010

CORAL RAPIDS PROJECT

0-16

PROGRESS REPORT AND RECOMMENDATIONS

BASED ON DRILLING PROGRAM FEBRUARY TO MAY 1978

B. C. ASBURY

MAY 1978

KERR ADDISON MINES LIMITED

NOTE: ALL DRILL CORE LOCATED AT TIMMINS, ONTARIO.

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CORAL RAPIDS PROJECT

SUMMARY:

Three favourable areas of the Moose River Basin were tested by drilling for the presence of radioactivity in the Lower Devonian Sextant Formation, a continental clastic sedimentary wedge overlying Precambrian basement rocks. An anomalous horizon within the Sextant Formation (20 metres thick with 0.05 - 0.1 lb./ton U_3O_8) was intersected along the margin of a 10 km wide basinal structure.

BACKGROUND:

A field examination of exposures of the Sextant Formation at Sextant Rapids and Coral Rapids indicated the presence of up to 8 times background radioactivity in some beds of the reddish and greenish, gritty to conglomeratic Sextant Formation. No other good exposures of Sextant Formation were located. Possible Sextant occurrences to the east in Quebec were briefly visited.

A review of literature provided the following information: The Sextant Formation has been recognized since 1916 from the type localities at Sextant and Coral Rapids, but interest in the Moose River Basin was aimed mostly towards Cretaceous lignite, and Devonian limestone and gypsum deposits as well as the potential for oil and gas.

Several drill holes in the 1930-1950 period by mining companies and the Ontario Department of Mines outlined the basic stratigraphic relationship of the Moose River Basin. In 1967 the Geological Survey of Canada undertook Operation Winisk which included a detailed review and re-interpretation of the Devonian stratigraphy of the Hudson Platform.

In 1973-74 Aquitaine Company of Canada carried out a geophysical and drilling program to profile the granitic basement and test overlying Devonian strata for Pb-Zn mineralization in an area between the Mattagami and North French Rivers about 40 km north of Coral Rapids. A high resolution airborne magnetic and ground seismic and resistive surveys were followed by 13 drill holes to basement. Down-the-hole logging included I.P., resistivity and velocity methods. Attempts at gamma ray logging failed due to apparent equipment problems. An interpretation of this work included proposed basement faulting and horst structures as well as a facies map of the Sextant Formation.

GROUND ACQUISITION:

A portion of the Moose River Basin (Figure 1) has been withdrawn from staking by the Ontario government because of proven and potential lignite

deposits in the Cretaceous rocks. As a result, significant areas of interest are removed as exploration targets although the underlying Sextant Formation is unrelated to the Cretaceous lignite-bearing horizons.

An exploratory licence of occupation (No. 14879), covering four parts totalling 201,500 acres, was obtained from the Ontario government effective February 23, 1978.

The most promising area is in the vicinity of Sextant Rapids and is covered by two of the four licence areas. The known radioactivity at Sextant Rapids made this area a prime drill target.

Another area near Moose River Crossing lies near the postulated northern limit of the Sextant Formation; however, 1929-39 drill hole data indicated 6.7-10.0 m of "conglomeratic breccia" lying on the Precambrian basement.

A third target area lies north of the Precambrian limit near the Partridge River. Previous drilling had indicated at least 21 m of Sextant Formation within 90 m of surface.

GEOLOGY:

The Precambrian basement rocks in the area are part of the Kapuskasing Gneiss Belt (Figure 2), a structural zone of Archean granulite facies rocks and anorthosite cutting northeasterly across predominantly easterly structural trends. It is characterized by abrupt increases in metamorphic grade, wide mylonitic zones, vertical fault tectonics, a profusion of dyke swarms and localization of mafic intrusions and carbonitite bodies (Gibb, 1978).

During the early Devonian, faulting of the Precambrian basement occurred along the southern margin of the Moose River Basin due to uplift of the Fraserdale Arch (Figure 3) to the south. The resulting highland area extended along the southern margin of the basin as the sea transgressed onto the Hudson Platform. The Sextant Formation, clastic non-marine sandstone, siltstone, shale and conglomerate, was deposited at the foot of the up-faulted Precambrian scarp. To the north, the Sextant Formation intertongued with its marine equivalent, the Stooping River Formation which also transgressively overlapped the Sextant to rest directly upon the Precambrian at some places along the southern limit of the Moose River Basin.

BASEMENT STRUCTURES:

Regional faulting patterns in the Moose River area (Figure 4) outlined by MacLaren et al. (1968) are supplemented by a more localized and detailed basement contour interpretation by Aquitaine of Canada Ltd. (1974) based on a high resolution airborne magnetometer survey.

The Moose River Crossing licence area lies on a NW-trending anticlined structure and is cut along its western edge by a major north-trending fault.

The Partridge River licence area is cut at its western edge by at least two major NNE-trending parallel faults extending northwards to James Bay and which are related to the Kapuskasing Gneiss Belt. An eastward magnetic anomaly across the northern portion is interpreted as a diabase dyke by MacLaren et al. (1968).

The basement structures in the Coral Rapids licence areas were interpreted in detail by Aquitaine. An ENE fault about 8 km northwest of the area cuts across to intersect the major NNE fault zone to the east. The Coral Rapids area is part of an unfaulted wedge between these two fault zones. Basement contours derived from the high resolution magnetic survey indicate a basinal structure (open to the north) in the northern portion of this licence area (Figure 4).

DRILLING PROGRAM:

From February to May 1978 Bradley Brothers Drilling Ltd. of Timmins undertook to drill nine holes totalling 1,140 meters. Primary access to the area was provided by the Ontario Northland Railway line from Cochrane to Moosonee as well as a winter road to Otter Rapids maintained by Ontario Hydro to service the hydroelectric generating station there. Helicopter support contracted from Huisson Aviation, Timmins, was used to service and move crews and equipment to locations away from the railway line.

Due to the poorly consolidated nature of the Sextant Formation, most drilling was done with an N tricone bit.

An Exploranium GR-410 gamma ray spectrometer, used with a motorized winch assembly and a 3.81 cm diameter probe, was used to log the holes for radioactivity (see Figure 5).

RADIOMETRIC DRILL HOLE PROBING:

Upon completion of drilling, B casing was put down the drill hole to prevent blockage or caving during probing. Each hole was measured for total count radioactivity as the probe was descending at about 3 m/min. If anomalies were encountered, then detailed readings for U, Th or K were later made at about 1 m/min. probe speed. Calibrations of the probe to correct for temperature or time variations were made once or twice during each run using the barium source in the probe, although fifteen minutes in the hole was sufficient to equilibrate the system and stabilize the readings. Analog readout was continuously recorded on a paper chart recorder.

Approximately 2-3 hours were required to log an average hole after which the drillers could pull the casing and continue moving to the next drill site.

No quantitative values have been applied to the radiometric profiles since there has been no core recovery from the loose, pebbly radioactive zones of the Sextant Formation. The only assay value obtained from anomalously radioactive core was in hole CR-78-1 where 0.20 meters of a mylonitic shear zone in basement rocks assayed 0.1 lb/ton U_3O_8. A comparison with the total count peak for this zone is a qualitative guide to the significance of other anomalous areas.

Copies of the drill logs and radiometric charts are included in Appendix 1.

RADIOMETRIC RESPONSE OF ROCK UNITS:

In overburden conditions, swampy and wet ground resulted in a very low , quiet total count response in the first 1-3 meters of holes 3b, 4, 5, 6 and 7. The other holes, on higher, drier locations,show typical overburden response throughout.

Overburden response was generally uniform, exhibiting moderate local fluctuations. However, holes 5 and 6 showed a definite variation in the overburden radioactivity. Clay-rich overburden had low background radiation, while coarser sandy overburden had higher values.

Sextant Formation showed a characteristic radiometric response easily distinguished in most cases from overburden or limestone. Distinct and repeatable but weak variations occur throughout with a higher average value than other units. Anomalous zones can be correlated to the coarsest, conglomeratic, poorly consolidated zones (which do not make core). Significant anomalous zones occurred in holes CR-78-1 and CR-78-2.

The Moose River, Kwatabohegan and Stooping Formations (predominantly limestone, dolomite and gypsum units) show little response due to their very low radioactivity. Only the detrital quartz beds in the lower portion of the Stooping River Formation (hole 8) show any radioactive response.

CONCLUSIONS:

1. The only anomalous zones encountered within the Sextant Formation occur in holes CR-78-1 and 2 in the vicinity of Sextant Rapids. Like the riverside outcrop exposures, the anomalous zones appear to be associated with the coarsest arkosic conglomerate zones. No core recovery was possible in these zones due to the poorly lithified nature of these arkosic rocks. Based on comparison with an assay value obtained from anomalous core in the granitic basement in hole CR-78-1, it would appear that the best Sextant intersections would grade about 0.1-0.2 lb. U_3O_8/ton.

2. There was no accumulation of any radioactive materials at the base of the Paleozoic rocks (i.e. Sextant Formation) where they overlay the weathered Precambrian basement. The best anomaly (hole Cr-78-2) is at least 30 m above the basement. Perhaps, coincidently, this was the only hole with a series of lamprophyre sills up to 3.5 m thick lying above the anomalous zones, suggesting the possibility that the dykes acted as an impervious cap to downward percolating meteoric waters.

3. There is not sufficient data to correlate stratigraphic variations of the Sextant Formation in the Moose River Basin. From exposures at Sextant Rapids it is evident that there are many localized sedimentary sequences representing rapid deposition producing immature sediments. There is no relationship between the present thickness of Sextant Formation and the depth to or the elevation above sea level of the Precambrian basement. This comparison included the data from eight Aquitaine holes that intersected Sextant Formation. The environment appears to have been primarily one of oxidation; however, carbonaceous horizons of accumulated plant remains, as seen in the Sextant Rapids exposures, are reducing environments.

4. The symmetrical nature of the anomalies in holes CR-78-1 and CR-78-2 suggest the possibility of a roll-type deposit which has a C-shaped vertical section formed by a solution front of oxidizing ground water that has transported uranium along a favourable bed to the site of deposition.

RECOMMENDATIONS:

A minimum expenditure of $237,500 is required prior to January 3, 1980, as well as an annual rent of $4,000 (less an amount of approximately credited from excess expenditures in 1978). A minimum of 10% of each yearly dollar expenditure is required on each licence area. As well, not less than 10% of the land area must be surrendered on or before December 3, 1978.

It is recommended that the Moose River Crossing area (part 3) should be dropped entirely before December 3, 1978. It appears to be unfavourable due to the absence of the continental clastic rocks of the Sextant Formation. The initial interest was based on literature references to "conglomerate breccia" overlying the Precambrian, but apparently this term applied to detrital quartz beds or fossiliferous limestone debris at the base of the Kwatabohegan Formation. On this basis there is no further interest in the area unless the major fault along the western edge is related to uranium that has followed the basement fault system and has been redeposited.

