 5 metres, with 0.2 -0.5 m intervals of pseudobreccia distributed through the sequence, with occasional lenses of mosaic, rubble and crackle breccia. Faults occur at 40.0 m and 43.6-44.0 m (open). 52.0-53.6 a pseudobreccia cycle with rubble and mosaic brecciation has minor sphalerite and galena mineralization associated with pyrobituminous matrix filling.

65.2-82.6: Dolostone; predominantly light to very light grey with few primary features, relict amphipora at 81.2 m. Well developed pseudobreccias, occasional zebroid texture (65.8 m) alternate with porphyrotopic dolostone. Minor sphalerite mineralization, disseminated in 0.2 m (or less)

bands throughout. Occasional 0.2-0.5 m pseudobreccia cycles with minor pyrobitumen. Minor fracture zone 70.7-73.7. Hairline fractures in places 73.7-80.0.

82.6-92.8: Dolostone pseudobreccia with moderate fine sphalerite dissemination. Honey coloured sphalerite with minor pyrite and pyrobitumen (82.6-88.8), reddish sphalerite 90.1-92.8. Hairline shear fractures (85.8-87.4) with remobilized sphalerite on shear planes.

92.8-96.4: Dolostone; medium grey slightly silty and peloidal textured with mosaic and crackle breccia bands. Rubble breccia with pyrobituminous matrix 96.4-97.4. Fine sphalerite dissemination 95.0-97.4; snow on roof texture associated with dolomite cemented mosaic breccia. Fracture at 95.0-95.3 m.

96.4-135.6: Dolostone; light grey relatively uniform textured dolostone with 0.2 to 1.0 m medium grey mottled texture in places caused by burrowing or soft sediment deformation. Dolostones are porphyrotopic with occasional stylolites and pseudobreccia lenses.

135.6 END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 109-82

CLAIM: MV No. 23

SECTION:

LOGGED BY: S.C. JAMES

DATE LOGGED: June 27-28, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 75849.3N 59736.5E

AZIM: ELEV: 1573.4 m DIP: Vert

DEPTH: 136.25 m CORE SIZE: BQ

STARTED: June 26, 1982

COMPLETED: June 27, 1982

CORE RECOVERY: >95%

DIP TEST

DEPTH	AZIM	DIP
134.7 m	-	-

SUMMARY GEOLOGICAL LOG - DDH 109-82

Depth (metres)	Description
0 - 21.9	Overburden.
21.9 -136.25	Unit C Dolostones

21.9-27.2: Dolostone; rubble breccia comprised of corroded dolostone fragments without distinct primary textures, dolomite cemented with partial boxwork (breccia-moldic) fabric in places. Pyrite located on occasional stylolites. Minor fractures 22.2-24.0.

27.2-45.8: Dolostone; light grey porphyrotopic and pseudobreccia textured dolostones with occasional zebroid textured (28.4, 35.4, 35.6-35.9, 37.4) bands. Rubble and mosaic breccias, 0.2-0.5 metres crosscutting the upper part of the interval are dolomite cemented. Below 35.9 metres, pyrobitumen is usually present (3-20%). Trace to 5% pyrite is disseminated throughout. Trace to 1% sphalerite is disseminated in pseudo- and rubble breccias. A thicker rubble breccia 40.0-43.2 is pyrite (3%) and pyrobituminous (5%) with no sparry dolomite cement. Sphalerite is concentrated to 3% at 41.8-42.8.

45.8-58.2: Dolostone; light to medium grey intervals. Weakly cyclic, with individual cycles 5-6 metres thick. Few primary fabrics; slightly silty with delicate lamination in places, occasional gastropod relicts. The upper interval has crackle and narrow mosaic breccias. Rubble breccia and minor pseudobreccia with finely disseminated honey-coloured sphalerite and pyrobituminous matrix material

dominate the lower part of the interval. Trace pyrite occurs in breccias and on stylolites.

58.2-91.85: Dolostone; light grey with few primary features (faint lamina in places, relict gastropods 59.4 and 60.3, birdseye texture and amphipora gravelstone 64.8-65.3) generally confined to 0.3-0.5 metre widths. Predominantly finely crystalline porphyrotopic with 0.2 to 0.3 metre intervals of pseudobreccia or zebroid pseudobreccia. Numerous stylolites with insoluble residue accumulations.

91.85-92.3: Dolostone; tectonic breccia and ground matrix in major fault.

92.3-120.05: Dolostone; light grey, no primary features. Well developed porphyrotopic texture with narrow cycles (0.2-0.5 metre) of pseudobreccia and zebroid texture and stylolitic contacts. Narrow rubble and mosaic breccias, dolomite cemented with associated Fe-rich sphalerite and pyrite (5%) are present 97.6-100.8. Minor fractures; 99.6 slickensides on chips, 116.2 tectonic breccia 2 cm wide.

120.05-120.85: Dolostone; ANGULAR SAND MARKER, finely crystalline with 5% siliclastic grains. Slightly peloidal at basal contact. Faint lamina partings. Trace sphalerite in hairline fracture at 120.3 m.

120.85-136.25: Dolostone; light grey. Faintly laminated in upper part of interval with occasional cryptalgal textures (127.0,130.2 metres) in finely crystalline to porphyrotopic

dolostone with numerous stylolites. Well developed mottled pseudobreccias representing burrowing or soft sediment deformation predominant in the lower part of the interval. Relict pelecypod fragments at 135.5 m. Minor hairline fracture at 135.8. Trace sphalerite with carbonate filled fenestral porosity at 135.4 and 135.8 m.

136.25 END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 110-82

CLAIM: ROB No. 15

SECTION:

LOGGED BY: S.C. JAMES

DATE LOGGED: June 29-30, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 75838:1N 59247.9E

AZIM: ELEV: 1578.7 m DIP: Vert

DEPTH: 142.3 m CORE SIZE: BQ

STARTED: June 28, 1982

COMPLETED: June 29, 1982

CORE RECOVERY: > 95%

DIP TEST

DEPTH	AZIM	DIP
139 m	270° ?	87°

SUMMARY GEOLOGICAL LOG - DDH 110-82

Depth (metres)		Description
0	- 16.2	Overburden. Dolostone boulders in alluvium and talus.
16.2	-142.3	Unit C Dolostones

16.2-28.2: Dolostone; cyclic colour variations light grey to grey, the grey intervals often being slightly silty with peloidal and/or birdseye texture. A gastropod is preserved at 17.1. Pyrobitumen - bearing rubble breccia with a minor interval of crackle breccia and fine sphalerite mineralization 16.2-18.0. Mosaic, rubble and pseudobreccia lenses 0.2-0.5 m alternate with porphyrotopic dolostones 18.0-28.2. Occasional poor geopetals occur at 21.8 and 25.2. 5 cm tectonic breccia with ground matrix sections are present at 24.7 and 25.5. Minor fractures are present at 18.2, 23.7-24.7.

28.2-46.8: Dolostone; light grey with minor 0.5-1.0 m grey birdseye textured cycles, relict amphipora at 28.8, and 43.4, gastropod at 46.6, cryptalgal texture at 44.5. Pseudobreccia lenses alternate with porphyrotopic to finely crystalline dolostone. Zebra texture at 28.8-29.2, 36.9. Minor fracture zones 34.5-35.5, 37.9-39.0.

46.8-50.0: Dolostone; rubble breccias with pyrobituminous matrix and disseminated sphalerite, galena 49.0-50.0.

50.0-67.4: Dolostone; few primary features in predominantly light grey dolostone, occasional 0.2-1.5 grey cycles and minor birdseye texture.

50.0-59.0 and 66-67.4 narrow pseudobreccia and zebra texture bands. 59.0-64.0 narrow mosaic breccia bands. Minor fractures at 57.0-57.4, 63.4-65.8.

67.4-75.2: Dolostone; rubble breccias with lessor mosaic and pseudobreccias alternating with 0.2-0.5 m porphyrotopic dolostones. Breccias have minor pyrobituminous matrix and sparse sphalerite disseminations. Minor, 1 cm, fracture at 73.2.

75.2-84.3: Dolostone; medium to light-medium grey with faint lamina bedding and peloidal texture preserved in places. Pseudobreccia and minor zebroid texture predominate in the upper interval with pyritic (2-20%) pyrobituminous rubble breccias of 0.3-1.0 m in the lower interval. "Salt and pepper" texture at 77.7-78.4 and 79.4 is associated with pseudobreccia as sparse coarse sphalerite aggregates. Disseminated sphalerite is present in rubble breccia. Fault gouge (2 cm) is evident at 82.4.

84.3-127.5: Dolostone; light grey to medium and light grey with numerous mottled pseudobreccias (0.5 to 1.5 m) resulting from burrowing or soft sediment deformation. Other primary features include occasional argillaceous or silty zones <0.5 m wide and a gastropod relict at 87.2. Weak cyclicity, 2-5 metres thick, with basal mottled pseudobreccia and upper porphyrotopic to pseudobreccia is evident. Occasional stylolites are present. A fracture zone of tectonic breccia fragments and ground matrix is present at 98.4-99.0.

127.5-142.3: Dolostone; light grey relatively uniform porphyrotopic textures interrupted by pseudobreccias 0.2-0.8 metres thick are well developed. Amphipora are present at 140.9. Silty to argillaceous flazers in 0.4-0.8 metre bands are present at 130.5-135.9. Trace pyrite occurs at the base of pseudobreccia intervals at 131.2, 132.8 and 134.3. Trace sphalerite was noted at the top of a sparry dolomite crackle breccia at 135.2-135.9.

142.3 END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 111-82

DIP TEST

DEPTH	AZIM	DIP
143.3 m	0°	88°

CLAIM:	MV No. 23
SECTION:	
LOGGED BY:	S.C. JAMES
DATE LOGGED:	July 1 - 2, 1982
DRILLING CO.:	Longyear Canada Inc.
PROPERTY:	Robb Lake
LOCATION (grid)	NE B.C. 94 B/13
LOCATION (survey)	75854.8N 59905.2E
AZIM:	ELEV: 1578.9m DIP: Vert
DEPTH:	146.9 m CORE SIZE: BQ
STARTED:	June 30, 1982
COMPLETED:	July 1, 1982
CORE RECOVERY:	>95%

SUMMARY GEOLOGICAL LOG - DDH 111-82

Depth (metres)	Description
0 - 19.8	Overburden.
19.8 -146.9	Unit C Dolostones

19.8-35.1: Dolostone; light to medium grey with no discernable primary features. Predominantly rubble breccias with moderate amounts of white sparry dolomite cement (D3) and increased grey dolomite cement (D2) in the lower part. A few pyrobitumen bearing intervals 0.4-0.5 metre thick are mainly limited to the lower interval. Three intervals of porphyrotopic textured dolostone (1.5 metre wide) interrupt the rubble breccias. Trace to 1% sphalerite occurs in places. Tight hairline fractures are present 32.9-34.9.

35.1-39.4: Major fault. 80% core loss. Dolostone, tectonically brecciated fragments with ground matrix.

39.4-51.0: Dolostone; light grey porphyrotopic, pseudobreccia and minor zebroid textured alternating with numerous 0.2-0.5 metre wide rubble and mozaic breccias with white (D3) and grey (D2) dolomite cement in the upper interval and pyrobitumen and pyrite in lower breccias. The 41.3-42.0 rubble is a rebrecciated breccia with pyrobitumen cemented breccia fragments in the later D3 dolomite cemented rubble. Pyrite is disseminated in the matrix, on stylolites and concentrated (5-10%) in pyrobituminous rubbles. Fine sphalerite is present in places.

51.0-76.1: Dolostone; medium grey rubble breccias. Uppermost breccias include "B unit-type" dark silty dolostone, and occasional pyrobituminous fragments in a finer breccia matrix with minor white dolomite cement and disseminated pyrite (2-10%) and sparse sphalerite. Mid-interval consists of fine rubble breccia, minor mosaic and crackle breccias in finely crystalline dolostone. The lower interval is characterized by pyrobituminous breccia, pyrite (2%) and occasional sparsely distributed sphalerite in 0.2-1.0 metre zones.

76.1-106.0: Dolostone; diffuse cyclic development reflected by subtle colour, light medium to very light grey, and textural variations. Cycles to 6 metre in thickness. Lower parts of cycles characterized by finely crystalline dolostone changing upward into porphyrotopic and pseudo-breccia textures. Occasional stylolites, geopetals and zebroid fabrics are noted. Narrow 0.1-0.2 metre birdseye textured zones, minor cryptalgal, peloidal and mottled (burrowing ?) pseudobreccias features are present. Relict amphipora at 82.3 and 97.2.

106.0-135.0: Dolostone; uniformly light grey non-descript finely crystalline to porphyrotic dolostone with occasional 0.2-0.8 metre wide pseudobreccia, rubbly pseudobreccia, narrow mosaic and crackle breccias. Occasional trace sphalerite.

135.0-146.9: Dolostone; minor mottled pseudobreccia, birdseye and slump feature preserved in finely crystalline to porphyrotopic dolostone with occasional stylolites and pseudobreccia. Fracture zone, tight hair-line fractures, tectonic breccia (25 cm) 140.1-146.9.