The Partridge River licence area (part 4) was examined in a very preliminary fashion. While there is no evidence so far of basinal concentrations

or fluvial channelways within the Sextant Formation (whose northward extent is unknown), the possibility of their existence remains. Also, the intense fault system extending northwards through the western portion of the area could be a depositional site for secondary uranium deposits resulting from oxidative destruction of enrichment in Sextant horizon and the subsequent redeposition of the uranium in and along these fault zones.

A ground vertical loop EM program would determine the presence of graphitic fault zones (reducing depositional environments for remobilized uranium from the Sextant Formation).

Since the overburden appears to be only about 20 metres thick overlying the Sextant Formation, it is possible that a lay-out of Track-Etch detectors could sense uranium enriched channels or zones within the Sextant Formation.

These ground surveys could be carried out before December 3, 1978, at which time a final decision could be made as to whether or not to drop the Partridge River Area. If any of it is retained, it will be subject to a minimum expenditure of $23,750 in 1979. This money could not go very far in a drilling program and would be better spent to adequately drill-test the Coral Rapids area.

In summary, there is no drill target at the present in the Partridge River area and more specific information from ground surveys is required to justify retaining it.

The Sextant-Coral Rapids area remains the main target of interest. The anomalous intersections of holes CR-78-1 and CR-78-2 are in coarse arkosic beds at the SW edge of a basin extending NNW (Figure 6). The apparent absence of faulting of the basement suggests that the original basinal or fluvial features are still preserved. The possibility of a thickening of these favourable horizons towards the basin and downslope concentration of uranium along fluvial channelways must be tested by drilling.

A drilling program to be carried out during the winter of 1978-1979 will involve at least 10 holes of approximately 150 metres each. Initially a fence of holes will cross-section a line between CR-78-1 and CR-78-2 followed by holes across the basinal structure to trace uranium enriched channels originating near hold CR-78-2. Suggested locations are indicated on Figure 6. At a projected cost of $150 per metre drilled, a 10-hole program would fulfil the required expenditure for 1979.

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TABLE 1

SUMMARY - DRILL HOLE DATA

HOLE	TOTAL DEPTH	OVERBURDEN	SEXTANT FORMATION	DEPTH TO PRECAMBRIAN	COMMENTS
CR-78-1	89.3 m	54.0 m	27.0 m	81.0 m	BQ Core 83.8-89.3 m. Moderate anomalous zone in Sextant Formation. Mylonitic shear zone in basement rocks assaying 0.10 lb/ton U_3O_8 over 0.20 m.
CR-78-2	103.6 m	24.4 m	78.0 m	102.8 m	BQ Core 24.4-60.0 m. Good anomalous zone of radioactivity as well as isolated narrow zones.
CR-78-3a	111.8 m	51.0 m	+37.7 m	not reached	BQ Core 74.1-111.8 m. Hole abandoned due to caving in Sextant at 111.8 m. Not probed with spectrometer.
CR-78-3b	128.7 m	50.0 m	~58.0 m	126.0 m	Narrow weakly anomalous zone.
CR-78-4	134.5 m	~132.0 m	none	~132.0 m	Apparently all overburden, no Sextant or other Devonian units. No radioactivity above background.
CR-78-5	175.5 m	83.5 m	73.0 m	174.5 m	No anomalies. Typical erratic background radioactivity of Sextant Formation.
CR-78-6	149.3 m	68.0 m	20.0 m	145.5 m	No significant anomalies. Typical background values of Sextant Formation.
CR-78-7	90.5 m	20.2 m	32.5 m	87.5 m	No significant anomalies. Typical background values of Sextant Formation.
CR-78-8	157.0 m	40.3 m	none	151.5 m	NQ Core 40.3-104.2 m, BQ Core 104.2-157.0 m. Middle and Lower Devonian rocks of the Moose River, Kwatabohegan and Stooping River Formations, No Sextant Formation.

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APPENDIX

Drill Hole Radiometric Data and Logs

Hole Number	Channel
CR-78-1	total count
CR-78-2	total count
CR-78-2	potassium
CR-78-2	uranium
CR-78-2	thorium
CR-78-3a	drill log only
CR-78-3b	total count
CR-78-4	total count
CR-78-5	total count
CR-78-6	total count
CR-78-7	total count
CR-78-8	total count

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

Contractor: Bradley Bros. Drilling, Timmins, Ontario

PROPERTY Coral Rapids - Project O-16, northeast side of ONR tracks at mile 96, 0.3 miles S.E. of Coral Stn.

D.D.H. No. CR - 78 - 1 PAGE 1/1

LATITUDE 50°13'N BEARING OF HOLE --- STARTED Feb. 17/78

DEPARTURE 81°40'16"W DIP OF HOLE vertical COMPLETED Feb. 21/78

ELEVATION 110m. A.S.L. DIP TESTS 89.3 m - vertical DEPTH 89.3 m.

CLAIM No.

NN

DIRECTION AND DISTANCE FROM NE. CLAIM POST

GRS+01 Scint. background 18 cps

Hole logged with gamma ray spectometer

METRES FROM	METRES TO	Core: BQ, stored at Otter Rapids DESCRIPTION	SAMPLE No.	METRES FROM	METRES TO	SAMPLE LENGTH	ASSAY
0	~81.1m	N CASING - overburden conditions, probably Sextant Formation, 54 - 81.1m					
81.1m	83.8	GRANITIC BASEMENT - drilled with tricone bit, granite chips					
							lb/ton U_3O_8
83.8	86.7m	GRANITIC PEGMATITE - pink, c. gr., quite massive, no foliation, 2% mafics,	4801	83.80	84.45	0.65m	nil
		~25% mottled quartz,	4802	84.45	84.65	0.20m	nil
		- at 84.5m, 20cm of light greenish veins (total 15% of	4803	84.65	85.10	0.45m	nil
		rock, up to 0.5cm thick) at 40° t.c.a. 20 cps					
86.7	87.3m	SHEAR ZONE WITH MYLONITIC BRECCIA on either side of 20cm of very fine grained	4804	86.60	86.90	0.30m	nil
		felsic-intermediate dyke material. Up to 45 cps at 87m associated with	4805	86.90	87.10	0.20	0.1
		brecciated dyke material (reddish stained fsp matrix and 1/4" carbonate-	4806	87.10	87.60	0.50	nil
		rich dyke) near its lower contact with the mylonitic zone. 30 cps					
87.3	89.3m	BIOTITE - GARNET GNEISS - dioritic composition, 25-30% total mafics (biotite					
		± hb with 1-2% purple garnets), irregular c. gr.					
		textures and localized pegmatitic concentrations,					
		weak foliation at 70-80° t.c.a. 18-20 cps					

END OF HOLE - 89.3 metres

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

Contractor: Bradley Bros. Ltd., Timmins, Ontario

PROPERTY Coral Rapids Project 0-16, northeast side of ONR tracks at mile 95

D.D.H. No. CR - 78 - 2 PAGE 1/5

LATITUDE 50°12'30"N BEARING OF HOLE --- STARTED Feb. 23/78

DEPARTURE 81°39'6"W DIP OF HOLE vertical COMPLETED Feb. 28/78

ELEVATION 120m A.S.L. DIP TESTS --- DEPTH 103.6m

CLAIM No.

DIRECTION AND DISTANCE FROM NE. CLAIM POST

BQ core where possible, otherwise N size tricone

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
0	24.4m	CASING					
							NO SIGNIFICANT RADIOACTIVE
24.4	29.0m	SEXTANT FORMATION DARK RED-BROWN crumbly micaceous siltstone to gritstone with up to 30% irregular patches of unoxidized grey siltstone with talcy texture. Scattered pebbles (quite weathered and rounded) up to 1cm diameter. Pseudo crystalline concentrations of buff tan carbonate especially in fractures. No fine bedding texture but general variations in texture. -from v. f. silty to gritty, conglomeritic textures. 20 cps 70% lost core 24.4 - 27.4					ZONE IN CORE RECOVERED (20 cps background, no spot values over 22 cps)
29.0	29.4	GRITSTONE - gradational contact into reddish grey (becoming grey down hole) gritstone. 40% sub angular feldspar and qtz frags up to 2mm in light greenish limy matrix. Terminates sharply at 29.4 20 cps					
29.4	29.7	MAFIC DYKE - dark, porphyritic (<1mm xtls) dyke rock, probably altered lamprophyre. Broken core at upper contact but sharp lower contact at 1mm carbonate vein at 85°t.c.a. (tr. pyrite). Scattered fine white carbonate veins throughout.					

DIAMOND DRILL RECORD

LOGGED BY _____

PROPERTY _____ D.D.H. No. CR - 78 - 2 PAGE 2/5

LATITUDE _____ BEARING OF HOLE _____ STARTED _____ CLAIM No. _____

DEPARTURE _____ DIP OF HOLE _____ COMPLETED _____ DIRECTION AND DISTANCE FROM

ELEVATION _____ DIP TESTS _____ DEPTH _____ NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
29.7	29.9	MAFIC DYKE - altered phase of lamprophyre dyke described below					
29.9	30.6	MICROCONGLOMERATE - light buff coloured conglomerate - 35% - 40% sub-angular fsp and qtz in limy calcareous matrix. - frags up to 1cm, maximum size at 30.4, weak banding in finer portions. Sharp lower contact at dyke.					
30.6	32.77	MAFIC DYKE - dark porphyritic (<1mm) lamprophyre dyke (as above) - somewhat softer and greyer in altered zone 31.61 - 32.03 with scattered concentrations of calcite up to 2cm.					
32.77	33.19m	GRITSTONE - qtz and fsp sub-angular frags (<2mm) in limy matrix. - overall light brown colour - slight increase in frag size downhole, but otherwise no bedding or sorting					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

PROPERTY

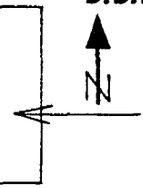
LATITUDE BEARING OF HOLE STARTED

DEPARTURE DIP OF HOLE COMPLETED

ELEVATION DIP TESTS DEPTH

D.D.H. No. CR - 78 - 2 PAGE 3/5

CLAIM No.



DIRECTION AND DISTANCE FROM NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
33.19	36.48	MAFIC LAMPROPHYRE DYKE - scattered carbonate veinlets at ~80°t.c.a. in lower 1m. - brown altered segment 34.02-35.39 with 5cm of gritstone at 34.66					
36.48	37.34	RED MICACEOUS SILTSTONE - graded from silty micaceous texture to gritty texture from 36.48-37.00, silty micaceous texture 37.00-37.34, a few green patches - possibly frags or unaltered patches - in coarsest zones					
37.34	38.37	ALTERED MAFIC LAMPROPHYRE DYKE - soft, altered, dark brown-grey Tr. cpy at lower contact					
38.37	38.83	MELANGE of altered dyke material and gritstone.					
38.83	39.01	MUDSTONE - light tan, aphanitic, metamorphosed to micaceous texture					
39.01	40.24	LOST CORE					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

PROPERTY

LATITUDE BEARING OF HOLE STARTED

DEPARTURE DIP OF HOLE COMPLETED

ELEVATION DIP TESTS DEPTH

D.D.H. No. CR - 78 - 2 PAGE 5

CLAIM No.

NN ← DIRECTION AND DISTANCE FROM NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
40.23	44.68m	RED LIMONITIC SILTSTONE to Feldspathic micro conglomerate in several					
		indistinctly defined graded sequences					
		43.28 - 43.62 - grey mudstone metamorphosed to talcy, soft rock with					
		some discrete 1mm fsp frags in upper section					
44.68	49.07	GRADED BEDS OF GREY MUDSTONE → feldspathic micro conglomerate					
		- change to the coarsest (1-10mm frags) micro conglomerate					
		usually quite distinct and sharp					
		44.81-44.91, 45.42-45.62, 46.15-46.65, 46.23-46.73, 46.79-49.07 - all					
		micro conglomeratic zones with limy matrix					
49.07	58.98	LOST CORE - a few pebbles and broken pieces of qtz and fsp rocks as well as					
		bits of gritstone					
58.98	59.13	GRITSTONE - grey feldspathic gritstone, graded bed					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

PROPERTY

LATITUDE BEARING OF HOLE STARTED

DEPARTURE DIP OF HOLE COMPLETED

ELEVATION DIP TESTS DEPTH

D.D.H. No. CR - 78 - 2 PAGE 5/5

CLAIM No.

N

DIRECTION AND DISTANCE FROM NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
59.13	59.77m	GREY MUDSTONE - talcy feeling, dark carbonaceous (plant fragments) filled partings - 7cm of matted plant stems at 59.19					
59.77	60.05	MICROCONGLOMERATE - feldspathic, sub rounded frags up to 2mm (rarely 1cm) quite cleanly washed , almost no fine matrix					
		END OF CORE RECOVERY					
60.05	99.97	SEXTANT FORMATION continuing, no core recovery, sludge samples taken every 5 feet					
99.97	103.63	GRANITIC BASEMENT					
		103.6m END OF HOLE					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

Contractor: Bradley Bros Ltd., Timmins

PROPERTY Coral Rapids Project 0 - 16, James Bay Lowlands, Valentine Township

D.D.H. No. CR - 78 - 3a PAGE 1 of 2

LATITUDE 50°17' N BEARING OF HOLE Vertical STARTED March 1, 1978

DEPARTURE 81°39'30" W DIP OF HOLE Vertical COMPLETED March 5, 1978

ELEVATION ~325 feet A.S.L. DIP TESTS none DEPTH 367' 111.8m, abandoned due to tightening

~99 meters A.S.L.

CLAIM No.

N

DIRECTION AND DISTANCE FROM NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
		BQ Core (stored at Otter Rapids)					
0	168' 51.2m	CASING					
168' 51.2	176' 53.6m	BUFF LIMESTONE - light buff tan colour, fizzes well, about 15% spheroidal fossils up to 1cm diameter, scattered vuggy and porous zones ~10% lost core					
176' 53.6	196.3' 59.8m	FOSSILIFEROUS LIMESTONE - 60% buff coloured fossils and fossil debris (rugose corals, wormy burrows, etc.) in moderately bedded fine grey debris. Individual corals up to 9cm diameter but typically 1 - 2 cm, fizzes well, 100% core recovery					
196.3' 59.8	243.1' 74.1m	LIMESTONE - buff tan, very fine - grained and finely bedded texture, fossils very rare, several gritty grey zones up to 8 cm (some reddish beds near bottom). Variable fizz - poor to good. Lower 45cm is quartz - feldspar sand to pebbly gritstone in carbonate matrix.					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

Contractor: Bradley Bros Ltd., Timmins

PROPERTY Coral Rapids Project 0 - 16, James Bay Lowlands, Valentine Township

D.D.H. No. CR - 78 - 3a PAGE 2 of 2

LATITUDE 50°17' N BEARING OF HOLE Vertical STARTED March 1, 1978

DEPARTURE 81°39'30" W DIP OF HOLE Vertical COMPLETED March 14, 1978

ELEVATION ~325 feet A.S.L. DIP TESTS none DEPTH 367' 111.8m, abandoned due to tightening

~ 99 meters A.S.L.

N

CLAIM No.

DIRECTION AND DISTANCE FROM NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
243.1 74.1	367' 111.8m	BQ Core REDBEDS - fine to gritty micaceous redbeds, structureless except for gradational variation from clay texture to gritty texture. Scattered grey clots and blobs.					
		260 - 262.7' 79.3 - 80.1m - Grey mudstone, slightly graded bed mudstone → gritstone					
		308.1 - 313.1' 93.9 - 95.4m - Arkose - very crumbly, pink - white angular fragments up to 2m (40%) in greenish grey fine matrix (no fizz HCl)					
		327 - 337' 99.7 - 102.7m - Arkose 80% sandy uniform fragments. 3m lost core					
		Hole abandoned at 111.8 meters					
		Hole CR - 78 - 3b drilled about 60m to south					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

Contractor: Bradley Bros. Ltd., Timmins, Ontario

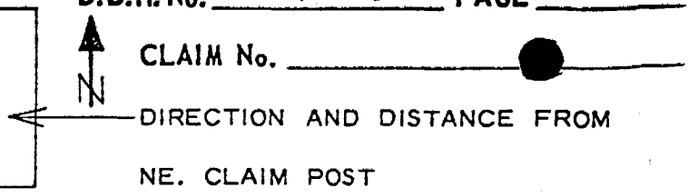
PROPERTY Coral Rapids Project 0-16, James Bay Lowlands, Valentine Township

D.D.H. No. CR - 78 - 3b PAGE

LATITUDE 50°17'N BEARING OF HOLE vertical STARTED March 6, 1978

DEPARTURE 81°39'30"W DIP OF HOLE vertical COMPLETED March 13, 1978

ELEVATION ~99m A.S.L. DIP TESTS none DEPTH 128.7m



FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
		N tricone drilling except for N casing in overburden.					
		Hole probed with spectrometer (total count channel).					
		Interpreted Geology					
0	50m	Overburden					
50	68m	Limestone					
68	126m	Sextant Formation					
126	128.7m	Precambrian basement					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

Contractor: Bradley Bros., Timmins, Ontario

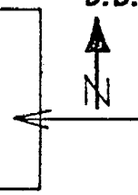
PROPERTY Coral Rapid Project 0-16, James Bay Lowlands, Pitt Township

D.D.H. No. CR - 78 - 4 PAGE

LATITUDE 50°13'N BEARING OF HOLE vertical STARTED March 15, 1978

DEPARTURE 81°32'W DIP OF HOLE vertical COMPLETED March 20, 1978

ELEVATION ~140m A.S.L. DIP TESTS none DEPTH 134.5m



CLAIM No.

DIRECTION AND DISTANCE FROM NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
		N tricone drilling except for N casing in overburden.					
		Hole probed with spectrometer (total count channel).					
		Interpreted Geology					
0	132m	Overburden					
132	134.5m	Precambrian basement					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

Contractor: Bradley Bros. Ltd., Timmins, Ontario

PROPERTY Coral Rapids Project 0-16, James Bay Lowlands, Valentine Township

D.D.H. No. CR - 78 - 5 PAGE

LATITUDE 50°18'N BEARING OF HOLE vertical STARTED March 30, 1978

DEPARTURE 81°32'W DIP OF HOLE vertical COMPLETED April 9, 1978

ELEVATION ~100m A.S.L. DIP TESTS none DEPTH 175.5m

CLAIM No.

DIRECTION AND DISTANCE FROM NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
		N tricone drilling except for N casing in overburden.					
		Hole probed with spectrometer (total count channel).					
		Interpreted Geology					
0	83.5m	Overburden - clay and sand 33-60m, coarser sand 60-83.5m					
83.5	101m	Limestone					
101m	174.5m	Sextant Formation					
174.5	175.5m	Precambrian basement					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

Contractor: Bradley Bros., Timmins, Ontario

ROPERTY Coral Rapids Project 0-16, James Bay Lowlands, Hamlet Township

D.D.H. No. CR - 78 - 6 PAGE

ATITUDE 50°12'N BEARING OF HOLE vertical STARTED April 12, 1978

EPARTURE 81°45'W DIP OF HOLE vertical COMPLETED April 17, 1978

ELEVATION ~110m A.S.L. DIP TESTS none DEPTH 149.3m

N

CLAIM No.

DIRECTION AND DISTANCE FROM NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
		N tricone drilling except for N casing in overburden.					
		Hole probed with spectrometer (total count channel).					
		Interpreted Geology					
0	68m	Overburden					
68m	125.5m	Limestone					
125.5	145.5m	Sextant formation					
145.5	149.3m	Precambrian basement					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

Contractor: Bradley Bros. Ltd., Timmins, Ontario

PROPERTY Coral Rapids Project 0-16, James Bay Lowlands

D.D.H. No. CR - 78 - 7 PAGE

LATITUDE 50°54'N BEARING OF HOLE vertical STARTED April 26, 1978

DEPARTURE 80°23'W DIP OF HOLE vertical COMPLETED April 29, 1978

ELEVATION ~60 meters A.S.L. DIP TESTS none DEPTH 90.5m

N

CLAIM No.

DIRECTION AND DISTANCE FROM NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
		N tricone drilling except for N casing in overburden.					
		Hole probed with spectrometer (total count channel).					
		Interpreted Geology					
0	20.2m	Overburden					
20.2	35m	Limestone					
35	87.5m	Sextant Formation					
87.5	90.5m	Precambrian basement					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury

PROPERTY Coral Rapids - Hudson Bay Lowlands - east side of ONR tracks at about mile 154.8

D.D.H. No. CR - 78 - 8 PAGE 1/3

LATITUDE 50°57' N BEARING OF HOLE vertical STARTED May 1/78

DEPARTURE 81°8' W DIP OF HOLE vertical COMPLETED May 4/78

ELEVATION 30 metres DIP TESTS ------- DEPTH 157 m

CLAIM No.