146.9 END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 112-82

CLAIM: ROB No. 17

SECTION:

LOGGED BY: S.C. JAMES

DATE LOGGED: July 3 - 5, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 74272:4N 59124.4E

AZIM: ELEV: 1643.5 m DIP: Vert

DEPTH: 296.9 m CORE SIZE: BQ

STARTED: July 2, 1982

COMPLETED: July 4, 1982

CORE RECOVERY: >95%

DIP TEST

DEPTH	AZIM	DIP
146 m	230°	87.5°
295.6 m	355°	88.25°

SUMMARY GEOLOGICAL LOG - DDH 112-82

Depth (metres)	Description
0 - 11.0	Overburden.
11.0 -105.0	Unit B Dolostones,

11.0-49.0: Dolostone; cyclic variation of lighter grey finely crystalline to slightly porphyrotopic dolostone with medium grey slightly silty to laminated packstone. Minor peloidal, birdseye texture and slumping in places. Occasional pseudo-breccia zebra textures and stylolites. Trace pyrite, particularly in the lower section and concentrated on stylolites.

49.0-80.4: Dolostone; uniformly slightly silty relatively featureless dolostone, generally medium grey. Very occasional peloids and laminated sections. Trace pyrite and stylolites. Fractures 58.2-59.7. Fault, tectonic breccia 59.7-60.0.

80.4-105.0: Dolostone; medium to dark grey slightly silty wackestone, occasionally peloidal and laminated. Light to medium grey with narrow sandy cycles (up to 5% siliclastics) 78.5-95.0. Stylolitic throughout. Minor tight fractures 76.7-77.2, 90.9-91.6, 101.4-102.0.

105.0 -296.9 Unit C Dolostones

105.0-117.5: Dolostone; medium to dark slightly silty wackestone with well developed birdseye and cryptalgal textures 105.0-112.7. B/C contact as per 1980-81 usage (see LOG 104-82 discussion). Minor peloids 115.1-115.4, sandy 116.2-117.4, narrow (0.2 metre) crackle and mosaic breccia in

places. Occasional stylolites. Minor fault, tectonic breccia and ground matrix at 116.8.

117.5-156.9: Dolostone; predominantly rubble breccias, well cemented by white (D3) and grey (D2) dolomite. Some clasts corroded or with minor pyrobitumen. Occasional 1 metre wide finely crystalline, porphyrotopic, pseudobreccia or mosaic breccias. Occasional relict amphipora or birdseye. Traces sphalerite and galena with mosaic/rubble breccia 143.6-145.3 and at 149.0, 153.4, 156.4.

156.9-160.6: Dolostone; medium and light slightly silty cycles with peloids, minor amphipora and occasional birdseye. Fractured 160.2-160.6.

160.6-169.4: Dolostone; medium to dark grey unit B type dolostone with well developed birdseye texture 160.6-162.9. Lower interval cut by frequent mosaic and narrow rubble breccia. 167.8-169.4 minor fractures, core blocky, chips.

169.4-177.5: Dolostone; rubble breccia with finely crystalline interval at 171.0-172.4. Predominantly pyrobitumen matrix heavily mineralized (fine dissemination throughout matrix) averaging 8% PbZn.

177.5-182.1: Dolostone; predominantly light grey porphyrotopic dolostone. Pelecypod fragments 180.9-181.05. Heavy mineralization in rubble breccia 178.64-178.84.

182.1-185.9: Dolostone; medium grey wackestone with birdseye and cryptalgal texture in the upper metre. Fault gouge at 185.4.

185.9-192.9: Dolostone; finely crystalline to porphyrotopic, light grey, minor pseudobreccia, stylolites. Trace to 1% sphalerite at 190.7.

192.9-208.5: Dolostone; predominantly light grey finely crystalline dolostone. Occasional stylolites, zebra texture and pseudobreccia. Gastropod at 206.3. Interval of medium grey silty dolostone with birdseye, cryptalgal and peloidal texture at 206.4-208.0.

208.5-222.1: Dolostone; mosaic and crackle brecciated light to medium grey dolostones give way to strongly cemented rubble breccia and trace to 0.5% sphalerite.

222.1-227.5: Dolostone; light grey porphyrotopic, zebra and pseudobreccia textured dolostone.

227.5-232.1: Dolostone; medium grey silty peloidal and birdseye texture in part. Fracture zone throughout. Hairline fractures and incipient tectonic breccia, intense 229.0-229.6.

232.1-238.8: Dolostone; light medium grey porphyrotopic, zebroid and pseudobreccia textured dolostone. Occasional narrow mosaic and rubble breccia. Trace to 1% sphalerite throughout.

238.8-269.5: Dolostone; light grey relatively uniform finely crystalline to porphyrotopic dolostone. Stylolites, occasional pseudobreccia and zebra cycles. Minor geopetals, pyrobitumen in vugs. Gastropods at 255.0 and 261.3. Mottling at 243.5-244.0.

269.5-289.0: Dolostone; light grey finely crystalline and porphyrotopic, pseudobrecciated dolostone cut by numerous rubble and mosaic breccias 1-4 metre thick. Heavy sphalerite mineralization (10% at 276.7-278.7, thin bands high grade 278.7-284.12) in carbonaceous matrix associated with breccias. 5% sphalerite in thin bands 286.95-288.0.

289.0-296.9: Dolostone; light grey uniformly porphyrotopic to finely crystalline dolostone with occasional stylolites.

296.9 END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 113-82

CLAIM: ROB No. 17

SECTION:

LOGGED BY: S.C. JAMES

DATE LOGGED: July 8 - 9, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 74246.9N 59450.4E

AZIM: ELEV: 1610.0 m DIP: Vert

DEPTH: 254.8 m CORE SIZE: BQ

STARTED: July 5, 1982

COMPLETED: July 7, 1982

CORE RECOVERY: >95%

DIP TEST

DEPTH	AZIM	DIP
125. m	240°	88.5°
253 m	213°	88°

SUMMARY GEOLOGICAL LOG - DDH 113-82

Depth (meters)		Description
0	- 11.3	Overburden.
11.3	- 95.5	Unit B Dolostones

11.3-37.4: Dolostone; medium dark to light grey rhythmic cycles of silty to laminated packstone. Individual cycles from 0.5-3.5 metres. Occasional peloidal and birdseye texture, amphipora and minor slumping. Poor stylolites, pseudobreccia 16.0-16.8, porphyrotopic 21.5-21.8, mosaic breccia 29.2-29.6. Coarse white dolomite (D3) veins (0.2-0.8 metre wide) and trace mineralization 30.2-33.3 in places.

37.4-48.4: Dolostone; medium to dark grey slightly silty featureless packstone. Fracture zone with fine fractures and extremely broken core throughout. Intense fracturing 42.4-46.4. Mislatch and core loss at 44.8 could mark fault.

48.4-95.5: Dolostone; medium to dark grey silty packstone-wackestone with trace fine pyrite throughout, occasional lamina and birdseye texture. Frequent 0.2-1.5 metre mosaic breccias heavily white (D3) dolomite cemented. Coarse D3 cemented crackle breccias interrupted by these mosaic breccias 61.2-68.8, 73.8-81.1. Lower interval displays primary laminations and mosaic breccias passing into rubble breccias, strongly D3 cemented. Trace sparse pyrobitumen in dolomite cement.

95.5 -254.8 Unit C Dolostones

95.5-105.2: Dolostone; medium to dark grey silty dolostone with well developed birdseye texture 95.4-98.6 marking B/C contact as per 1980-81 usage. (See LOG 104-82 discussion). Scattered birdseye, peloids, cryptalgal texture in remainder of section. Trace sand at 102.0-102.2. Frequent crackle, mosaic and rubble breccias all with strong D3 cement development.

105.2-128.1: Dolostone; rubble breccia. Clasts in uppermost interval finely crystalline or fine breccia now rebrecciated. Most of the rubble shows strong solution, corrosion and replacement by D2 and D3 cements. Moldic fabric in places.

128.1-143.6: Dolostone; light grey finely crystalline dolostone with minor pseudobreccia with numerous D2 and D3 cemented rubble and mosaic breccias. Trace pyrite on stylolites and rimming clasts in lower interval rubble breccia. Trace sphalerite in places. Minor hairline fractures 129.4-130.4 and 135.3-138.1.

143.6-150.0: Dolostone; medium to dark grey slightly silty packstone-wackestone, faintly laminated with well developed birdseye 145.8-147.2 and minor peloids. Similar to unit B type dolostones. Very narrow mosaic and mosaic, pseudobreccia and porphyrotopic zones in upper and lower parts of interval.

150.0-166.3: Dolostone; light and medium grey rubble breccias with minor porphyrotopic intervals. Clasts have porphyrotopic, pseudobreccia and rebrecciated textures. Moderate D3 cementation. Pyrite concentrations 1-10% throughout. Sparse

sphalerite and galena dissemination 150.0-151.6, 152.7-154.5, 156.0, 158.2-158.8, 164.3-165.76.

166.3-182.2: Dolostone; predominantly light grey dolostone lacking primary feature with the exception of an interval at 169.4-170.9. This 1.5 metre interval is medium dark grey slightly silty, faintly laminated with well developed birdseye and cryptalgal textures, B unit dolostone characteristics. Generally the section is characterized by frequently alternating crackle, mosaic, rubble and pseudobreccias and porphyrotopic dolostone. 3-5% pyrite and carbonaceous material is common in the lower interval 5-8% sphalerite at 179.8-180.5.

182.2-187.8: Dolostone; light grey crackle breccia with narrow mosaic breccia cycles.

187.8-191.4: Dolostone; light grey pseudobreccia, zebra and porphyrotopic textured dolostone with one metre wide mosaic breccia cycle.

191.4-203.4: Dolostone; rubble breccia strongly dolomite cemented with pyrite and trace to 2% pyrobitumen particularly in the lower interval. Minor porphyrotopic and pseudobreccia zones. Trace dissemination and selvages sphalerite in upper breccia.

203.4-205.9: Dolostone; light grey featureless porphyrotopic dolostone. Blocky core to chip recovery 205.9-206.0. (Mislatch may indicate fracture or fault).

205.9-210.5: Dolostone; medium to dark grey silty peloidal dolostone cut by narrow mosaic and pseudobreccia. Minor crackle brecciation and trace sphalerite. Fine hairline fractures 208.3-208.9.

210.5-213.5: Dolostone; light and medium grey mottled (burrowed, soft sediment deformation?) and porphyrotopic textures with minor pseudobreccia and zebroid texture 211.8-212.3.

213.5-214.3: Tectonic breccia with crushed and ground matrix. Hairline fractures on upper contact dip 28^{o}.

214.3-254.8: Dolostone; light predominantly porphyrotopic dolostones with occasional stylolites and rare narrow mottled, pseudobreccia or zebra textured zones.

254.8 END OF HOLE.

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 114-82

CLAIM: MV No. 23

SECTION:

LOGGED BY: S.C. JAMES

DATE LOGGED: July 10, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 75686.8N 59591.9E

AZIM: ELEV: 1563.9 m DIP: Vert

DEPTH: 108.8 m CORE SIZE: BQ

STARTED: July 9, 1982

COMPLETED: July 10, 1982

CORE RECOVERY: >95%

DIP TEST

DEPTH	AZIM	DIP
107.3 m	185°	87°

SUMMARY GEOLOGICAL LOG - DDH 114-82

Depth (metres)	Description
0 - 14.3	Overburden. Dolostone boulders and alluvium.
14.3 -108.8	Unit C Dolostones

14.0-31.9: Dolostone; cyclic colour variations from grey to light grey, 2-3 metre wide with well developed birdseye texture in grey sections where mosaic and rubble breccia is also localized. Light grey cycles characterized by finely crystalline texture and pseudobreccia collapsing to form mixed rubble breccia with pseudobreccia clasts, 5% pyrite and trace to 1% pyrobitumen in places. Up to 5% fine honey coloured sphalerite in this breccia mix 15.8-18.9. Heavy mineralization in pyrobituminous rubble/ pseudobreccia 26.1-31.9. Massive galena (20-25%) sphalerite (20-25%) concentration 28.7-29.7.

31.9-44.9: Dolostone; predominantly light grey finely crystalline limestone with occasional geopetals and stylolites but lacking primary features. Very minor crackle brecciation, narrow mosaic (0.2 metre) and pseudobreccia (0.2-0.5 metre). Minor hairline fractures 32.4-34.8. Fracture/fault zone; core loss, hairline fractures slickensides on blocky or chips of core 36.0-44.8. Sheared contact at 44.8 dipping 68^{0}, with 2-3 mm pyrite and sphalerite.

44.9-79.9: Dolostone; variable colour cycles 2-4 metre wide, grey to very light grey with few primary features. Occasional grey cycles (0.5-2.0 meter) of birdseye texture and/or mottled pseudobreccia (burrowed ?), minor peloidal texture and relict amphipora. Amphipora more common 59.4-62.0. Gastropod at 70.5. Lighter grey cycles generally finely crystalline to porphyrotopic with frequent narrow pseudobreccias, stylolites with carbonaceous residues and occasional geopetals. Incipient zebroid texture at 59.0 and 74.4. Shear at 48.9 m dipping 48^{0}, sheared and fractured 49.0-50.25, hairline fractures 46.4, 57.0-58.0, 60.0-64.0.

79.9-99.6: Dolostone; uniformly light grey featureless dolostone interrupted by soft sediment slump breccia 87.5-88.1. Porphyrotopic texture, pseudobreccia, stylolites and occasional geopetals. White (D3) dolomite cemented mosaic to rubble breccia with trace to 1% fine Fe-rich sphalerite dissemination 82.4-83.8.

99.6-101.08: Dolostone; medium grey slightly silty and peloidal. Traces of sand 100.8-101.08.

101.08-101.13: Dolostone; ANGULAR SAND MARKER, 5-10% siliclastics.

101.13-108.8: Dolostone; light and medium grey mottled pseudobreccia (burrowed or soft sediment deformation) intervals. Light grey component displays porphyrotopic texture and pseudobreccia. Trace pyrite and pyrobituminous "salt and pepper" textured residues in places.

108.8 END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 115-82

CLAIM: MV No. 23

SECTION:

LOGGED BY: S.C. JAMES

DATE LOGGED: July 11- 12, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 76012.5N 59576.5E

AZIM: ELEV: 1588.9 m DIP: Vert

DEPTH: 124.7 m CORE SIZE: BQ

STARTED: July 10, 1982

COMPLETED: July 11, 1982

CORE RECOVERY: >95%

DIP TEST

DEPTH	AZIM	DIP
122 m	353°	89°

SUMMARY GEOLOGICAL LOG - DDH 115-82

Depth (metres)	Description
0 - 25.3	Overburden.
25.3 - 28.2	Unit B Dolostones
	25.3-28.2: Dolostone; medium to dark grey slightly silty relatively uniform dolostone with finely disseminated pyrite throughout. Mosaic and crackle breccia with minor sphalerite. Hairline fractures, core loss, blocky.
28.2 -124.7	Unit C Dolostones
	28.2-36.3: Dolostone with features of B unit dolostone as described above. 28.2-29.7 well developed birdseye textured zone. The top of the lowest of these zones above the light grey, non-silty porphyrotopic, pseudobreccia bearing and major rubble breccias typical of the C unit is taken as the B/C contact as per 1980-1981 definition and usage to avoid confusion. This interval is typical of B unit dolostones indicating that the contact should be redefined. Minor fracturing and core loss. Tight hairline fractures dip 49^{o} at 31.2-32.2.
	36.3-49.1: Dolostone; rubble breccia with moderate sparry cement and some corrosion of fragments. 36.3-39.0 consists of pseudobreccia giving way to rubble breccia in the upper interval and large (20 cm) to small fragments of unit B and unit C dolostones in the lower part. The remainder of the rubble breccia consists of smaller clasts (2 cm or less) with trace to 2% pyrobitumen in the lower matrix. Very fine

honey coloured sphalerite dissemination, trace to 2%, throughout. Pelecypod fragments at 46.7. Minor tight fractures in places.

49.1-49.4: Fault, 30% core loss, chips and minor gouge.

49.4-76.8: Dolostone; subtle colour and textural variation is cyclic, individual cycles 3-4 metre wide on average. Light grey finely crystalline to porphyrotopic cycles with minor pseudobreccia and stylolites interspaced with rubble breccias. 3-4 metre thick rubble breccias have a pyrobituminous matrix, traces of pyrite and sphalerite. "Snow-on-the-roof" texture in places 1 metre wide zones of hairline fractures common. 58.5-61.2 tight fracture zone with narrow incipient tectonic brecciation. At 62.0, fracture orientations 5^{o} and 28^{o}.

76.8-95.5: Dolostone; 2-3 metre wide cyclic variation. Medium to lighter grey, slightly silty in grey cycles with occasional birdseye texture. Relict amphipora at 91.4 and 94.5. Porphyrotopic to finely crystalline with pseudobreccia often associated with minor crackling, mosaic brecciation in light grey cycle tops. Trace pyrite, sphalerite and rare geopetals in places.

95.5-122.1: Dolostone; light grey, uniform and lacking primary features. Alternating porphyrotopic and pseudobreccia with occasional mosaic or rubble breccia (0.2-1.0 metre wide) developing in the pseudobreccia cycles. Pyrobitumen and pyrite rather than sparry dolomite cement is commonly associated with these breccias. Trace

sphalerite, stylolites, zebroid texture, and minor fractures are present at times.

122.1-122.2: Dolostone; ANGULAR SAND MARKER. Faintly laminated over a 1 metre width in the dolostone immediately overlying the sand marker.

122.2-124.7: Dolostone; light grey porphyrotopic dolostone. Minor tight fractures. Minor carbonaceous "salt and pepper" textured residues and stylolites.

124.7 END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 116-82

CLAIM: ROB No. 17

SECTION:

LOGGED BY: S.C. JAMES

DATE LOGGED: July 14 - 16, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 74294.18N 58981.7E

AZIM: ELEV: 1664.24 m DIP: Vert

DEPTH: 322.2 m CORE SIZE: BQ

STARTED: July 12, 1982

COMPLETED: July 14, 1982

CORE RECOVERY: > 95%

DIP TEST

DEPTH	AZIM	DIP
157.3 m	125°	88.5°
314.6 m	335°	89°

SUMMARY GEOLOGICAL LOG - DDH 116-82

Depth (metres)	Description
0 - 7.9	Overburden.
7.9 -119.8	Unit B Dolostones

7.9- 65.5: Dolostone; cyclic colour and textural variation with individual cycles 1-3 metres thick. Generally light to medium grey slightly silty packstone, wackestone throughout with trace pyrite disseminations. Narrow pseudo-breccias and zebra texture is often present in upper parts of lighter cycles. Laminations are commonly developed in darker zones. Occasional birdseye, cryptalgal, peloidal and burrow textures scattered throughout. Rare sandy zones and stylolites. Fault/fracture 11.9-12.7 with fine cataclastic breccia and gouge.

65.5-119.8: Dolostone; light and medium grey silty packestone with microscopic pyrite disseminated throughout. Cycles 3 metre thick on average. Laminated in places particularly in the lower interval. Rarely peloidal, birdseye textured or mottled (burrows or soft sediment deformation), sandy bands in lower interval and stylolites. Very rare trace sphalerite with pyrite on stylolites. Minor hairline fractures 75.0-78.6, 92.5 -93.2, 112.8 and 114.4.

119.8 -322.2 Unit C Dolostones

119.8-133.1: Dolostone; medium to dark grey slightly silty packstone with well developed birdseye and cryptalgal textures 119.8-127.3. B/C contact as per 1980-81 usage (see LOG 104-82 discussion).

Minor crackle brecciation in the lower interval and lighter coloured sandy zone 132.1-133.1. Minor fracturing 123.1-124.5, fault breccia with indications of drag 123.1-123.2.

133.1-178.2: Dolostone; predominantly rubble breccia with moderate to heavy white (D3) and grey (D2) dolomite cementation. In places pure D3 veins up to 2 metres thick were intersected. Clasts generally corroded to varying degrees. Pyrobituminous trash zones in uppermost breccias between 133.1 and 137.4. Rare pyrobitumen as fine accumulations associated with vugs in D3 cement or on stylolites. A slightly silty crackle breccia with poor birdseye is present at 138.5-141.7. In the lower interval porphyrotopic, pseudobreccia, zebroid bands and rare amphipora are preserved at 153.7-162.0 and 172.0-178.2. Late 2-3 mm quartz veinlets cross-cut at 141.1-141.9. Hairline fractures 143.2-146.2.

178.2-187.1: Dolostone; predominantly finely crystalline to porphyrotopic dolostone with minor pseudobreccia and relict birdseye textures and amphipora cut by narrow rubble breccias and coarse D3 cemented veins.

187.1-196.1: Dolostone; moderately cemented rubble and mosaic breccias with mosaic breccia confined to the upper interval. Up to 5% pyrobitumen associated with rubble matrix in lower interval. Sphalerite and galena 192.2-193.4, up to 7% in places.

196.1-216.4: Dolostone; light to medium grey finely crystalline to porphyrotopic dolostones, occasional pseudobreccia, zebra texture and geopetals. Rare

relict birdseye, cryptalgal and peloidal texture. Pelecypod fragments at 198.2 and 205.2. Trace sphalerite and galena with pseudobreccia or in vugs 206.0-206.2, 208.1, 209.8 and 212.2. Minor fracturing 208.8-209.4 and 211.0-211.3.

216.4- : Dolostone; porphyrotopic to finely crystalline dolostone cut by 0.5-3.0 metre wide rubble and mosaic breccias with predominantly white (D3) cement. Trace pyrobitumen and pyrite in upper interval breccias.

230.9-252.9: Dolostone; light grey dolostone with few primary features, fossil fragments at 234.0, slightly silty peloidal and faintly laminated between 243.8 and 247.1. Porphyrotopic with pseudobreccia, incipient pseudobreccia and zebra texture. Cut by numerous narrow 0.1 to 1.0 metre wide rubble breccias. Trace pyrobitumen in places and scattered sphalerite, narrow bands bearing 1-2% or traces. Pyritic (5-10%), pyrobituminous (3-5%) rubble and pseudobreccias carry up to 5% sphalerite from 249.3 to 252.9. At 252.0, open fault indicated by ground dolostone and loose sand.

252.9-258.9: Dolostone; generally porphyrotopic dolostone with zebra textured cycles at 255.0-255.5, amphipora? at 256.0 and mottling (burrows or soft sediment deformation) at 257.3-258.3.

258.9-312.0: Dolostone; light grey porphyrotopic to finely crystalline and pseudobrecciated in places with narrow intervals of crackle and mosaic to rubble breccias and rare pyrite and pyrobitumen. Trace to 2% sphalerite dispersed through the interval. Rare primary features include mottling (burrows or soft sediment deformation) at 262.6-

-263.0, 266.5-267.5 and 288.6-289.0. Possible gastropod at 278.5.

312.0-322.2: Dolostone; uniformly light grey porphyrotopic to finely crystalline throughout with rare stylolites and faint mottling at 321.9.

322.2 END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 117-82

CLAIM: MV No. 23

SECTION:

LOGGED BY: S.C. JAMES

DATE LOGGED: July 17 - 19, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 74203.1N 59761.6E

AZIM: ELEV: 1585.75 m DIP: Vert

DEPTH: 215.8 m CORE SIZE: BQ

STARTED: July 15, 1982

COMPLETED: July 17, 1982

CORE RECOVERY: > 95%

DIP TEST

DEPTH	AZIM	DIP
106.7 m	213°	89°
213.4 m	315°	89°

SUMMARY GEOLOGICAL LOG - DDH 117-82

Depth (metres)	Description
0 - 6.1	Overburden.
6.1 - 45.6	Unit B Dolostones
	6.1-27.2: Dolostone; medium to light grey slightly silty packstone with trace pyrite disseminations and peloidal in places. Minor stylolites and hairline fractures.
	27.2-45.6: Dolostone; light to medium grey silty to slightly sandy (in places) wackestone. Trace pyrite throughout, laminated, peloidal and birds-eye textured in places. Minor stylolites. Minor fractures 35.2-45.6. Tight incipient tectonic breccia 38.1-38.4. Minor crackle breccia 42.2-43.0.
45.6 - 62.65	Unit C Dolostones
	45.6-62.65: Dolostone; medium to dark grey slightly silty packstone, sand 61.9-62.65, peloidal in places with well developed birdseye and minor cryptalgal textures in upper interval. B/C contact as per 1980-81 usage (see LOG 104-82 discussion). Crackle breccia in places and minor mosaic breccias. Tight fractures and very narrow 1-5 cm tight tectonic breccias 49.2-60.1.
62.65 -140.9	Disturbed. Unit B (minor) and Unit C Dolostones
	62.65-77.8: Dolostone; medium and light grey crystalline with 2-3.5 metre wide rubble breccias. Fractured and sheared throughout. 62.65-62.8 Tight shears at approximately 32^{o}. Major fracture zone 63.7-71.0, core very blocky to chips,

core loss. 68.7-69.2 core chip remnants of tectonic breccia mark fault location within this fracture zone. 72.1-78.8 Fracture and sheared zone, core loss, chip recovery, tight tectonic breccia 74.7-74.9 and strongly sheared 74.9-75.5 indicates fault. Sheared at 77.1-77.8. Fracture dip angles variable 30^{0} to 68^{0} in lower interval.

77.8-81.8: Dolostone; rubble breccia, coarse clasts in finer clastic matrix, minor pyrobitumen and white dolomite (D3) cement.

81.8-83.3: Dolostone; medium grey, finely crystalline, minor birdseye texture and narrow mosaic breccia (0.1 metre wide). Fault 83.2-83.3, tectonic breccia.

83.3-90.2: Dolostone; light grey finely crystalline dolostone, pseudobreccia 86.4-86.8, pseudobreccia and zebra texture 88.8-89.1.

90.2-123.4: Dolostone; light grey zebroid, pseudobreccia and porphyrotopic to finely crystalline dolostone cross-cut by 0.1-2 metre rubble and mosaic breccias occasionally. Rubble breccias with corroded clasts, strong white (D3) and grey (D2) dolomite replacement. Trace sphalerite at 105.0-105.2. Gastropod at 108.1, amphipora 120.2, minor geopetals. Minor fractures 100.0-121.0.

123.4-130.9: Dolostone, B unit type; medium to dark grey slightly silty packstone with trace pyrite throughout, birdseye, cryptalgal and peloidal textures. Narrow crackle, mosaic and rubble breccias in lower interval. Hairline fractures, minor slickensides throughout.

130.9-134.5: Dolostone; light to medium grey, finely crystalline to porphyrotopic with narrow pseudobreccia, zebra texture, and rubble breccia.

134.5-140.8: Dolostone rubble breccia with considerable corrosion and D2, D3 cement.

140.9 -215.8 Unit C Dolostones

140.9-153.0: Dolostone, upper unit C (near B/C contact) type; dark grey to blackish silty wackestone with carbonaceous lamina in places. Poor birdseye texture 142.8-144.6 (B/C contact zone repetition ?) Trace pyrite dissemination throughout. Upper interval coarsely crackle and mosaic brecciated. Minor incipient pseudobreccia and porphyrotopic texture in lower section.