DIRECTION AND DISTANCE FROM NE. CLAIM POST

Contractor: Bradley Bros., Timmins, Ontario core: NQ 40.3 - 104.2 m, BQ 104.2 - 157 m

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION Core stored at Ministry of Natural Resources, Timmins	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
0	40.3m	CASING - overburden conditions					
40.3m	57.8	PREDOMINANTLY GYPSUM AND SELENITE - sugary to crystalline, light greyish; and massive, scattered veins at 90° t.c.a. up to 1cm of selenite crystallized parallel to core axis. 15% zones of buff tan v.f.gr. dolomitic siltstone, contorted fine bedding often slumped and broken. Unfossiliferous. - no porosity visible					
57.8	75.7	DOLOMITIC SILTSTONE - very finely bedded (contorted) buff tan very dolomitic rock, unfossiliferous, some rare wormy mottled textures where massive and unbedded. 15% selenite (crystalline veins up to 2cm) and zones up to 15cm of sugary gypsum. - no visible porosity					
75.7	81.5	AS ABOVE but no selenite or gypsum, zone of fossil debris with 5% porosity as isolated cavities in breccia (79.86 - 80.92m)					

AMOND DRILL RECORD

LOGGED BY B. C. Asbury

PERTY

D.D.H. No. CR - 78 - 8 PAGE 2/3

LATITUDE BEARING OF HOLE STARTED

DEPARTURE DIP OF HOLE COMPLETED

ELEVATION DIP TESTS DEPTH

N

CLAIM No.

DIRECTION AND DISTANCE FROM NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
81.5m	115.7	DOLOMITIC LIMESTONE - massive, brown, vague bedding, some vuggy porous zones					
		with brecciated appearance					
		105.8 - 115.7m - even darker brown with 5% lighter brown patches, possible					
		fragments,					
		- quite a distinct slumped and brecciated texture although bedding not					
		definite					
		- generally not porous except on a very fine scale. Scattered vuggy					
		cavities					
		- few definite fossils except for pervasive hints of fossil debris					
115.7	140.6	FOSSILIFEROUS LIMESTONE - light tan, finely bedded with fossils (20%) up to					
		10cm, quite intact and generally unbroken corals					
140.6	151.5	DETRITAL QUARTZ BEDS - grey, uniformly 0.1mm - 1mm sub angular particles, no					
		bedding, very weak sorting. Scattered zones of fossil debris in upper					
		sections - no fossils below 145.6m, fine carbonate matrix throughout,					

AMOND DRILL RECORD

LOGGED BY B. C. Asbury

PERTY

D.D.H. No. CR - 78 - 8 PA 3/3

LATITUDE BEARING OF HOLE STARTED

DEPARTURE DIP OF HOLE COMPLETED

ELEVATION DIP TESTS DEPTH

N

CLAIM No.

DIRECTION AND DISTANCE FROM NE. CLAIM POST

FOOTAGE FROM	FOOTAGE TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
151.5	157.0m	GRANITIC BASEMENT - gry to pink medium grained granitic rock (10% quartz) with 5 - 10% hornblende. Feldspars very altered. (up to 20% hornblende in lower part)					
		157.0m END OF HOLE					

KERR ADDISON MINES LIMITED

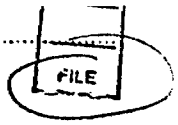
(FOR INTER-OFFICE L

c.c J.W.P. copy sent 26/ C.S.

To D. M. Hendrick ..... From

020

Subject Coral Rapids Project, 0.16 ..... Date Oct. 24, 1978



Three drill holes, sponsored by Denison Mines, have been completed since October 14, in the vicinity of Sextant Rapids. The purpose was to obtain samples for assay of anomalous Sextant Formation. A dual tube reverse circulation drill (N-size rods) returned almost 100% of the chips and fines. Attempts to probe two of the holes with the radiometric probe failed due to caving of overburden. One complete radiometric profile was obtained for hole CR-78-10. Samples for all holes are being submitted for U and Th. assay.

HOLE	DEPTH	SEXTANT FORMATION	COMMENTS
CR-78-9	80.8 m.	21.9 (?) - 79.2 m	- hole caved when rods pulled so it was not probed. - abundant lamprophyre sills.
CR-78-10	80.8 m	24.1 - 77.4 m	- hole probed, moderate to good anomalous zones compared to best previous hole CR-78-2. - apparent radiometric adomaly immediately overlying basement. - no lamprophyre sills.
CR-78-11	73.2	51.8 - 70.1	- hole caved near top of Sextant Formation so radiometric probing incomplete. - no lamprophyre sills.

BCA.

NOTE: ALL DRILL CORE LOCATED AT TIMMINS, ONTARIO.

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury, B. McKay

PROPERTY Coral Rapids Project 0-16

D.D.H. No. CR-78-9 PAGE 1

LATITUDE ____ BEARING OF HOLE Vertical STARTED October 14, 1978

DEPARTURE ____ DIP OF HOLE Vertical COMPLETED October 15, 1978

ELEVATION ____ DIP TESTS --- DEPTH 80.8m (265 ft)

CLAIM No. ____

DIRECTION AND DISTANCE FROM NE. CLAIM POST

METERS FROM	METERS TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
		Drilled by reverse circulation. Logs based on chip sample returns. Accurate					
		±0.5 meter. Hole size: N. Samples accumulated and bagged every 1.52m (5.0 ft)					
0	4.6	Gravel - Pleistocene gravel					
4.6	21.9	Pleistocene clay - some gravel portions near end (gritty Sextant?)					
21.9	33.2	Lamprophyre sill - often quite greenish, scattered selenite xtls.					
		- narrow zone of grey siltstone at 25m					
		- narrow zone of arkose at 26.5m					
33.2	39.8	Siltstone and gritty to pebbly arkose horizons.					
39.8	40.5	Arkose, pinkish coarse pebbles up to 4mm diameter.					
40.5	40.8	Lamprophyre					
40.8	41.9	Arkose, often coarse grained, pebbles up to 4mm					
		- light green alteration up to 30% at 40.8m					
		- 5-15% reddish alteration staining					
		- isolated siltstone layers					
41.9	42.1	Lamprophyre sill					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury
B. McKay

PROPERTY Coral Rapids Project 0-16

D.D.H. No. CR-78-9 PAGE 2

LATITUDE _____ BEARING OF HOLE _____ STARTED _____

DEPARTURE _____ DIP OF HOLE _____ COMPLETED _____

ELEVATION _____ DIP TESTS _____ DEPTH _____

CLAIM No. _____

DIRECTION AND DISTANCE FROM NE. CLAIM POST

METERS FROM	METERS TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
42.1	43.9	Arkose					
43.9	44.1	Lamprophyre sill					
44.1	44.2	Arkose, grey					
44.2	44.3	Lamprophyre sill					
44.3	45.7	Arkose					
45.7	45.8	Lamprophyre sill					
45.8	46.9	Arkose, green alteration, silty matrix					
46.9	56.0	Lamprophyre, 15% mottled white patches up to 1mm at 46.9m					
		- thin zone arkose at 47.2					
		-10% vaggy calcite with tr. py, sp from 48.8 to 49.2					
		- often a general emerald greenish tinge to Lamprophyre					
		- scattered tr. of py, cpy, calcite at 54.4-54.9					
		- fibrous gypsum vein at 56.0m					
56.0	60.7	Grey mudstone and siltstone with some gritty and pebbly horizons					
60.7	64.9	Arkose, medium grained with 15% silty matrix					
64.9	66.0	Arkose, pebbly, no silty matrix, blue qtz, K-fsp grains					
66.0	72.2	Siltstone - traces of grit, brown to reddish in colour - isolated sections richer in gritty material					

[redacted]IAMOND DRILL RECORD

LOGGED BY B. C. Asbury
B. McKay

PROPERTY Coral Rapids Project 0-16

D.D.H. No. CR-78-9 PAGE 3

LATITUDE _____ BEARING OF HOLE _____ STARTED _____

DEPARTURE _____ DIP OF HOLE _____ COMPLETED _____

ELEVATION _____ DIP TESTS _____ DEPTH _____

CLAIM No. _____

N

DIRECTION AND DISTANCE FROM NE. CLAIM POST

METERS FROM	METERS TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
72.2	73.6	Arkose, reddish					
73.6	74.4	Siltstone, brownish colour					
74.4	76.1	Lamprophyre sill, light green, isolated siltstone horizons					
76.1	76.3	Arkose - red, med. to coarse grained					
76.3	76.8	Lamprophyre					
76.8	77.1	Siltstone, brown					
77.1	77.3	Arkose					
77.3	78.9	Lamprophyre (?) isolated thin zones arkose, siltstone					
78.9	79.2	Arkose, pebbly, 79.1m - thin red gritstone bed					
79.2	80.8	Gneissic basement rock, 10% mafics, med. grained, altered					
		- rich in pink fsp. xtls, fresher texture by 79.9					
	80.0	END OF HOLE					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury
B. McKay

PROPERTY Coral Rapids Project 0-16

D.D.H. No. CR-78-10 PAGE 1

LATITUDE _____ BEARING OF HOLE Vertical STARTED October 17, 1978

DEPARTURE _____ DIP OF HOLE Vertical COMPLETED October 18, 1978

ELEVATION _____ DIP TESTS --- DEPTH 80.8m (265 ft)

CLAIM No. _____

N

DIRECTION AND DISTANCE FROM NE. CLAIM POST

METERS FROM	METERS TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
		Drilled by reverse circulation. Logs based on chip sample returns. Accurate					
		±0.5 meter. Hole size: N. Samples accumulated and bagged every 1.52m (5.0 ft)					
0	27.4	Pleistocene overburden, grey clay becoming gritty clay by 24.1m					
		Sextant contact uncertain, likely at 24.1m					
27.4	28.3	Gritty clay with gravelly sections					
28.3	29.4	Red clay and arkose (Sextant Formation) becoming red siltstone by 28.7m					
29.4	30.3	Alternating 0.3m zones brown gritstone and black mudstone					
30.3	31.2	Arkose - red and greenish with some black mudstone					
31.2	35.4	Gritstone, reddish and greenish					
35.4	36	Mudstone, grey to black					
36	37.8	Arkose, 10cm mudstone at 36.6m					
37.8	41.5	Siltstone, mostly red-brown, some red-green mottled textures					
41.5	41.9	Arkose					
41.9	46.3	Siltstone, dark grey with some reddish					
46.3	49.8	Arkose					
?.8	51.5	Siltstone, variable grey to brown, often gritty					

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury
B. McKay

PROPERTY Coral Rapids Project 0-16

D.D.H. No. CR-78-10 PAGE 2

ALTITUDE _____ BEARING OF HOLE _____ STARTED _____

DEPARTURE _____ DIP OF HOLE _____ COMPLETED _____

ELEVATION _____ DIP TESTS _____ DEPTH _____

CLAIM No. _____

N

DIRECTION AND DISTANCE FROM NE. CLAIM POST

METERS FROM	METERS TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
51.5	52.5	Arkose with siltstone rich zone at 52.3m					
52.5	53.6	Siltstone, grey					
53.6	56.4	Arkose					
56.4	58.8	Mudstone, very black to grey, scattered arkose from 57.5-58.6					
58.8	60.7	Arkose, <10% fine matrix except for grey siltstone 60-60.4m					
60.7	60.8	Mudstone - jet black					
60.8	63.4	Gritstone					
63.4	65.8	Mudstone, black and grey 15cm arkose at 65.2m					
65.8	66.6	Arkose					
66.6	68.0	Mudstone, dark coloured					
68.0	70.7	Alternating siltstone and arkose					
70.7	73.9	Arkose					
73.9	77.4	Gritstone and siltstone, reddish					
77.4	80.8	Altered gneissic basement rock					
	80.8	END OF HOLE					