153.0-160.4: Dolostone; rubble breccia with 2-10% pyrobituminous matrix and 5-10% pyrite in places. Minor porphyrotopic bands. Fine sphalerite and galena 152.8-153.05 and 156.0-160.4 (2-5%).

160.4-172.1: Dolostone; cyclic light and medium grey finely crystalline to porphyrotopic dolostone with 1.5-2 metre zones of alternating pseudobreccia, porphyrotopic and rubble breccias. Rubble breccias pyrobituminous and pyritic. Traces sphalerite in these zones, heavy dissemination (10%) 163.5-164.2.

172.1-195.9: Dolostone; uniformly light grey porphyrotopic to finely crystalline dolostones with minor pseudobreccia, zebra texture, stylolites and geopetals. Occasional amphipora relicts and traces sphalerite.

195.9-199.4: Dolostone; light grey alternating porphyrotopic mosaic and rubble breccias, traces pyrobitumen, 3-10% pyrite. Sphalerite 20% at 195.5-196.10, 2% at 198.4-199.2.

199.4-207.7: Dolostone; monotonous light grey porphyrotopic dolostone with minor pseudobreccia, stylolites. Trace sphalerite in places.

207.7-208.55: Dolostone; ANGULAR SAND MARKER, 5-10% sand size siliclastics.

208.55-215.8: Dolostone; light grey finely crystalline to porphyrotopic dolostone with minor stylolites and narrow mottled (burrowed, soft sediment deformation ?) bands. Trace sphalerite in tight minor fractures at 214.25 and 215.7.

215.8: END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 118-82

CLAIM: ROB No. 16

SECTION:

LOGGED BY: S.C. JAMES

DATE LOGGED: July 20 - 23, 1982

DRILLING CO.: Longyear Canada Inc.

PROPERTY: Robb Lake

LOCATION (grid) NE B.C. 94 B/13

LOCATION (survey) 74293:1N 57712.8E

AZIM: ELEV: 1777.2 m DIP: Vert

DEPTH: 440.7 m CORE SIZE: BQ

STARTED: July 18, 1982

COMPLETED: July 23, 1982

CORE RECOVERY: >95%

DIP TEST

DEPTH	AZIM	DIP
219.5 m	198°	88.5°
439 m	325°	87.25°

SUMMARY GEOLOGICAL LOG - DDH 118-82

Depth (metres)	Description
0 - 3.9	Overburden and dolostone boulders.
2.9 -211.0	Unit B Dolostones

3.9-41.9: Dolostone; diffuse predominantly light grey cycles of finely crystalline dolostone with rhythmic interlayering of sand to silty often birdseye textured bands approximately 1 metre thick on average. In addition, peloidal in places in medium and light silty to sandy packstones more frequently developed in the lower interval. Well developed 0.5 to 1 metre zebra and minor pseudobreccia cycles interspersed throughout. Minor fracturing particularly in the lower interval. Fracture zone 37.9-42.4 with fault breccia at 41.9.

41.9-47.4: Dolostone; medium to light-medium grey silty to sandy (15% in places) peloidal wackestone. Zebroid 45.2-45.6, rubble breccia 45.8 45.9. Fault with tectonic breccia and ground matrix at 46.1.

47.4-61.7: Dolostone; rubble and mosaic breccias with an intermediate interval of predominantly silty, laminated, minor peloids and birdseye packstone/wackestone at 50.7-54.3. The lower rubble mosaic breccia is subdivisable into an upper cemented (D2 greater than D3) breccia with trace mineralization. The basal portion is pyrobituminous and with the underlying zebroid cycle contains approximately 10% sphalerite and minor galena.

61.7-70.3: Dolostone; medium to dark grey silty to sandy, partly thin bedded to laminated wackestone with rare narrow mosaic, rubble and pseudobreccia.

70.3-75.6: Dolostone; pseudobreccia and zebroid textured with occasional geopetal and minor galena associated with fine fractures 75.3-75.6.

75.6-81.4: Dolostone; light to medium grey finely crystalline dolostone with rare amphipora, peloids, stylolites geopetals and pseudobreccia. Minor fine fractures 78.0-78.8.

81.4-98.5: Dolostone; medium grey silty to slightly sandy peloidal wackestone with trace pyrite disseminated throughout minor birdseye and laminated, particularly in the upper interval. Occasional narrow pseudobreccia cycles and stylolites.

98.5-155.8: Dolostone; cyclic variation of lighter grey finely crystalline to porphyrotopic and pseudobrecciated to zebroid dolostone alternating with medium slightly silty often laminated packstones. Peloidal, burrows and occasional birdseye in places. Rare gastropod 106.0, geopetals, and narrow crackle or rubble breccia (less than 0.5 metre wide). Minor hairline fractures 130.0-130.6, 141.3-143.4, 147.5-152.0.

155.8-156.7: Fault, tectonic breccia ground matrix, some core loss. Upper contact dips 65^{0}.

156.7-169.2: Dolostone; light to medium grey slightly silty packstone with trace pyrite, rare lamina, peloids and narrow mosaic and pseudobreccia cycles in lower interval.

169.2-191.9: Dolostone; predominantly slightly silty medium grey packstone with trace pyrite throughout.

Peloidal traces sand in places. Minor fractures in places.

191.9-192.3: Fault breccia, associated strong fracture leavage at 45^{0}.

192.3-211.0: Dolostone; medium to medium-dark grey packstone/wackestone, silty to sandy or laminated in places with trace pyrite distributed throughout. Rare poor stylolites.

211.0 -440.7 Unit C Dolostones

211.0-222.9: Dolostone; medium dark silty packstone/wackestone with trace to 10% sand concentration in basal metre. Trace pyrite throughout, occasionally peloidal, amphipora 216.0-216.7. Well developed birdseye and cryptalgal textured cycle 211.0-215.9. B/C contact as per 1980-81 usage (see LOG 104-82 discussion). Minor crackle brecciation, more intense with minor mosaic breccia, traces sphalerite and coarse galena aggregates in places 217.9-222.2.

222.9-246.0: Dolostone; rubble breccias mainly alternating with finely crystalline and crackle brecciated finely crystalline dolostone with relict amphipora, gastropods, birdseye and cryptalgal textures in places. Minor mosaic breccia, rare pseudobreccia with zebra texture cycle remnants. White (D3) and grey (D2) cementation of rubble breccias. Trace sphalerite and galena at 233.0.

246.0-276.6: Dolostone; cyclic development indicated by colour, medium to light grey, and textural variations. Few primary features, scattered amphipora and gastropods in places in finely

crystalline to porphyrotopic dolostone with well developed pseudobreccia and zebroid textured cycles in places. 0.1-0.6 metre wide mosaic breccia and crackle breccia developed at times. Trace sphalerite in mosaic breccia at 266.2. Minor fractures at 264.5-265.6.

276.6-288.6: Dolostone; rubble breccia, moderate to strong corrosion of clasts, D2 and D3 cement. Trace sphalerite at 276.3-278.3 and 286.9-288.0.

288.6-299.0: Dolostone; finely crystalline light grey dolostones interrupted by rubble and mosaic breccias, dolomite cemented but with trace pyrobitumen in places. Up to 1% sphalerite and galena in places.

299.0-332.1: Dolostone; predominantly light grey finely crystalline with occasional amphipora and birdseye with very occasional narrow rubble and pseudobreccia cycles, geopetals and minor hairline fracturing at 311.7-312.9.

332.1-332.2: Dolostone with trace sand, pyrite and peloids.

332.5-337.8: Dolostone; rubble breccia strongly cemented, remnant porphyrotopic and pseudobreccia bands.

337.8-345.9: Dolostone; predominantly pseudobreccia with minor stylolites, porphyrotopic texture and "salt and pepper" textured residues.

345.9-351.9: Dolostone; medium to dark grey slightly silty wackestone with pyrite trace on relict bedding. Trace to 3% sand at 345.85-346.0 and 346.4-346.5.

351.9-352.8: Dolostone; medium grey peloidal dolostone with minor birdseye and 5-10% sand 351.85-352.1.

Possibly the ANGULAR SAND MARKER.

352.8-355.7: Dolostone; medium grey rubble and pseudobreccia with limited dolomite cement, 2% pyrobitumen in places and "salt and pepper" textured residues.

355.7-365.7: Dolostone; light grey porphyrotopic dolostones with mottled (burrows, soft sedimentation deformation) intervals. Rare geopetals, stylolites and rubble breccia at 358.8-359.5.

365.7-374.6: Dolostone; light grey porphyrotopic dolostone with possible relict amphipora at 368.7-371.0, cut by strongly corroded and cemented (D2 and D3) rubble breccia.

374.6-426.3: Dolostone; light grey dolostone, predominantly porphyrotopic but frequently interrupted by incipient pseudobreccia and zebra texture cut by narrow mosaic and rubble breccia intervals. Possible relict gastropod present at 386.5 and argillaceous band at 392.2, dipping 22^{o}. Traces pyrobitumen in places in porphyrotopic dolostone, vugs and breccias although breccias generally dolomite cemented.

426.3-440.7: Dolostone; uniformly light grey predominantly porphyrotopic with very occasional pseudobreccia and rubble or mosaic breccia at 436.5-436.6, 439.0-440.1. "Salt and pepper" textured residues at 428.1-429.0.

440.7 END OF HOLE

KIDD CREEK MINES Ltd

DRILL HOLE LOG

HOLE NO. 119-82

DIP TEST

DEPTH	AZIM	DIP
143.3 m	140°	88.5°

CLAIM:	MV No. 23
SECTION:	
LOGGED BY:	S.C. JAMES
DATE LOGGED:	July 24 - 25, 1982
DRILLING CO.:	Longyear Canada Inc.
PROPERTY:	Robb Lake
LOCATION (grid)	74961.7N 59675.3E
LOCATION (survey)	74961.7N 59675.3E
AZIM:	ELEV: 1549.0 m DIP: Vert
DEPTH:	145.4 m CORE SIZE: BQ
STARTED:	July 24, 1982
COMPLETED:	July 25, 1982
CORE RECOVERY:	>95%

SUMMARY GEOLOGICAL LOG - DDH 119-82

Depth (metres)	Description
0 - 16.6	Overburden.
16.6 -145.4	Unit C Dolostones

16.6-32.2: Dolostone; rubble breccia, minor pseudo-breccia remnants in places. Well developed white (D3) and grey (D2) dolomite cement, strong corrosion of clasts. Moldic fabrics in places.

32.2-41.0: Dolostone; light to medium grey cycles 1.5-3 metres thick. Minor amphipora, birdseye and peloidal textures in places. Generally finely crystalline with occasional stylolites and geopetals. Porphyrotopic with pseudobreccia in uppermost 1.5 metres.

41.0-42.6: Dolostone; rubble breccia with greater proportion of D3 relative to D2 cement.

42.6-55.6: Dolostone; light to light-medium grey generally lacking primary features with the exception of gastropods at 43.8, minor birdseye and cryptalgal textures 52.2-54.8. Porphyrotopic textures interrupted by pseudobreccias and minor zebroid texture, 50.3-50.8, dominates the upper interval. The section 52.2-55.6 is finely crystalline with traces of silt showing similarities to a B unit dolostone. Minor hairline fractures are common. Incipient tectonic breccia 47.2.

55.6-56.3: Fault; tectonic breccia with ground matrix. Basal shears at 56.3 dip 42^{o}.

56.3-66.0: Dolostone; light medium grey relatively featureless dolostone. Pelecypod fragment at 57.3.

Peloidal at 63.1. Interval is finely crystalline with minor porphyrotopic and pseudobreccia bands. Trace sphalerite 61.8-62.0 in pseudobreccia. Occasional geopetals and hairline fractures.

66.0-70.0: Dolostone; strongly cemented breccia, advanced corrosion of clasts. Basal metre porphyrotopic and well developed zebra texture. Trace sphalerite at 67.4 and 68.4.

70.0-97.8: Dolostone; alternating medium to light grey cycles, 1-4 metres wide. Medium grey cycles dominantly finely crystalline with traces of silt, well developed birdseye and cryptalgal textures in places and occasionally peloidal. Lighter grey cycles are generally porphyrotopic to finely crystalline,pseudobreccias 0.2-1.0 metre wide often but not always at the tops of cycles. 0.5-1.0 metre rubble and crackle breccia zones occasionally interrupt the sequence. Minor hairline fracturing in places. Trace sphalerite at 76.8 in rubble breccia and at 93.8 with galena in pseudobreccia and on stylolites.

97.8-102.7: Dolostone; medium grey with very well developed birdseye and cryptalgal textures. Grapestone at 101.8. Mottled pseudobreccia (bioturbation) 102.0-102.7.

102.7-115.9: Dolostone; light grey porphyrotopic dolostone frequently cross-cut by narrow 0.4-0.8 metre wide mosaic and rubble breccias. Lower interval rubble breccias commonly have pyrobituminous basal and dolomite cemented upper portions. Trace to 1% sphalerite and very minor galena 103.8-104.8, 112.8-114.2 in places. Gastropod at 115.6.

115.9-137.0: Dolostone; uniformly light grey with amphipora and fossil fragments at 121.4-121.7 and 123.0 respectively. Generally porphyrotopic to finely crystalline with occasional pseudobreccia and zebra textured bands. "Salt and pepper" texture, carbonaceous residues and minor pyrobituminous zones (0.2-0.4 metre wide) are common from 127.1-137.0.

At 117.1 m, 5 cm of slightly silty packstone and a few sand grains is noted which may represent an extremely poorly developed ANGULAR SAND MARKER. At 125.3-126.6, peloidal slightly silty packstone again contains microscopic sand. 5 cm argillaceous dolostone is present at 127.0.

137.0-145.4: Dolostone; light and medium grey mottled pseudobreccias (burrowing or soft sediment deformation) are predominant. Minor pseudobreccia and carbonaceous residues.

145.4 END OF HOLE

APPENDIX B

Assay Results

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 104-82 ELEV. 4762.6 ft. LENGTH 287.1m DIP: -90° AZIM. -
NORTHING: 72249.7 EASTING: 60593.0 STARTED. 8 June 1982 FINISHED: 11/6/82
PROPERTY: Robb Lake JV CLAIM: Cleo No. 4 LOG/DATE: 10/6/82- SCALE:
OBJECTIVE: East Webb. Southern Fence Test Continuity 50m W of 84-80 OVERBURDEN: 12/6/82 18.4m CORE SIZE: BQ
DISCARD: CASING: 18.4m removed

SURVEY METHOD:
HOR. COMP.
VER. COMP.
DEPTH:
TRUE DIP:
AZIM.

SUMMARY		GRADE				GROUPING		
INTERVAL	LENGTH	%	%Pb	%Zn	PbZn	COMB. %	FT. %	CLASS
109.2-112.2	3.0		2.47	2.29	4.76			
or 110.7-112.2	2.5		2.94	2.56	5.50			
233.85-237.85	4.0				1.82			
or 235.35-237.85	2.5		0.015	2.07	2.09			

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM. GRADE %Zn/Pb	ASSAYS %	%Pb	%Zn	DRILLED INTERVAL	CORE REC. %
28.0-29.5	1.5	18251		<0.5/1		0.70	0.29		100
76.2-77.2	1.0	252		<0.5		0.05	0.66		"
99.1-100.1	1.0	253		<0.5 tr.		0.16	0.98		"
104.4-105.4	1.0	254		1/<0.1		0.32	2.50		"
109.2-110.2	1.0	255		<0.5		0.13	0.94		"
-111.2	1.0	256		4.5/4.3		1.88	2.94		"
111.2-112.20	1.0	257		4.5/2		5.40	3.00		"
				Zn					
166.0-167.0	1.0	258		0.5		0.06	0.64		100
167.0-168.0	1.0	259		1.0		0.02	0.87		"
175.0-176.0	1.0	18260		0.3		0.01	0.74		99
215.85-217.35	1.5	261		2.0		0.01	1.06		100
217.35-218.35	1.0	262		2.0		<0.01	0.73		"
233.85-234.85	1.0	263		.75		0.01	1.70		"
-235.85	1.0	264		.50		0.01	0.71		"
-236.85	1.0	265		2.0		0.01	1.78		"
236.85-237.85	1.0	18266		0.02		0.02	3.05		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 105-82 ELEV. 1460.5 LENGTH 279.5m DIP: -90° AZIM. -
NORTHING: 72281.0 EASTING: 60946.2 STARTED: 12/6/82 FINISHED: 14/6/82
PROPERTY: Robb Lake JV CLAIM: Cleo No. 4 LOG/DATE: 13-16/6/82 SCALE:
OBJECTIVE: East Webb. Southern Fence, Test continuity 50M E of 84-80 OVERBURDEN: 23.3m CORE SIZE: BQ
DISCARD: CASING: 23.3m Pulled

SURVEY METHOD:
HOR. COMP.
VER. COMP.

DEPTH:
TRUE DIP:
AZIM.

SUMMARY		GRADE				GROUPING		
INTERVAL	LENGTH	%	%Pb	%Zn	PbZn	COMB. %	FT. %	CLASS
173.1-181.1	8.0		<0.01	4.54	4.54			
or 176.1-178.6	2.5		<0.01	7.06	7.06			
222.0-226.0	4.0		0.01	5.65	5.66			
260.4-273.4	13.0		0.01	2.10	2.10			
or 268.9-271.9	3.0		0.01	3.43	3.44			

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE %Zn	ASSAYS %	%Pb	%Zn	DRILLED INTERVAL	CORE REC. %
158.5-159.5	1.0	18267		0.5		<0.01	0.80		100
-160.5	1.0	268		0.5		"	0.04		"
-161.5	1.0	269		0.5		"	0.71		"
161.5-162.5	1.0	270		0.5		"	0.24		"
164.8-165.8	1.0	271		1.5		"	2.30		"
173.1-174.1	1.0	18272		4.0		"	2.53		"
-175.1	1.0	273		6.5		"	3.35		"
-176.1	1.0	274		4.0		"	4.50		"
-177.1	1.0	275	5.7	9.0		"	10.00		"
-178.1	1.0	276		3.5		"	5.20		"
-179.1	1.0	277		9.0		"	4.90		"
-180.1	1.0	278		6.0		"	3.40		"
180.1-181.1	1.0	279		3.5		"	2.47		"
191.85-192.85	1.0	18280		1.0		"	3.66		"
202.0-203.1	1.1	281		1.0		"	2.16		"
219.3-220.3	1.0	282		1.0		0.01	1.08		"
222.0-223.0	1.0	18283		2.0		0.01	5.50		"
-224.0	1.0	284		2.0		0.01	3.70		"
-225.0	1.0	285		0.7		0.01	3.40		"
-226.0	1.0	286		4.5		0.01	10.00		"
226.0-227.0	1.0	287		0.5		0.02	1.22		"
260.4-261.4	1.0	18288		0.75		0.04	1.54		"
-262.4	1.0	289		1.0		0.01	0.95		"
262.4-263.4	1.0	18290		0.8		0.01	2.03		"

HOLE NO. 105-82 ELEV. LENGTH DIP: -90° AZIM. -
NORTHING: EASTING: STARTED. FINISHED:
PROPERTY: Robb Lake JV CLAIM: LOG/DATE: SCALE:
OBJECTIVE: OVERBURDEN: CORE SIZE: BQ
DISCARD: CASING:

SURVEY METHOD: DEPTH:
HOR. COMP. TRUE DIP:
VER. COMP. AZIM.

SUMMARY		GRADE						GROUPING			
INTERVAL	LENGTH	%	% Pb	% Zn		PbZn		COMB. %	FT. %	CLASS	

SAMPLE INTERVAL metres	LENGTH m.	SAMP NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
263.4-264.4	1.0	18291		1.0		0.01	2.30		100
-265.4	1.0	292		0.7		"	1.62		"
-265.9	0.5	293		1.5		"	3.20		"
-266.9	1.0	294		<0.3		"	0.42		"
-267.9	1.0	295		0.8		"	2.21		"
-268.9	1.0	296		1.0		"	0.80		"
-269.9	1.0	297		1.0		"	4.15		"
-270.9	1.0	298		1.0		"	2.23		"
-271.9	1.0	299		1.5		"	3.90		"
271.9-273.4	1.5	18300		1.0		0.07	2.40		"
Additional samples									
55.0-56.0	1.0	74176		0.5		0.02	0.34		"
-57.0	1.0	177		0.5		0.16	0.68		"
57.0-58.5	1.5	74178		0.5		0.08	0.36		"
86.9-88.4	1.5	74179		0.5		<0.01	0.66		"
91.2-92.7	1.5	74180		0.5-1.0		0.01	1.44		"
-94.2	1.5	181		<0.5		<0.01	0.17		"
94.2-95.2	1.0	74182		<0.5		"	0.86		"
97.0-98.0	1.0	74183		1.0		"	1.18		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 106-82 ELEV. 1448.65m LENGTH 276.4m DIP. -90° AZIM. -
NORTHING: 72255.2 EASTING: 60430.4 STARTED: 16/6/82 FINISHED: 18/6/82
PROPERTY: Robb Lake JV CLAIM: Cleo. No. 4 LOG/DATE: 17-19/6/82 SCALE:
OBJECTIVE: East Webb-Southern Fence Test continuity 100m W of 84-80 OVERBURDEN: 21m CORE SIZE: BQ
DISCARD: CASING: Pulled (21m)

SURVEY METHOD: DEPTH:
HOR. COMP. TRUE DIP:
VER. COMP. AZIM.

SUMMARY		GRADE				GROUPING			
INTERVAL	LENGTH	%	% Pb	% Zn	PbZn	COMB. %	FT. %	CLASS	
224.3-226.8	2.5		<0.01	2.24	2.24				

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
86.85-87.35	0.5	18301		0.3		0.05	0.26		100
-88.35	1.0	302		0.75		0.05	0.27		"
-89.35	1.0	303		0.75		0.02	0.18		"
-90.35	1.0	304		0.75		0.26	0.98		"
90.35 -90.85	0.5	18305		0.75		0.50	3.30		"
93.0-94.5	1.5	18306		0.7		0.18	0.42		"
-95.5	1.0	307		<0.3		0.10	0.48		"
95.5 -97.0	1.5	18308		0.7		0.28	1.63		"
99.8-100.8	1.0	18309		0.7		0.24	2.70		"
105.8-106.8	1.0	310		0.6		0.14	0.59		"
109.4-110.6	1.2	18311		0.3		0.01	0.89		"
160.4-161.4	1.0	18312		0.7		0.01	0.44		100
-162.4	1.0	313		0.5		0.02	1.16		"
-163.4	1.0	314		1.0		<0.01	1.28		"
-164.4	1.0	315		1.5		"	1.92		"
-165.4	1.0	316		1.0		"	0.95		"
-165.9	0.5	317		0.7		"	1.27		"
-166.9	1.0	318		0.7		"	1.02		"
-167.9	1.0	319		0.7		"	0.64		"
167.9 -168.9	1.0	18320		1.0		"	1.73		"
224.3-225.3	1.0	18321		5.0		"	3.30		"
-226.3	1.0	322		1.0		"	2.05		"
226.3 -227.3	1.0	18323		0.5		"	0.52		"
228.5-229.5	1.0	18324		2.4		0.01	1.48		"
229.5 -230.5	1.0	18325		1.0		0.10	1.31		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 107-82 ELEV. 1464.4m LENGTH 279.5m DIP: -90° AZIM. -
NORTHING: 72293.3 EASTING: 61108.9 STARTED: 20/6/82 FINISHED: 23/6/82
PROPERTY: Robb Lake JV CLAIM: Cleo No.4 LOG/DATE: 21-23/6/82 SCALE:
OBJECTIVE: East Webb 84 Fence test continuity (E-W) of south extension of East Webb mineral OVERBURDEN: 26.2m CORE SIZE: BQ
DISCARD: CASING: 26.2m Pulled

SURVEY METHOD:
HOR. COMP.
VER. COMP.
DEPTH:
TRUE DIP:
AZIM.

SUMMARY

INTERVAL	LENGTH	%	% Pb	% Zn		PbZn			COMB %	FT. %	CLASS	
97.0-99.5	2.5		1.29	2.10		2.75						

SAMPLE INTERVAL metres

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
40.5-41.6	1.1	18326		0.7		0.61	0.63		100
45.0-45.5	0.5	18327		0.3		0.04	0.81		"
-46.5	1.0	328		0.5		0.03	0.80		"
46.5-47.5	1.0	329		0.7		0.08	0.61		"
58.2-59.2	1.0	330		0.3		<0.01	0.66		"
-60.2	1.0	331		0.3		"	1.57		"
-61.2	1.0	332		0.5		"	0.96		"
-62.2	1.0	333		0.75		"	2.35		"
62.2-63.2	1.0	18334		0.3		"	1.00		"
65.0-65.5	0.5	18335		1.0		"	1.35		"
67.5-68.0	0.5	18336		0.7		0.01	2.40		"
69.2-70.7	1.5	18337		0.7		0.01	2.25		"
72.5-73.0	0.5	18338		2.0		0.05	4.20		"
77.0-77.25	0.25	18339		1.5		0.12	4.35		"
78.8-79.8	1.0	340		0.5		0.02	2.00		"
-80.8	1.0	341		0.5		0.01	1.88		"
-81.8	1.0	342		0.3		<0.01	0.46		"
-82.8	1.0	343		0.3		0.01	0.26		"
82.8-83.3	0.5	18344		2.0		0.06	7.45		"
86.1-86.6	0.5	18345		1.0		<0.01	2.96		"

HOLE NO. 107-82 ELEV. LENGTH DIP. -90° AZIM. -
NORTHING: EASTING: STARTED: FINISHED:
PROPERTY: Robb Lake JV CLAIM: LOG/DATE: SCALE:
OBJECTIVE: OVERBURDEN: CORE SIZE: BQ
DISCARD: CASING:

SURVEY METHOD:
HOR. COMP.
VER. COMP.

DEPTH:
TRUE DIP:
AZIM.

SUMMARY		GRADE						GROUPING			
INTERVAL	LENGTH	%	% Pb	% Zn		PbZn		COMB. %	FT. %	CLASS	

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
88.3-89.3	1.0	18346		0.8		0.06	1.43		100
94.0-95.5	1.5	18347		0.5		<0.01	0.72		"
97.0-98.0	1.0	18348		0.5		"	0.51		"
-99.0	1.0	349		0.3		"	0.70		"
99.0-99.5	0.5	18350		5.0		3.22	8.10		"
105.2-106.2	1.0	18351		0.7		0.02	0.91		"
107.6-108.6	1.0	18352		0.75		0.02	2.30		"
-109.6	1.0	18353		0.3		<0.01	1.57		"
146.6-147.6	1.0	18354		0.7		0.01	0.28		"
-148.6	1.0	-		-			-		"
-149.6	1.0	18355		0.5		<0.01	0.26		"
-150.1	0.5	18356		0.5		"	0.82		"
150.1-150.85	0.75	18357		0.5		"	0.07		"
									"
159.6-160.6	1.0	18358		0.5		"	0.18		"
191.7-192.7	1.0	18359		1.0		0.03	1.90		"
-193.7	1.0	360		0.5		0.01	1.30		"
193.7-194.7	1.0	18361		0.3		<0.01	0.35		"
229.2-229.7	0.5	18362		0.75		"	0.31		"
231.2-231.7	0.5	18363		0.75		"	0.80		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 108-82 ELEV. 1569.6m LENGTH 135.6m DIP. -90° AZIM. -
NORTHING: 75828.5 EASTING: 59416.3 STARTED. 24/6/82 FINISHED: 25/6/82
PROPERTY: Robb Lake JV CLAIM: MV No. 23 LOG/DATE: 25-26/6/82 SCALE:
OBJECTIVE: Cascade Fence. Test continuity of mineral 50m W of 97-81 OVERBURDEN: 9.8m CORE SIZE: BQ
DISCARD: CASING: 9.8m Pulled

SURVEY METHOD: DEPTH:
HOR. COMP. TRUE DIP:
VER. COMP. AZIM.