CR 78

10

SLUDGE SAMPLE ANALYSIS

	U(ppm)	Th(ppm)
90-95	X	7
95-100	4	36
100-105	1	14
105-110	X	18
110-115	8	100
115-120	3	41
120-125	1	32
125-130	1	15
130-135	1	11
135-140	1	14
140-145	2	20
145-150	X	17
150-155	1	38
155-160	X	39
160-165	2	39
165-170	1	39
170-175	1	46
175-180	2	38
180-185	2	20
185-190	2	21
190-195	X	20
195-200	X	23
200-205	3	12
205-210	X	19
210-215	5	27
215-220	2	18
220-225	3	13
225-230	1	18
230-235	X	27
235-240	X	21

10

[neutron activation]

U(ppm)	Th(ppm)	
X 28		240-245
X 330		245-250
X 15		250-255
X 15		255-260
X 14		260-265

DIAMOND DRILL RECORD

LOGGED BY B. C. Asbury
B. McKay

PROPERTY Coral Rapids Project 0-16

D.D.H. No. CR-78-11 PAGE 1

LATITUDE _____ BEARING OF HOLE Vertical STARTED October 19, 1978

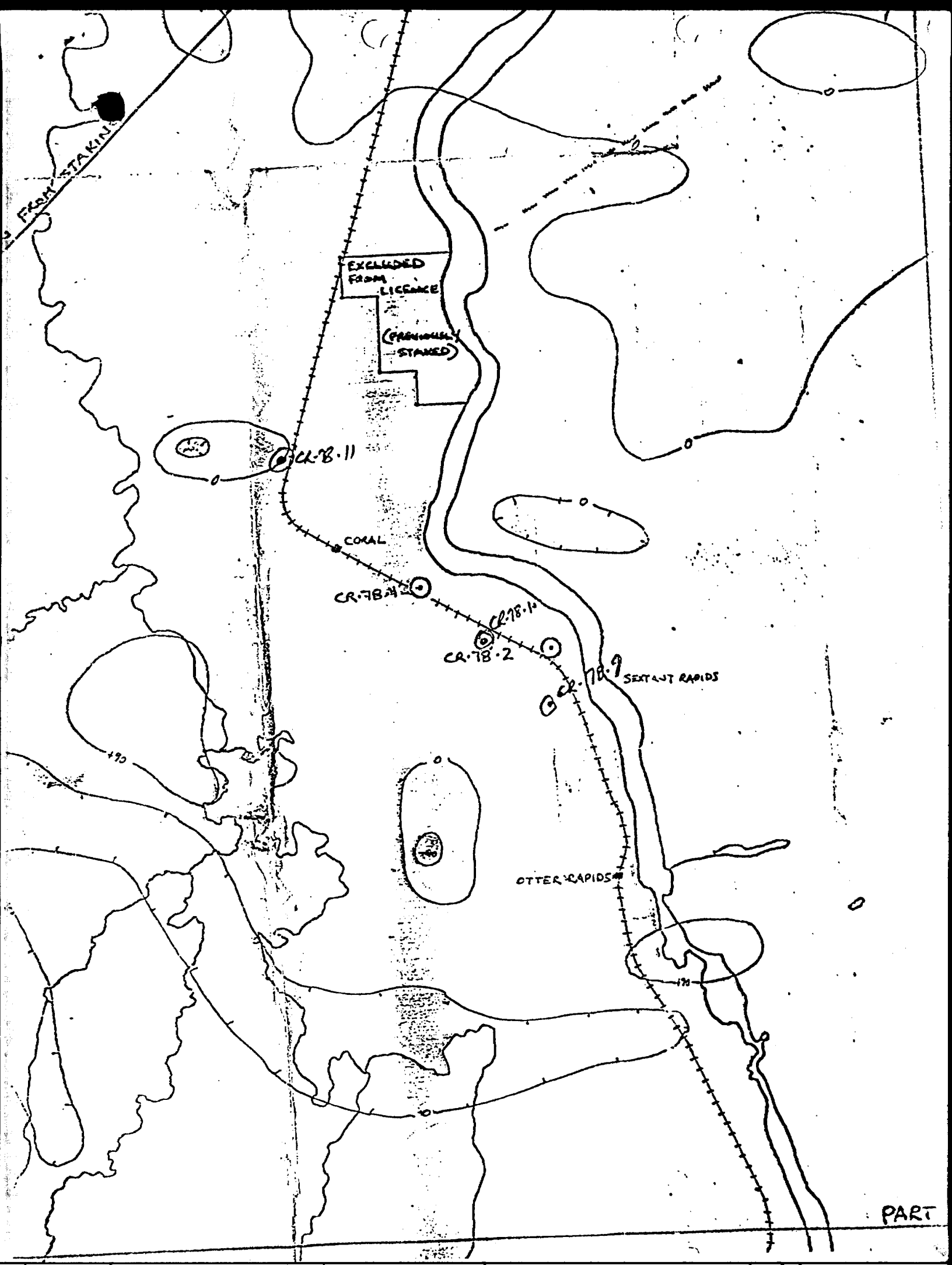
DEPARTURE _____ DIP OF HOLE Vertical COMPLETED October 20, 1978

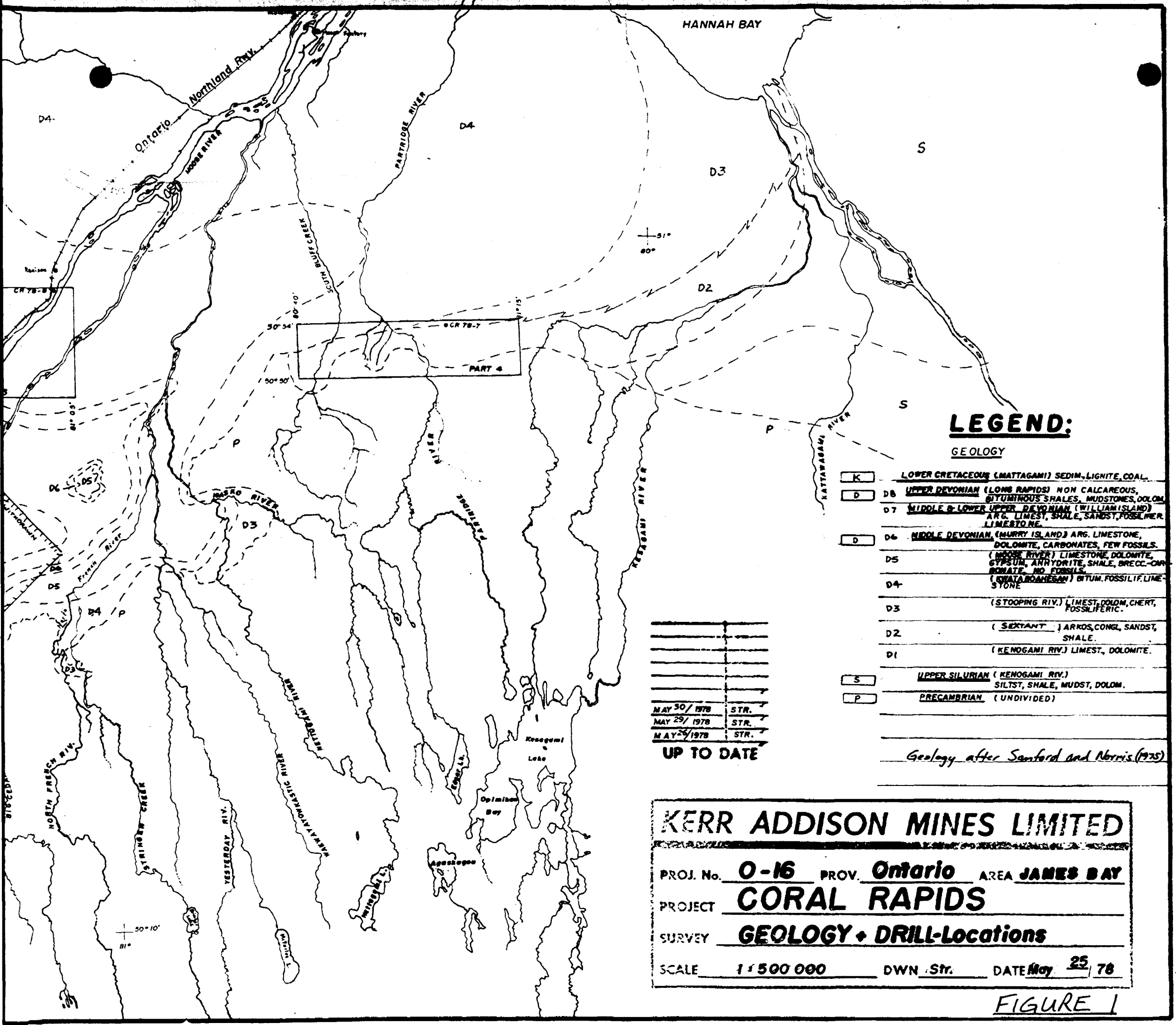
ELEVATION _____ DIP TESTS --- DEPTH 73.2m (240 ft)

CLAIM No. _____

DIRECTION AND DISTANCE FROM NE. CLAIM POST

METERS FROM	METERS TO	DESCRIPTION	SAMPLE No.	FOOTAGE FROM	FOOTAGE TO	SAMPLE LENGTH	ASSAY
		Drilled by reverse circulation. Logs based on chip sample returns. Accurate					
		±0.5 meter. Hole size: N. Samples accumulated and bagged every 1.52m (5.0 ft)					
0	51.8	Gray clay - Pleistocene overburden. Sextant contact uncertain, likely at 51.8m.					
51.8	56.4	Arkose					
56.4	66.0	Red gritstones and siltstones					
		- granitic(?) boulders 62.2-62.5m and 63.7-63.8m					
66.0	66.1	Siltstone, gray					
66.1	66.8	Arkose					
66.8	69.5	Siltstone, gray, minor grit, (?) granite boulder at 68.6m					
69.5	70.1	Red siltstone					
70.1	73.2	Altered biotite - amphibole gneissic basement, medium fine grained,					
		- 25% rusty alteration					
	73.2	END OF HOLE					