SUMMARY		GRADE				GROUPING		
INTERVAL	LENGTH	%	%Pb	%Zn	PbZn	COMB. %	FT. %	CLASS
21.9-27.4	5.5		2.40	4.83	7.23			
or 24.9-27.4	2.5		2.93	5.90	8.83			
66.7-69.2	2.5		1.25	3.95	5.20			
82.8-98.0	15.2		0.01	2.40	2.40			
or 82.8-85.8	3.0		0.02	4.13	4.13			
or 90.0-93.0	3.0		0.1	2.70	2.71			
95.0-97.5	2.5		0.6	2.62	2.68			

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
10.9-11.9	1.0	18364		0.5		0.10	0.75		100
-12.9	1.0	365		0.5		0.37	0.76		"
-13.9	1.0	366		0.75		0.38	1.04		"
-14.9	1.0	367		1.5		0.46	1.41		"
-15.9	1.0	368		0.5		0.21	0.62		"
-16.9	1.0	369		1.0		0.36	1.40		90
16.9-17.9	1.0	18370		0.75		0.31	1.26		90
21.9-22.9	1.0	18371				1.45	3.70		100
-23.9	1.0	372				2.30	3.90		"
-24.9	1.0	373		8.5		2.11	4.20		"
-25.9	1.0	374				4.40	6.25		"
-26.9	1.0	375				1.80	5.20		"
26.9-27.4	0.5	18376				2.27	6.60		"
65.2-65.7	0.5	18377		0.5		0.04	1.32		"
-66.7	1.0	378		0.3		0.06	0.30		"
-67.7	1.0	379		2.0		0.02	2.72		"
-68.7	1.0	380		6.5		3.10	7.00		"
-69.7	1.0	381		<0.3		0.03	0.32		"
69.7-70.2	0.5	18382		0.5		0.03	1.44		"
82.8-83.8	1.0	18383		6.0		0.02	3.70		"
-84.8	1.0	384		4.0		0.02	2.80		"
-85.8	1.0	385		8.0		0.01	5.85		"
-86.8	1.0	386		4.0		0.01	2.60		"
-87.8	1.0	387		3.0		0.01	1.46		"
-88.8	1.0	388		6.0		0.01	2.65		"
88.8-89.3	0.5	18389		0.3		0.01	0.12		"

HOLE NO. 108-82 ELEV. LENGTH DIP -90° AZIM. -
NORTHING: EASTING: STARTED: FINISHED:
PROPERTY: Robb Lake JV CLAIM: LOG/DATE: SCALE:
OBJECTIVE: OVERBURDEN: CORE SIZE: BQ
DISCARD: CASING:

SURVEY METHOD:
HOR. COMP.
VER. COMP.
DEPTH:
TRUE DIP:
AZIM.

SUMMARY		GRADE							GROUPING			
INTERVAL	LENGTH	%	% Pb	% Zn		PbZn			COMB. %	FT. %	CLASS	

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM. GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
89.3-90.0	0.7	-		-		-	-		100
90.0-91.0	1.0	18390		4.0		0.01	2.40		"
-92.0	1.0	391		4.0		0.01	3.45		"
-93.0	1.0	392		2.5		0.01	2.25		"
-94.0	1.0	393		0.5		0.01	1.30		"
-95.0	1.0	394		0.3		0.01	0.90		"
-96.5	1.5	395		1.0		0.08	3.04		"
-97.5	1.0	396		1.5		0.02	2.00		"
97.5-98.0	0.5	18397		0.3		0.01	0.49		"

Rio Algom Mines Ltd. SAMPLE AND SURVEY RECORD PAGE 1 OF 1

HOLE NO. 109-82 ELEV. 1573.4m LENGTH 136.25m DIP. -90° AZIM. -
NORTHING: 75849.3 EASTING: 59736.5 STARTED. 26/6/82 FINISHED: 27/6/82
PROPERTY: Robb Lake JV CLAIM: MV No. 23 LOG/DATE: 27/6-28/6/82 SCALE:
OBJECTIVE: Cascade Fence. Test continuity of mineral 50m E of 97-81 OVERBURDEN: 24m CORE SIZE: BQ
DISCARD: CASING: Pulled (24m)

SURVEY METHOD:
HOR. COMP.
VER. COMP.

DEPTH:							
TRUE DIP:							
AZIM.							

SUMMARY		GRADE				GROUPING		
INTERVAL	LENGTH	%	%Pb	%Zn	PbZn	COMB. %	FT. %	CLASS
53.3-57.8	4.5		0.01	1.57	1.57			

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE %Zn	ASSAYS %	%Pb	%Zn	DRILLED INTERVAL	CORE REC. %
29.1-30.6	1.5	18398		0.5		<0.01	0.47		100
34.2-35.2	1.0	18399		0.75		"	1.12		"
36.8-37.4	0.6	18400		0.3		"	0.38		"
39.8-40.8	1.0	18401		0.5		"	1.11	(includes 39.86-40.05 @ 2%)	"
-41.8	1.0	402		0.3		0.01	0.43		"
-42.8	1.0	403		4.0		0.01	2.60		"
42.8-43.3	0.5	18404		0.3		<0.01	0.95		"
53.3-54.3	1.0	18405		2.5		0.02	2.65		"
-55.3	1.0	406		2.5		0.01	1.78		"
-56.3	1.0	407		0.5		<0.01	0.55		"
-57.3	1.0	408		0.75		0.01	0.45		"
57.3-57.8	0.5	18409		1.5		0.01	3.15		"
97.6-98.6	1.0	18410		2.5		<0.01	3.63		"
99.3-100.3	1.0	18411		0.3		0.02	0.64		"
100.3-100.8	0.5	18412		0.75		0.01	2.00		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 110-82 ELEV. 1578.7m LENGTH 142.3m DIP: -90° AZIM. -
NORTHING: 75838.1 EASTING: 59247.9 STARTED. 28/6/82 FINISHED: 29/6/82
PROPERTY: Robb Lake JV CLAIM: Rob No. 15 LOG/DATE: 29-30/6/82 SCALE:
OBJECTIVE: Cascade Fence, test continuity mineral 50m W of 108-82 OVERBURDEN: 16.2m CORE SIZE: BQ
DISCARD: CASING: Pulled (16.2m)

SURVEY METHOD:
HOR. COMP.
VER. COMP.

DEPTH:
TRUE DIP:
AZIM.

SUMMARY		GRADE				GROUPING			
INTERVAL	LENGTH	%	%Pb	%Zn	PbZn	COMB. %	FT. %	CLASS	
48.5-51.0	2.5		0.61	1.94	2.55				

SAMPLE INTERVAL metres	LENGTH m.	SAMP NO.	CORE REC.	ESTIM GRADE %Zn	ASSAYS %	%Pb	%Zn	DRILLED INTERVAL	CORE REC. %
16.2-17.2	1.0	18413		3.0		0.50	1.80		50
17.2-18.2	1.0	414		3.0		0.14	1.50	17.6-18.0	15
25.6-26.1	0.5	18415		1.0		0.01	1.45		93
48.5-49.0	0.5	18416		<0.3		0.02	0.09		100
49.0-50.0	1.0	18417		4		1.52	4.80		"
67.5-69.0	1.5	18418		2		0.42	1.90		"
-70.0	-	-		-					
-71.0	-	-		-					
-72.0	1.0	419		0.5		0.09	0.51		"
-73.0	1.0	420		0.5		0.22	1.06		"
-74.0	1.0	421		0.5		0.02	0.36		"
74.0-75.0	1.0	18422		0.5		<0.01	1.01		"
80.5-81.5	1.0	18423		4.5		0.02	2.83		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 111-82 ELEV. 1578.9m LENGTH 146.9 DIP. -90° AZIM. -

NORTHING: 75854.8 EASTING: 59905.2 STARTED: 30/6/82 FINISHED: 1/7/82

PROPERTY: Robb Lake JV CLAIM: MV No. 23 LOG/DATE: 1-2/7/82 SCALE:

OBJECTIVE: Cascade Fence, Test for eastward continuity of mineral 100m E of 97-81 OVERBURDEN: 19.8m CORE SIZE: BQ

DISCARD: CASING: Pulled (19.8m)

SURVEY METHOD: DEPTH:

HOR. COMP. TRUE DIP:

VER. COMP. AZIM.

SUMMARY		GRADE				GROUPING			
INTERVAL	LENGTH	%	% Pb	% Zn	PbZn	COMB. %	FT. %	CLASS	
74.0-76.5	2.5		0.49	0.98	1.47				

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
32.86-33.86	1.0	18424		0.75		<0.01	0.55		100
44.7-45.7	1.0	18425		0.3		<0.01	0.47		"
45.7-46.2	1.0	426		0.75		"	0.93		"
46.2-46.7	0.5			nil					"
46.7-47.2	0.5	18427		0.5		<0.01	0.43		"
49.81-50.31	0.5	18428		1.0		0.01	1.90		"
54.8-55.9	1.1	18429		0.3		<0.01	0.20		"
55.9-56.4	0.5	430		3.5		0.02	2.40		"
56.4-57.3	0.9	431		0.3		<0.01	0.31		"
57.3-57.8	0.5	18432		0.5		"	1.90		"
62.8-63.3	0.5	18433		1.0		"	2.45		"
69.1-70.1	1.0	18434		0.5		"	1.00		"
71.0-72.0	1.0	18435		0.3		"	1.00		"
74.0-74.5	0.5	18436		0.3		"	0.74		"
74.5-76.0	1.5	437		2.5		0.82	1.38		95
99.1-99.6	0.5	18438		0.8		0.01	2.20		100
101.4-101.9	0.5	18439		3.0		0.01	4.30		100

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

PAGE 1 OF 1

HOLE NO. 112-82 | ELEV. 1643.5m | LENGTH 296.9m | DIP: -90° | AZIM. -

NORTHING: 74272.4 | EASTING: 59124.4 | STARTED: 2/7/82 | FINISHED: 4/7/82

PROPERTY: Robb Lake JV | CLAIM: ROB No. 17 | LOG/DATE: 3-5/7/82 | SCALE:

OBJECTIVE: East Webb, Centre fence testing continuity of mineralization 50m W of hole 35 | OVERBURDEN: 11.0m | DISCARD: | CORE SIZE: BQ | CASING: pulled (11m)

SURVEY METHOD:
HOR. COMP.
VER. COMP.

DEPTH:
TRUE DIP:
AZIM.

SUMMARY

INTERVAL	LENGTH	%	% Pb	% Zn		PbZn			COMB. %	FT. %	CLASS	
173.3-179.0	5.7		4.07	4.73		8.80						
174.5-177.5	3.0		5.74	7.39		13.13						

SAMPLE INTERVAL metres

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn		ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
153.35-154.35	1.0	18440		1.0			0.75	2.40		100
170.2-171.2	1.0	18441		0.5			0.77	0.72		"
172.3-173.3	1.0	18442		1.0			0.94	1.50		"
-174.5	1.2	443		3.0			2.55	2.90		"
-175.5	1.0	444		7.0			6.00	6.20		"
-176.5	1.0	445		7.0			4.73	7.37		"
-177.5	1.0	446		7.0			6.50	8.60		"
-178.5	1.0	447		-			0.18	0.14		"
178.5-179.0	0.5	18448		3.0			5.50	2.37		"
194.0-194.5	0.5	18449		1.0			0.02	0.66		"
201.6-202.1	0.5	18450		0.5			0.02	0.85		"
203.4-204.4	1.0	18451		1.0			0.82	1.66		"
213.8-215.3	1.5	18452		0.3-0.5			<0.01	0.63		"
232.7-234.2	1.5	18453		0.5			0.01	0.50		"
-235.7	1.5	454		0.3			<0.01	0.21		"
235.7-237.2	1.5	18455		0.5			0.01	0.58		"
276.7-277.7	1.0	18456		10.0			<0.01	7.60		"
-278.7	1.0	457		8.0			0.01	5.40		"
-279.3	0.6	458		-			0.01	0.49		"
279.3-279.8	0.5	18459		3.0			<0.01	4.40		"
283.12-284.12	1.0	18460		2.0			<0.01	2.45		
286.5-288.0	1.5	18461		2.0			0.01	5.50		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD PAGE 1 OF 2

HOLE NO. 113-82 ELEV. 1610.0 LENGTH 254.8m DIP: -90° AZIM. -
NORTHING: 74246.9 EASTING: 59450.4 STARTED: 5/7/82 FINISHED: 7/7/82
PROPERTY: Robb Lake JV CLAIM: Rob No. 17 LOG/DATE: 8-9/7/82 SCALE:
OBJECTIVE: East Webb Centre Fence; Test continuity of mineral 50m E of hole 35 OVERBURDEN: 11.3m CORE SIZE: BQ
DISCARD: CASING: Pulled (11.3m)

SURVEY METHOD: DEPTH:
HOR. COMP. TRUE DIP:
VER. COMP. AZIM.

SUMMARY		GRADE				GROUPING		
INTERVAL	LENGTH	%	%Pb	%Zn	PbZn	COMB. %	FT. %	CLASS
152.1-154.6	2.5		0.08	2.33	2.41			
158.3-160.8	2.5		1.26	4.60	5.86			
178.5-181.0	2.5		0.01	5.71	5.71			
or 178.5-182.5	4.0		0.01	4.08	4.08			
200.5-203.5	3.0		1.29	13.73	15.02			

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE %Zn	ASSAYS %	%Pb	%Zn	DRILLED INTERVAL	CORE REC. %
32.3-33.0	1.0	18462		1.0		0.01	4.05		100
149-150.5	1.5	18463		0.75		0.34	3.10		"
-151.5	1.0	464		0.3		0.01	0.18		83
-152.6	1.1	465		-		0.03	0.19		83
-153.6	1.0	466		2.0		0.17	2.05		83
153.6-154.6	1.0	18467		2.0		0.01	3.70		100
155.8-156.8	1.0	18468		0.3		0.02	0.84		100
158.3-158.8	0.5	18469		0.3		<0.01	1.03		"
-159.8	1.0	470		2.5		1.94	6.55		"
159.8-160.8	1.0	18471		2.5		1.22	4.43		"
164.3-165.3	1.0	18472		0.75		0.02	0.57		"
165.3-165.8	0.5	18473		0.5		0.02	0.70		
168.1-168.6	0.5	18474		1.0		0.09	3.65		95
178.5-179.5	1.0	18475		0.75		0.02	4.85		100
179.5-180.5	1.0	476		6.5		0.01	9.30		"
-182.0	1.5	477		-		0.01	0.20		"
182.0-182.5	0.5	18478		0.75		0.01	3.60		"
193.2-194.7	1.5	18479		1.0		0.05	3.85		"
195.5-196.0	0.5	18480		0.5		0.56	2.18		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 113-82 ELEV. LENGTH DIP: -90° AZIM. -
NORTHING: EASTING: STARTED. FINISHED:
PROPERTY: Robb Lake JV CLAIM: LOG/DATE: SCALE:
OBJECTIVE: OVERBURDEN: CORE SIZE: BQ
DISCARD: CASING:

SURVEY METHOD:
HOR. COMP.
VER. COMP.

DEPTH:
TRUE DIP:
AZIM.

SUMMARY		GRADE						GROUPING			
INTERVAL	LENGTH	%	%Pb	%Zn		PbZn		COMB. %	FT. %	CLASS	

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM. GRADE %Zn	ASSAYS %	%Pb	%Zn	DRILLED INTERVAL	CORE REC. %
200-200.5	0.5	18481		<0.3		0.02	0.20		100
-201.5	1.0	482		5.0		0.03	11.70		"
-202.5	1.0	483		10.0		0.01	16.10		"
-203.5	1.0	18484		10.0		3.82	13.40		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD PAGE 1 OF 1

HOLE NO. 114-82 ELEV. 1563.9m LENGTH 108.8m DIP: -90° AZIM. -
NORTHING: 75686.8 EASTING: 59591.9 STARTED: 9/7/82 FINISHED: 10/7/82
PROPERTY: Robb Lake JV CLAIM: MV No. 23 LOG/DATE: 10/7/82 SCALE:
OBJECTIVE: Cascade Area. Test for southerly continuity of mineralization in 97-81;108-82 OVERBURDEN: 14.0m CORE SIZE: BQ
DISCARD: CASING: Pulled (14m)

SURVEY METHOD: DEPTH:
HOR. COMP. TRUE DIP:
VER. COMP. AZIM.

SUMMARY		GRADE					GROUPING			
INTERVAL	LENGTH	%	% Pb	% Zn		PbZn	COMB. %	FT. %	CLASS	
15.9-18.5	2.6		0.37	2.79		3.16				
28.7-31.7	3.0		6.97	12.38		19.35				
or 26.2-31.7	5.5		3.97	7.38		11.35				

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
15.9-16.4	0.5	18485		0.5		0.28	1.27		100
-17.4	1.0			4.0		0.51	4.10		"
17.4-18.5	1.1	18487		2.0		0.28	2.30		"
26.2-26.7	0.5	18488		0.5		0.13	1.16		"
-27.7	1.0	489		2.0		0.18	1.65		"
-28.7	1.0	490		3.0		0.72	1.18		"
-29.7	1.0	491		20-25		16.80	27.00		"
-30.7	1.0	492		2.5		1.36	6.25		"
30.7-31.7	1.0	18493		2.5		2.74	3.90		"
35.48-35.98	0.5	18494		0.5		0.83	3.55		"
83.2-83.7	0.5	18495		1.0		0.05	1.90		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 115-82 ELEV. 1588.9 LENGTH 124.7m DIP -90° AZIM. -
NORTHING: 76012.5 EASTING: 59576.5 STARTED: 10/7/82 FINISHED: 11/7/82
PROPERTY: Robb Lake JV CLAIM: MV No. 23 LOG/DATE: 11/7-12/7/82 SCALE:
OBJECTIVE: Cascade area - Test Northerly (50m) continuity of mineral in 97-81;108-82 OVERBURDEN. 25.3m CORE SIZE: BQ
DISCARD: CASING: Pulled (25.3)

SURVEY METHOD: DEPTH:
HOR. COMP. TRUE DIP:
VER. COMP. AZIM.

SUMMARY		GRADE						GROUPING			
INTERVAL	LENGTH	%	% Pb	% Zn		PbZn		COMB. %	FT. %	CLASS	

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
27.5-28.7	1.2	18496		0.75		<0.01	2.05		56
34.1-35.1	1.0	18497		2.0		0.13	2.55		100
35.1-36.1	1.0	18498		0.3		0.03	0.49		
40.5-42.0	1.5	18499		0.5		0.02	1.40		
-43.5	1.5	18500		0.5		<0.01	0.28		
-45.0	1.5	74101		1.0		"	0.81		
-46.5	1.5	74102		1.0		"	1.30		80
-48.0	1.5	74103		0.5		"	1.30		80
-49.1	1.1	74104		0.75		"	1.83		84
No sample 49.1-49.4 fault									
49.4-50.9	1.5	105		0.5		"	1.15		84
50.9-52.4	1.5	74106		0.5		"	1.54		100
54.25-55.25	1.0	74107		1.0		"	1.26		100
-56.75	1.5	74108		1.0		"	0.42		"
62.5-63.5	1.0	74109		0.5		"	1.27		85
74.2-75.2	1.0	74110		0.5		"	0.27		100
-76.7	1.5	74111		0.5		"	0.98		"
79.0-80.5	1.5	74112		0.5		"	0.72		"
97.0-98.0	1.0	74113		0.5		"	2.20		"
99.2-100.2	1.0	74114		1.0		"	0.42		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 115-82 ELEV. LENGTH DIP -90° AZIM. –
NORTHING: EASTING: STARTED: FINISHED:
PROPERTY: Robb Lake JV CLAIM: LOG/DATE: SCALE:
OBJECTIVE: OVERBURDEN: CORE SIZE: BQ
DISCARD: CASING:

SURVEY METHOD:
HOR. COMP.
VER. COMP.

DEPTH:
TRUE DIP:
AZIM.

SUMMARY		GRADE							GROUPING			
INTERVAL	LENGTH	%	% Pb	% Zn		PbZn			COMB %	FT. %	CLASS	

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	%	ASSAYS % Pb	% Zn						DRILLED INTERVAL	CORE REC. %
111.0-112.0	1.0	74115		0.5		<0.01	0.70							100
-113.0	1.0	116		0.5		"	0.70							"
113.0-114.0	1.0	74117		0.5		"	0.64							"
118.0-119.0	1.0	74118		0.75		0.02	2.00							"
-120.0	1.0	119		0.75		<0.01	2.22							"
120.0-120.5	0.5	74120		0.3		"	0.60							"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 116-82 ELEV. 1664.24m LENGTH 322.2m DIP -90° AZIM. -
NORTHING: 74294.18 EASTING: 58981.7 STARTED: 12/7/82 FINISHED: 14/7/82
PROPERTY: Robb Lake JV CLAIM: Rob No. 17 LOG/DATE: 14/7-16/7/82 SCALE:
OBJECTIVE: East Webb Centre Fence. Test continuity 50m W of 112-82 OVERBURDEN: 7.9m CORE SIZE: BQ
DISCARD: CASING: Pulled (7.9m)

SURVEY METHOD: DEPTH:
HOR. COMP. TRUE DIP:
VER. COMP. AZIM.

SUMMARY		GRADE					GROUPING			
INTERVAL	LENGTH	%	% Pb	% Zn		PbZn	COMB. %	FT. %	CLASS	
192.92-196.14	3.22		3.07	4.80		7.90				
236.5-239.0	2.5		<0.01	3.50		3.50				
249.3-252.8	3.5		0.01	4.46		4.47				
262.4-263.65	2.5		0.01	3.91		3.92	includes 1.25m @ 0.1%Pb 7.82% Zn			
295.7-298.7	3.0		<0.01	5.09		5.09				
304.2-309.7	5.5		<0.01	2.36		2.36				
or 293.7-309.7	16.0		<0.01	2.32		2.32				

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM. GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
191.75-192.25	0.5	74121		4.0		1.52	0.73		100
-192.92	0.67	122		<0.3		0.40	0.18		"
-193.42	0.5	123		3.5		1.82	4.35		"
-194.14	0.72	124		2.0		0.52	0.88		"
-195.14	1.0	125		7.0		2.99	3.15		"
195.14-196.14	1.0	74126		7.0		5.60	9.50		"
				Pb					
205.8-206.3	0.5	74127		3.5		2.76	0.15		"
				Zn					
216.5-217.0	0.5	74128		0.3-0.5		0.07	0.32		"
232.3-232.8	0.5	74129		3.5		0.02	4.05		"
234.2-234.7	0.5	74130		1.5		0.02	3.30		"
236.5-237.5	1.0	74131		5.0		<0.01	5.02		"
-238.5	1.0	132		2.0		"	3.05		"
-240.0	1.5	133		0.5		"	1.36		"
240.0-241.5	1.5	74134		0.5		"	2.16		"
243.2-244.2	1.0	74135		0.5		"	1.20		"
249.3-250.3	1.0	74136		4.0		0.01	4.30		"
-251.3	1.0	137		4.0		<0.01	4.45		"
-252.3	1.0	138		4.0		0.02	4.55		"
252.3-252.8	0.5	74139		3.0		0.01	4.60		"
255.0-255.5	0.5	74140		0.5		0.01	1.98		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 116-82 ELEV. LENGTH DIP: -90° AZIM. -
NORTHING: EASTING: STARTED: FINISHED:
PROPERTY: Robb Lake JV CLAIM: LOG/DATE: SCALE:
OBJECTIVE: OVERBURDEN: CORE SIZE: BQ
DISCARD: CASING:

SURVEY METHOD: DEPTH:
HOR. COMP. TRUE DIP:
VER. COMP. AZIM.

SUMMARY		GRADE						GROUPING			
INTERVAL	LENGTH	%	% Pb	% Zn		PbZn		COMB. %	FT. %	CLASS	

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
262.4-262.9	0.5	74141		6.0		0.02	10.40		100
262.9-263.65	0.75	74142		0.7		0.02	6.10		"
266.85-267.6	0.75	74143		3.5		<0.01	4.05		"
282.15-283.15	1.0	74144		2.0		<0.01	1.40		"
283.8-284.4	0.6	74145		0.5		<0.01	0.70		"
286.15-287.15	1.0	74146		1.5		<0.01	1.10		"
-288.65	1.5	147		1.0		"	2.00		"
-290.15	1.5	148		0.3-0.5		"	0.74		"
290.15-291.15	1.0	74149		3.0		"	3.07		"
293.7-294.7	1.0	74150		1.0		"	1.28		"
-295.7	1.0	151		0.5		"	0.63		"
-296.7	1.0	152		1.0		"	2.02		"
-297.7	1.0	153		2.5		"	3.85		"
-298.7	1.0	154		4.0		0.01	9.40		"
-299.7	1.0	155				<0.01	0.22		"
-301.2	1.5	156		0.5-		"	3.16		"
-302.7	1.5	157		1%		"	1.07		"
-304.2	1.5	158				"	0.31		"
-305.7	1.5	159				"	2.10		"
-306.7	1.0	160		1.5		"	2.35		"
-308.2	1.5	161		2.0		"	3.03		"
308.2-308.2	1.5	74162		0.5		"	1.95		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 117-82 ELEV. 1585.75m LENGTH 215.8m DIP- -90° AZIM. -
NORTHING: 74203.1 EASTING: 59761.6 STARTED: 15/7/82 FINISHED: 17/7/82
PROPERTY: Robb Lake JV CLAIM: MV No. 23 LOG/DATE: 17/7/82-19/7/82 SCALE:
OBJECTIVE: East Webb. Centre Fence. Test continuity E of 113-82 (100m) OVERBURDEN: 6.1m CORE SIZE: BQ
DISCARD: CASING: Pulled (6.1m)

SURVEY METHOD:
HOR. COMP.
VER. COMP.

DEPTH:
TRUE DIP:
AZIM.