FROM STAKING
EXCLUDED FROM LICENCE
(PREVIOUSLY STAKED)
CR-78-11
CORAL
CR-78-4
CR-78-1
CR-78-2
CR-78-9
SEXTANT RAPIDS
OTTER RAPIDS
PART



LEGEND:

GEOLOGY

K		LOWER CRETACEOUS (MATTAGAMI) SEDIM., LIGNITE, COAL.
D	D8	UPPER DEVONIAN (LONG RAPIDS) NON CALCAREOUS, BITUMINOUS SHALES, MUDSTONES, DOLOM.
	D7	MIDDLE & LOWER UPPER DEVONIAN (WILLIAM ISLAND) ARG. LIMEST, SHALE, SANDST, FOSSILIFER. LIMESTONE.
D	D6	MIDDLE DEVONIAN, (MURRY ISLAND) ARG. LIMESTONE, DOLOMITE, CARBONATES, FEW FOSSILS.
	D5	(MOOSE RIVER) LIMESTONE, DOLOMITE, GYPSUM, ANHYDRITE, SHALE, BRECC.-CARBONATE. NO FOSSILS.
	D4	(KWATABOAHEGAN) BITUM. FOSSILIF. LIMESTONE
	D3	(STOOPING RIV.) LIMEST, DOLOM, CHERT, FOSSILIFERIC.
	D2	(SEXTANT) ARKOS, CONGL, SANDST, SHALE.
	D1	(KENOGAMI RIV.) LIMEST., DOLOMITE.
S		UPPER SILURIAN (KENOGAMI RIV.) SILTST, SHALE, MUDST, DOLOM.
P		PRECAMBRIAN (UNDIVIDED)

Geology after Sanford and Norris (1975)

MAY 30/ 1978	STR.
MAY 29/ 1978	STR.
MAY 26/ 1978	STR.

UP TO DATE

KERR ADDISON MINES LIMITED

PROJ. No. O-16 PROV. Ontario AREA JAMES BAY

PROJECT CORAL RAPIDS

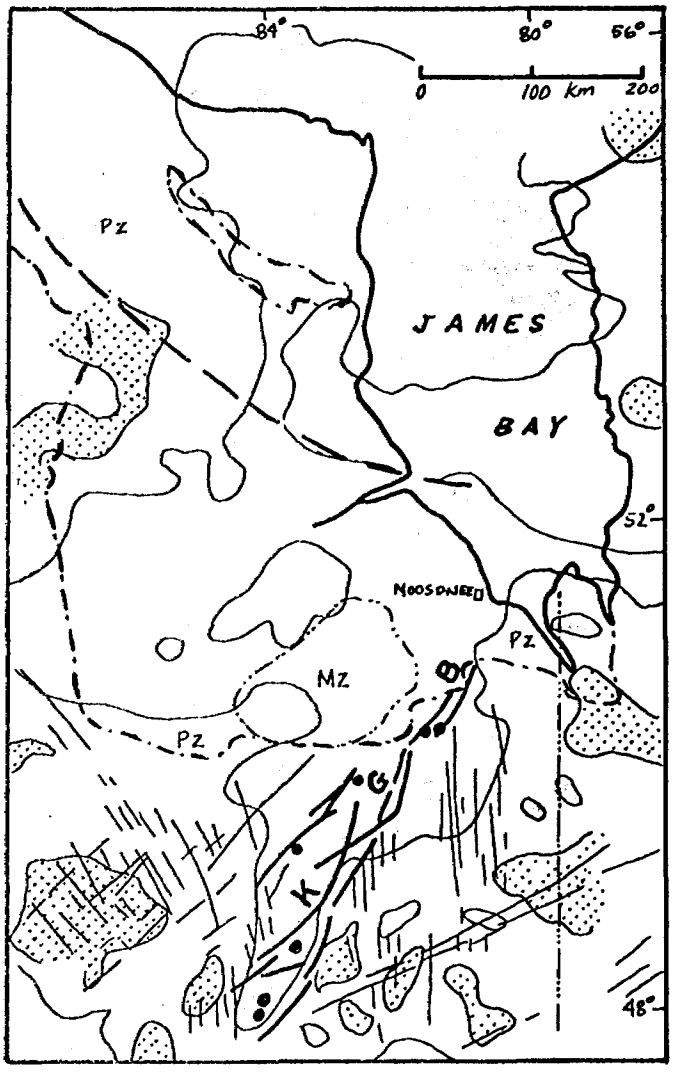
SURVEY GEOLOGY + DRILL-Locations

SCALE 1:500 000 DWN. Str. DATE May 25/ 78

FIGURE 1

D5
D6
D7
D8
D4
D3
D2
K
P
Ontario
Northland Hwy.
MOOSE RIVER
PARTRIDGE RIVER
SOUTH BUFF CREEK
MISSINAIBI RIVER
MATTAGAMI RIVER
WITHROW
Timmins
French River
BISCOTASING CREEK
NORTH FRENCH RIV.
STRICKLAND CREEK
YESTERDAY RIV.
MATHEWSON RIVER
NETOGAMI RIVER
OPASATIKA RIV.
Kesagami Lake
Opasiwan Bay
Agassagoo
Awrey Lake
Kesagami L.
Lower L.
Mattagami
River
50° 57'
81° 21'
50° 49'
81° 05'
50° 54'
80° 40'
50° 50'
80° 15'
50° 10'
81°
82°
50° 6'
82° 6'
CR 78-8
CR 78-7
CR 78-5
CR 78-3 e,A
CR 78-1
CR 78-2
CR 78-6
CR 78-4
PART 3
PART 4
(PART 1)
(PART 2)

FIGURE 2



after Gibb 1978

LEGEND

KGB Kapuskasing Gneiss Belt

faults

diabase dykes

Precambrian-Paleozoic Boundary

Paleozoic-Mesozoic Boundary

Ontario-Quebec Boundary

carbonatites

Bouguer Anomaly

less than -60 mgal.

greater than -40 mgal.

KAPUSKASING GNEISS BELT

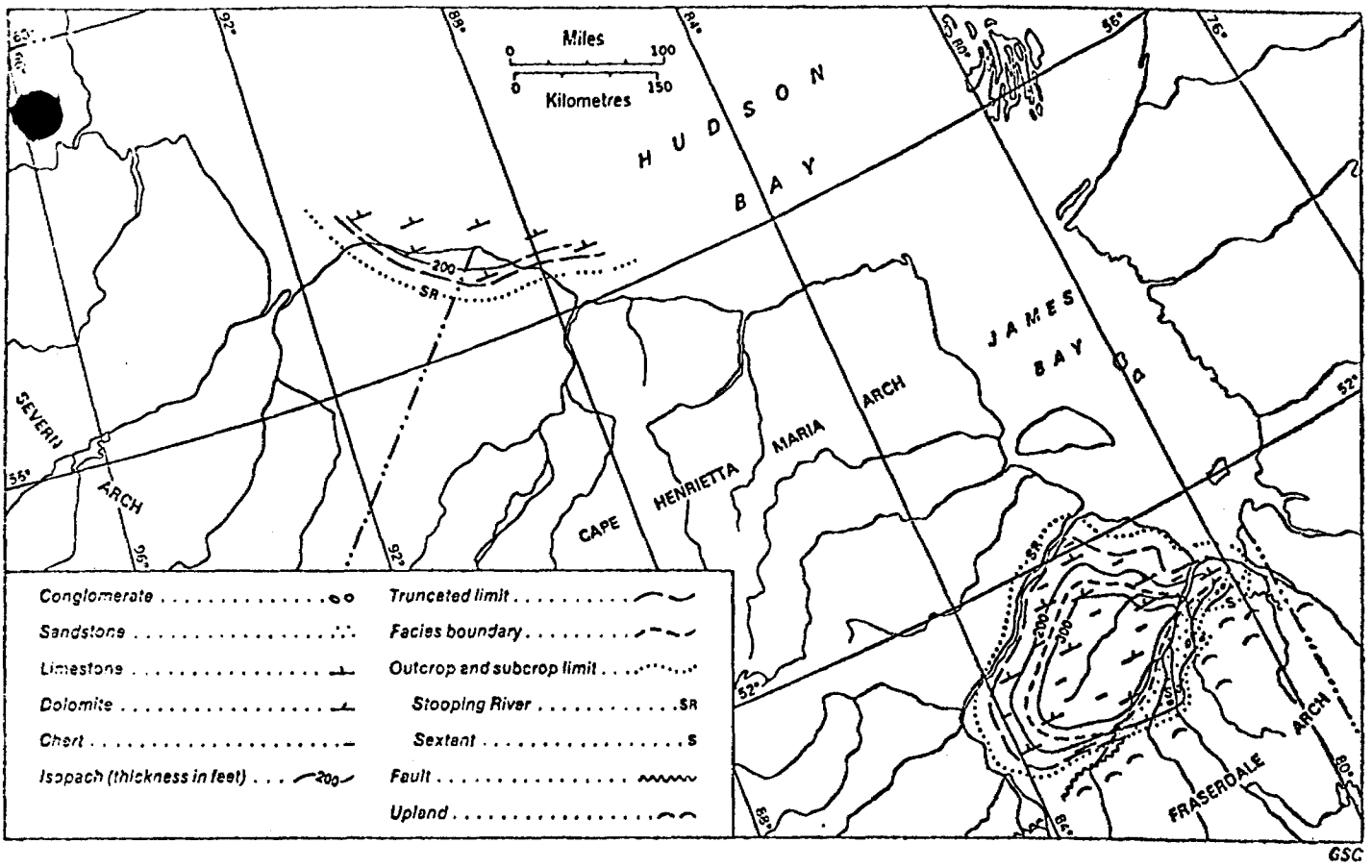


FIGURE 3a Facies and thickness of Lower Devonian rocks of southern Hudson Platform (by B. V. Sanford and A. W. Norris).

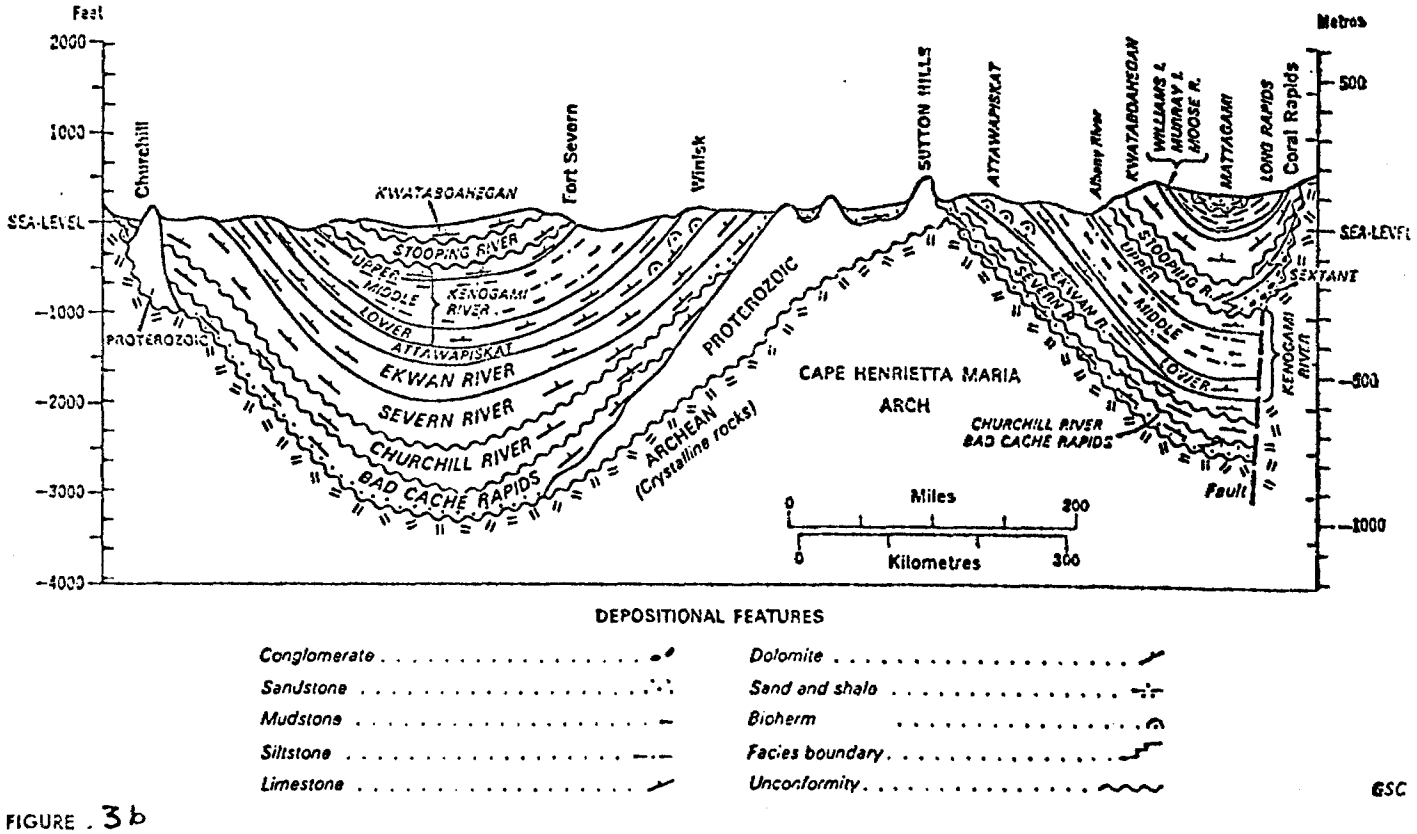


FIGURE 3b
Cross-section of Phanerozoic rocks of southern Hudson Platform (by B. V. Sanford and A. W. Norris).

FIGURE 3

HANNAH BAY

Northland Pwy.

Ontario

MOOSE RIVER

Kesagami Lake

Opinikon Bay

Kenogh Lk.

Agassagan

Nettagami L.

NORTH FRENCH RIV.

STRINGER CREEK

YESTERDAY RIV.

NETTAGAMI RIVER

MARKAYAKONASTIG RIVER

KESAGAMI RIVER

PARTRIDGE

ATTAWAPISKAT RIVER

UP TO DATE

LEGEND:

BASEMENT ELEVATION CONTOURS

- >0 m above sea level
- 0-90 m below sea level
- >90 m below sea level

17 ← thickness of Sextant Fmn.
215 ← depth to basement
-168 ← elevation of basement relative to sea level (metres)

Major faults interpreted from magnetic data

KERR ADDISON MINES LIMITED

PROJ. No 0-16 PROV Ontario AREA JAMES BAY

PROJECT CORAL RAPIDS

SURVEY BASEMENT ELEVATION CONTOURS

SCALE 1:500 000 DWN Str. DATE May 25 78

FIGURE 4

Northland Pwy.

Ontario

MOOSE RIVER

MISSINAIBI RIVER

AREA OF AIRBORNE MAGNETIC SURVEY
(AQUITAINE)

MATTAGAMI RIVER

MISSINAIBI RIVER

OPASATIKA RIV.

NORTH FRENCH RIV.

SEVEN MILE CREEK

SEVEN MILE RIVER

YESTERDAY RIV.

NETOGAMI RIVER

MANAWAKWASIC RIVER

Kesagami Lake

Opimiska Bay

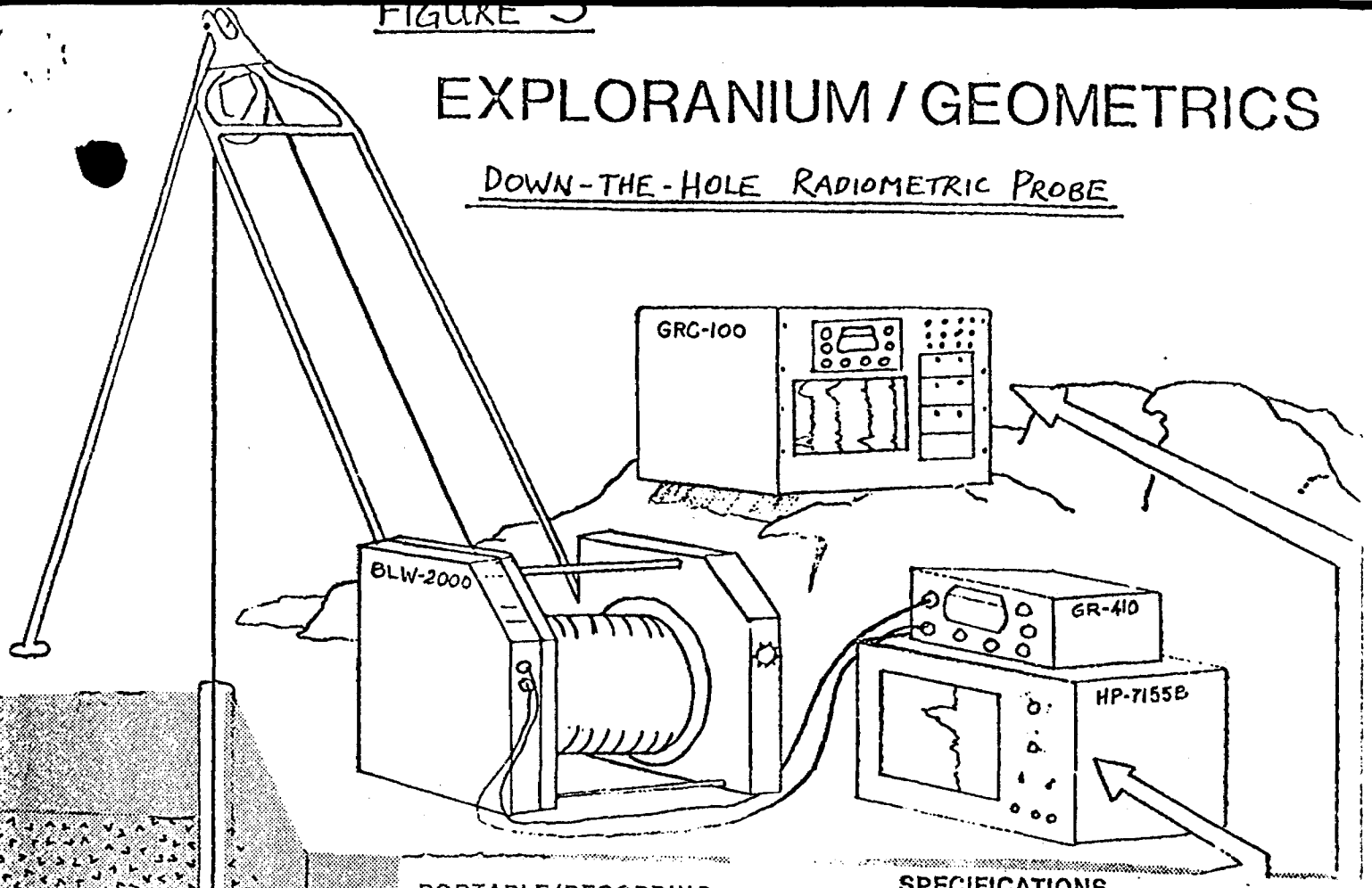
Agassagami

Lodrey Lake

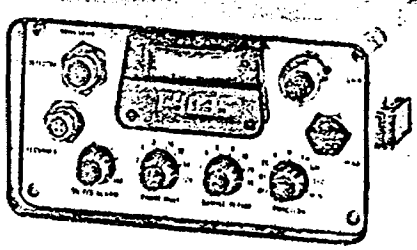
FIGURE 3

EXPLORANIUM / GEOMETRICS

DOWN-THE-HOLE RADIOMETRIC PROBE



PORTABLE/RECORDING GAMMA RAY SPECTROMETER Model GR-410



The Model GR-410 is a differential four-channel portable gamma ray spectrometer with applications versatility never before possible from such a compact console. Ruggedly engineered for simultaneous measurements of potassium (^{40}K), uranium (^{214}Bi), thorium (^{208}Tl) and the total energy spectrum. The GR-410 provides a sequential digital display of each channel, a front panel ratemeter and analog output for strip chart recording. Operational features include pushbutton measurements at selectable time periods, audio threshold alarm, an internal reference isotope for simple calibration, and compatibility with a variety of plug-in detectors. The 21.2 cu. in. hand-held detector is standard for field surveys, and other detectors are available up to 256 cu. in. for helicopter, light airplane, truck and laboratory applications. Borehole systems are also offered.