SUMMARY

INTERVAL	LENGTH	%	% Pb	% Zn		PbZn			COMB %	FT. %	CLASS	
155.95-160.45	4.5		0.69	2.22		2.91						
or 155.95-158.45	2.5		0.48	2.54		3.02						
162.9-165.4	2.5		0.77	4.08		4.85						
or 163.4-164.4	1.0		1.92	10.15		12.07						

GRADE / GROUPING

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn					DRILLED INTERVAL	CORE REC. %
152.8-153.3	0.5	74163		1.0		0.16	1.22						100
155.95-156.95	1.0	74164		4.0		0.98	1.94						"
-157.45	0.5	165		1.0		0.36	3.40						"
-158.45	1.0	166		2.0		0.04	2.70						"
-159.45	1.0	167		0.5		1.02	0.57						"
159.45-160.45	1.0	74168		1.0		0.88	3.10						"
162.9-163.4	0.5	74169		0.3		0.03	0.10						"
163.4-164.4	1.0	74170		10-12		1.92	10.15						"
176.44-177.94	1.5	74171		0.5-1.0		0.02	1.54						"
195.95-196.45	0.5	74172		7.0		0.02	6.90	(includes 15cm @ 20-25%)					"
-197.45	1.0	173		<1.0		0.01	0.23						"
-198.45	1.0	174		<1.0		0.01	0.16						"
198.45-199.45	1.0	74175		4.0		0.01	2.35						"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD

HOLE NO. 118-82 ELEV. 1777.2m LENGTH 440.7m DIP -90° AZIM. -
NORTHING: 74293.1 EASTING: 57712.8 STARTED: 18/7/82 FINISHED: 23/7/82
PROPERTY: Robb Lake JV CLAIM: Rob No. 16 LOG/DATE: 20/7-23/7/82 SCALE:
OBJECTIVE: West Webb. Test for easterly continuity of unit C mineral intersected in OVERBURDEN: 2.1m CORE SIZE: BQ
DISCARD: CASING: Pulled (2.1m)

SURVEY METHOD: 81-80
HOR. COMP.
VER. COMP.
DEPTH:
TRUE DIP:
AZIM.

SUMMARY

INTERVAL	LENGTH	%	GRADE % Pb	% Zn		PbZn		GROUPING COMB %	FT %	CLASS	
59.0-62.0	3.0		2.67	7.86		10.53					
75.1-75.6	0.5		6.30	1.80		8.10					
or 74.1-76.6	2.5		2.52	0.72		3.24					

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
58.0-58.5	0.5	74184		1.0		1.32	3.00		100
59.0-60.0	1.0	74185		1.0		0.94	1.58		"
-61.0	1.0	186		9.0	(Pb)	3.58	10.90		"
-62.0	1.0	187		9.0	(Pb)	3.50	11.10		"
62.0-62.5	0.5	74188		0.5		0.54	0.52		"
75.1-75.6	0.5	74189		2.5	(Pb)	6.30	1.80		"
217.85-218.35	0.5	74190		2.0	(Pb)	2.60	0.09		"
218.35-219.35	1.0	74191		0.5		0.16	0.05		"
276.3-277.3	1.0	74192		<0.5		0.02	0.17		"
286.8-288.3	1.5	74193		0.7		0.08	1.03		"
290.5-291.0	0.5	74194		1.0		0.16	2.60		"
294.1-294.6	0.5	74195		0.5		0.01	0.80		"
297.55-298.55	1.0	74196		0.7		0.16	2.76		"
339.7-340.2	0.5	74197		0.3-0.5		0.01	0.26		"
343.6-344.7	0.5	74198		1.0		0.03	1.00		"

Kidd Creek Mines Ltd. SAMPLE AND SURVEY RECORD PAGE 1 OF 1

HOLE NO. 119-82 ELEV. 1549.0m LENGTH 145.4m DIP: -90° AZIM. -
NORTHING: 74961.7 EASTING: 59675.3 STARTED: 24/7/82 FINISHED: 25/7/82
PROPERTY: Robb Lake JV CLAIM: MV No. 23 LOG/DATE: 24-25/7/82 SCALE:
OBJECTIVE: East Webb. Test continuity of mineralization (North trend) between Cascade OVERBURDEN: 16.2m CORE SIZE: BQ
DISCARD: CASING: Pulled (16.2m)

SURVEY METHOD: Centre fences
HOR. COMP.
VER. COMP.
DEPTH:
TRUE DIP:
AZIM.

SUMMARY		GRADE				GROUPING			
INTERVAL	LENGTH	%	% Pb	% Zn	PbZn	COMB. %	FT. %	CLASS	
112.6-115.1	2.5		1.07	2.81	3.88				
includes 112.6-113.1	0.5		4.75	10.25	15.00				

SAMPLE INTERVAL metres	LENGTH m.	SAMP. NO.	CORE REC.	ESTIM GRADE % Zn	ASSAYS %	% Pb	% Zn	DRILLED INTERVAL	CORE REC. %
68.4-69.4	1.0	74199		<0.5%		<0.01	0.32		100
93.5-94.0	0.5	74200		0.5-1.0		0.78	1.32		"
103.0-104.8	1.0	74201		0.3		0.27	0.64		"
112.6-113.1	0.5	74202		10%		4.75	10.25		"
-114.6	1.5	74203		<0.5		0.15	0.46		"
-115.1	0.5	74204		2.5		0.16	2.42		"

APPENDIX C

Surveyed Coordinates and Elevations of Diamond Drill Holes

APPENDIX C

Surveyed Coordinates and Elevations of Diamond Drill Holes

Hole No.	Location		Elevation (m)
	Northing	Easting	
104-82	77249.7	60593.0	1451.60
105-82	72281.0	60946.2	1460.50
106-82	72255.2	60430.2	1448.65
107-82	72293.3	61108.9	1464.40
108-82	75828.5	59416.3	1569.60
109-82	75849.3	59736.5	1573.40
110-82	75838.1	59247.9	1578.70
111-82	75849.3	59905.2	1578.90
112-82	74272.4	59124.4	1643.50
113-82	74246.9	59450.4	1610.00
114-82	75686.8	59591.9	1563.90
115-82	76012.5	59576.5	1588.90
116-82	74294.18	58981.7	1664.24
117-82	74203.1	59761.6	1585.75
118-82	74293.1	57712.8	1777.20
119-82	74961.7	59675.3	1549.00

APPENDIX D

Statement of Qualifications

A.J. Boronowski

S.C. James

APPENDIX D

Statement of Qualifications

A.J. Boronowski

B.Sc. (Honours) (Geology) 1970 University of British Columbia

Since 1970, employed in mineral exploration or related geolgoical work.

S.C.James

B.Sc. (Honours) (Geology) 1971 University of Witwatersrand.

Since 1971, employed in mineral exploration or related geological work.

APPENDIX E

Statement of Expenditures

APPENDIX E

Statement of Expenditures

SALARIES AND FRINGE BENEFITS, KIDD CREEK MINES LTD.

S.C. James, Senior Geologist June 1 - July 27	57 days @ $160/day	9,120.00	
R. Lemery, Geological Assistant June 1-July 27	57 days @ $ 70/day	3,990.00	
J.W Leigh, Assistant June 1 - 27	57 Days @ $ 55/day	3,135.00	
E. Potsepp, Cook June 1 - July 27	57 days @ $120/day	6,840.00	
G. Hart, Assistant June 1-June 30, July 9-17	39 days @ $ 55/day	2,145.00	
G. Murray, Assistant June 1 - June 24	24 days @ $ 70/day	1,680.00	
B. Bower, Assistant June 1 - June 24	24 days @ $ 60/day	1,440.00	
D. Bending, Consultant June 9 - June 16	8 days @ $160/day	1,280.00	
A.J. Boronowski, Project Manager June 1-June 22; July 9-14	29 days @ $215/day	6,235.00	
		35,865.00	35,865.00

CAMP COSTS

Includes camp equipment, camp fuel, food, communications, freight, air charges, airline fares, expediting, on a man-day basis: 67,646.46

Kidd Creek Mines Ltd. staff as above:	352 man-days
Pilot & Engineer	72 man-days
Hi-Tec-site prep. crew 2 men for 27 days	54 man-days
Drill crew 4 men for 52 days	208 man-days
	686 man-days

Camp cost per man per day = $98.61

APPENDIX E

Statement of Expenditures - Cont'd.

DIAMOND DRILLING & DRILL SITE PREPARATION	
Contractor's charge for diamond drilling and moving between holes.	241,321.14
HELICOPTER	
Use of Hughes 500D helicopter for crew and equipment	81,785.00
ASSAYS	
354 assays for Pb, Zn @ $14.00 each	4,956.00
FIXED WING	28,778.00
EQUIPMENT RENTAL, MAINTENANCE	615.25
PHOTOGRAPHY	
Photographing all core	241.15
SURVEY	
Survey of drill-hole collar locations and elevations	2,000.00
TOTAL	$463,208.00

APPENDIX E

Statement of Expenditures - Cont'd.

COST DISTRIBUTION PER DIAMOND DRILL HOLE

Hole 104-82	287.1 m	drilled June 8-11	$37,011.00
Hole 105-82	279.5 m	drilled June 12-14	36,032.00
Hole 106-82	276.4 m	drilled June 16-18	35,632.00
Hole 107-82	279.5 m	drilled June 20-28	36,032.00
Hole 108-82	135.6 m	drilled June 24-25	17,482.00
Hole 109-82	136.25 m	drilled June 26-27	17,563.00
Hole 110-82	142.3 m	drilled June 28-29	18,342.00
Hole 111-82	146.9 m	drilled June 30-1 July	18,935.00
Hole 112-82	296.9 m	drilled July 2-4	38,283.00
Hole 113-82	254.8 m	drilled July 5-7	32,854.00
Hole 114-82	108.8 m	drilled July 9-10	14,026.00
Hole 115-82	124.7 m	drilled July 10-11	16,076.00
Hole 116-82	322.2 m	drilled July 12-14	41,545.00
Hole 117-82	215.8 m	drilled July 15-17	27,825.00
Hole 118-82	440.7 m	drilled July 18-23	56,827.00
Hole 119-82	145.4 m	drilled July 24-25	18,746.00
			$463,208.00

LEGEND

BEARINGS ARE ASTRONOMIC AND ARE DERIVED BY SOLAR OBSERVATION REFERRED TO THE MERIDIAN THROUGH STA. 8101

CO-ORDINATES WERE DERIVED BY MATCHING PHYSICAL FEATURES ON 1" = 500' TOPOGRAPHIC SHEET Nº 4 (BY M.S.E.L. DATED MAY 12, 1972)

ELEVATIONS ARE BY TRIG HEIGHTING AND ARE REFERRED TO PHOTOGRAMMETRIC SPOT HEIGHTS ON M.S.E.L. SHEET Nº 4. ELEVATIONS ARE APPROXIMATELY GEODETIC

● IP 8202	DENOTES STANDARD B.C.L.S. IRON SURVEY POST WITH NUMBERED ALUMINUM IDENTIFICATION TAG
● SP 8167	DENOTES 12" SPIKE SET IN ROCK WITH NUMBERED ALUMINUM IDENTIFICATION TAG
○ 8145	DENOTES TRAVERSE HUB
1	DENOTES Nº 1 LOCATION POST
2	DENOTES Nº 2 LOCATION POST
WP	DENOTES WITNESS POST
WT	DENOTES WITNESS
□	DENOTES TRUE POSITION OF WITNESSED CLAIM POST — NO POST SET IN FIELD
■	DENOTES CLAIM POST

FOR CO-ORDINATES OF TRUE CLAIM CORNERS ADJACENT TO WT. IP'S SET DURING SURVEY, SEE TABULATED LIST DATED , 1972.

KEY MAP

C-1	C-2	
C-3	C-4	C-5
	C-6	

NOTE: Original drawing done using measurements of the imperial system and at a scale of 1 in = 500 ft. Scale has been changed to 1:5,000 but grid and elevations are still given in feet.

⊙ Indicates 1982 Drill Holes

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Figure 4
Index see Figure 2

REV Nº	DATE	REVISION			
4	OCT/82	1982 drilling, i.e. DDH 104-82 to 119-82, added	A.J.B.		
3	SEP/81	1981 drilling, i.e. DDH 91-81 to 103-81, added	R.A.F.G.		
	SEP/81	1980 drilling, i.e. DDH 81-80 to 90-80, added	R.A.F.G.		
1	AUG. 74	D.H. Nº 30 - Nº 52 ADDED	J.S.	J.S.	J.M.

KIDD CREEK MINES LTD
ROBB LAKE JOINT VENTURE

LOCATION LINE SURVEY OF MINERAL CLAIMS

NTS 94B/13

McELHANNEY ASSOCIATES
PROFESSIONAL LAND SURVEYORS
VANCOUVER, B.C.

DESIGNED	J.W.K.S.	SCALE	1:5,000
DRAWN	K.M.S.	DATE	NOV 1972
CHECKED	J.W.K.S.	JOB Nº	03649-0
APPROVED	D.S.M.		
CLIENT DWG Nº		McASSOC DWG Nº	C-4

RoB 45, 46
REx 1Fr, 2 Fr
FG 29, 31, 33

1992

1993

1994

1995

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Figure 5

Kidd Creek Mines Ltd.

ROBB LAKE JOINT VENTURE

COMPOSITE PLAN OF MINERAL CLAIMS SHOWING 1982 GROUPING

NTS 94/B13

WORK BY	DRAWN BY	DATE	DRW.G NO.
A.J.B. SEPT 17 82	E.R.	Revised AUG 12, 1982 SEPT 22, 1981	