SPECIFICATIONS

Energy Discrimination:	Selectable differential windows (^{40}K, ^{214}Bi, ^{208}Tl) and total count (0.5 to 3.0 MeV)
Detectors:	Model GPX-21: 21.2 cu. in. hand-held detector for portable surveys. Size: 5" dia. x 14"; weight: 8 lbs. Model GPX-112: 112 cu. in. exSquare™ detector for truck, helicopter and portable surveys. Size: 6" x 6" x 18"; weight: 28 lbs. Model GPX-256: 256 cu. in. exSquare™ detector for helicopter, light airplane and truck surveys. size: 11" x 10" x 27"; weight: 51 lbs.
Sample Times:	Selectable for 1, 2, 4, 6, 8, 10, 20 or 30 sec./min.
Outputs:	Visual: 4-digit sequential readout of T/C, K, U and Th. Analog: Continuous channel count-rate output Ratemeter: Front panel meter with expandable full-scale Audio: Continuous tone triggers above threshold
Function Indicator:	Alphanumeric display indicates: Data Accumulation ("A"), Calibration Requirement ("C"), Low Battery Voltage ("L"), and T/C, K, U, Th channels ("1, 2, 3, 4").
Calibration:	Internal ^{133}Ba reference isotope
Power Source:	Internal "D" cell batteries (12 each)
Temperature Range:	−10°C to +50°C (+14°F to +122°F)
Size:	3½" x 7" x 11" (9 x 18 x 28 cm) console only
Weight:	10.5 lbs. (4.8 kg) complete
Price:*	$6,400 (U.S. dollars) complete system including Model GPX-21 detector
Availability:	14 days (sooner for Hot Line requests)

CR 78

9

SLUDGE SAMPLE ANALYSIS – HOLE CR-78-9

	U(ppm)	Th(ppm) [neutron activation]
110 - 115	3	17
115 - 120	2	16
120-125	x	21
125-130	1	43
130-135	X	90
135-140	3	99
140-145	2	78
145-150	2	86
150-155	3	28
155-160	1	12
160-165	5	16
165-170	2	17
170-175	3	14
175-180	3	14
180-185	1	19
185-190	2	13
190-195	1	35
195-200	2	16
200-205	X	16
205-210	X	23
210-215	2	29
215-220	X	22
220-225	X	44
225-230	X	22
230-235	X	27
235-240	2	13
240-245	X	13
245-250	X	11
250-255	1	13
255-260	X	32
260-265	X	16

CR-78 ~~K-78~~
11

SLUDGE SAMPLE ANALYSIS - ~~HOLE~~ CR-78-11

	U ppm	Th (ppm) [neutron activation]
165' - 170'	2	8
170 - 175	1	10
175 - 180	x	14
180 - 185	x	7
185 - 190	x	17
190 - 195	4	6
195 - 200	x	9
200 - 205	1	12
205 - 210	1	14
210 - 215	1	12
215 - 220	2	17
220 - 225	1	13
225 - 230	x	30
230 - 235	1	12
240	2	12

KERR ADDISON MINES LIMITED
P.O. BOX 91
[redacted]MERCE COURT WEST
[redacted]RONTO, ONTARIO
M5L 1C7

November 23, 1978.

Mr. Al Stewart,
District Manager,
Ministry of Natural Resources,
Box 190,
Moosonee, Ontario.
P0L 1Y0

Dear Sir:

During the period October 14 to October 20, 1978, 234.8 meters (770.0 ft.) of reverse circulation drilling was performed along the railroad tracks near Coral Rapids.

This completes the 1978 programme.

Yours very truly,

KERR ADDISON MINES LIMITED

D. M. Hendrick,
Chief Geologist, Exploration.

DMH:ces

Ministry of
Natural
Resources

Ontario

83.1-127

Your file:

1979 01 09

Our file: 192501
7583.7
83.1-127

MEMORANDUM TO: Assessment Research Office

Enclosed is a copy of a report from Kerr Addison Mines Ltd. of Diamond Drilling performed during 1978 on Exploratory Licence of Occupation 14879 in the Hudson Bay Lowlands.

A duplicate of this report has been sent to Dr. E. G. Pye for his perusal and subsequent forwarding to the Regional Geologist.

J. R. Morton
Acting Director
Lands Administration Branch

FWM/ms

enc.

1978 01 09

192501
7583.7
83.1-127

MEMORANDUM TO: G. D. Spry
Executive Co-ordinator
Finance & Addministration

Attention: F. Morrell

Exploratory Licence of Occupation 14879 has been voluntarily surrendered by the licensee, Kerr Addison Mines Ltd. effective November 28, 1978. All of the terms and conditions of the licence have been met. You are hereby authorized to return Irrevocable Letter of Credit No. 78/48/2 issued by the Canadian Imperial Bank of Commerce on January 3, 1978 for $150,000.00.

J. R. Morton
Acting Director
Lands Administration Branch

FWM/ms

KERR ADDISON MINES LIMITED

EXPLORATION COSTS FOR THE ~~MONTH~~ YEARS OF 1977 + 1978 19__

TE STARTED _____ DATE TERMINATED _____ PROJECT CORAL RAPIDS REGION _____ BUDGET _____

SUB A/C NO.		GENERAL	PROPERTY EXAMINATION	(A) GEOLOGY, PROSPECTING	(B) GEOPHYSICAL	(C) GEOCHEMICAL	(D) LINE CUTTING	(E) CLAIM STAKE PROPERTY ACQUISITION	(F) DIAMOND DRILLING	(G) CAMP & ROAD CONSTRUCTION	TOTAL COST $ MONTH	TOTAL COST $ YEAR TO DATE
1	Field office overhead											
2	Salaries, Wages	64.10		755.20	1,122.88				7,428.65			9370.83
3	Meals, Accommodations	169.80		306.34	113.42				1,121.75			1711.31
4	Shipping, Tel. & Tel.	258			16.00				87.97			106.51
5	Ground Transportation	1,000.31		109.80					1,706.52			2816.63
6	Air Transportation	46.45		2359.50	204.00				56,081.07			58,691.02
7	Assaying								778 50			778.50
8	Equip., Mtce. & Repair								673 54			673.54
9	Supplies, Provisions	58.00		40.11	19.58				147.23			264.92
0	Equipment Rentals											
	Option Pay'ts, Finders Fee											
2	Record, Transfer, Taxes	8,001.54										8,001.54
3	Contract /Consulting								98,667.01			98,667.01
4	Legal											-
5	Sundry			25.75					40.01			65.76
	TOTAL MONTH											
	TOTAL YEAR	9342.78		3,596.70	1,475.88				166,732.30			18,147.66

PRIOR YEARS' COST $_____ Less Participation by: _____ ____% NET COST

WORK PERFORMANCE DATA (INDICATE: no. Feet, Miles)								
	MONTH							
	YEAR							
	PRIOR							

PROJECT NO. Q-16
NAME: CORAL RAPIDS.

KERR ADDISON MINES LIMITED

EXPLORATION COSTS FOR THE ~~MONTH~~ YEAR OF 1977

TE STARTED _____ DATE TERMINATED _____ PROJECT Coral Rapids REGION Ontario BUDGET _____

	GENERAL	PROPERTY EXAMINATION	(A) GEOLOGY, PROSPECTING	(B) GEOPHYSICAL	(C) GEOCHEMICAL	(D) LINE CUTTING	(E) CLAIM STAKE PROPERTY ACQUISITION	(F) DIAMOND DRILLING	(G) CAMP & ROAD CONSTRUCTION	TOTAL COST $ MONTH	TOTAL COST $ YEAR TO DATE
Field office overhead											
Salaries, Wages			627.00					923.00			1,550 00
Meals, Accommodations			267.16					205.09			472.25
Shipping, Tel. & Tel.	2.58							82.95			85.53
Ground Transportation	24.00		109.80					770.65			904.45
Air Transportation			1,807.80					1,797.10			3604.90
Assaying											
Equip., Mtce. & Repair											
Supplies, Provisions	58.00		18.75					22.10			98.85
Equipment Rentals											
Option Pay'ts, Finders Fee											
Record, Transfer, Taxes	4,001.54										4001.54
Contract /Consulting											
Legal											-
Sundry			25 75								25.75
TOTAL MONTH											
TOTAL YEAR	4,086.12.		2856.26					3800.89			10743.27

PRIOR YEARS' COST $_____ Less Participation by: _____ % _____

NET COST

WORK PERFORMANCE DATA (INDICATE: no. Feet, Miles)									
	MONTH								
	YEAR								
	PRIOR								

PROJECT NO. 0-16

NAME: Coral Rapids

KERR ADDISON MINES LIMITED

EXPLORATION COSTS ~~FOR~~ TO THE MONTH OF October 19 78

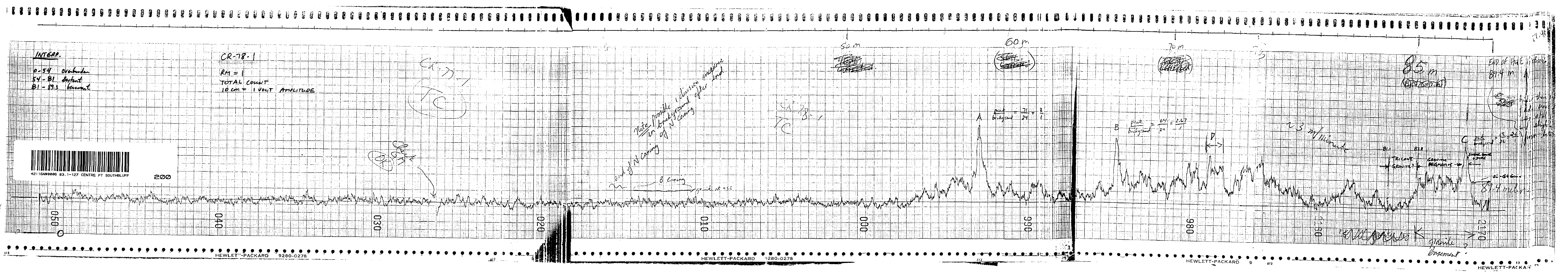
TE STARTED _____ DATE TERMINATED _____ PROJECT Coral Rapids REGION _____ BUDGET _____

	GENERAL	PROPERTY EXAMINATION	(A) GEOLOGY, PROSPECTING	(B) GEOPHYSICAL	(C) GEOCHEMICAL	(D) LINE CUTTING	(E) CLAIM STAKE PROPERTY ACQUISITION	(F) DIAMOND DRILLING	(G) CAMP & ROAD CONSTRUCTION	TOTAL COST $ MONTH	TOTAL COST $ YEAR TO DATE
Field office overhead											
Salaries, Wages	64.10		128.20	1,122.88				6505.65			7820.83
Meals, Accommodations	169.80		39.18	113.42				916.66			1,239.06
Shipping, Tel. & Tel.				16.00				5.02			21.02
Ground Transportation	976.31							935.87			1,912.18
Air Transportation	46.45		551.70	204.00				54,283.97			55,086.12
Assaying								778.50			778.50
Equip., Mtce. & Repair								673.59			673.59
Supplies, Provisions			21.36	19.58				125.13			166.07
Equipment Rentals											
Option Pay'ts, Finders Fee											
Record, Transfer, Taxes	4,000.00										4,000.00
Contract /Consulting								98,667.01			98,667.01
Legal											-
Sundry								40.01			40.01
TOTAL MONTH											
TOTAL YEAR	5,256.66		740.44	1,475.88				162,931.41			170,404.39

PRIOR YEARS' COST $_____ Less Participation by: _____ ____% NET COST

WORK PERFORMANCE DATA (INDICATE: no, Feet, Miles)								
	MONTH							
	YEAR							
	PRIOR							

PROJECT NO. 0-16
NAME: Coral Rapids


INTERP.
0-54 overburden
54-81 bedrock
81-87.3 basement
CR-78.1
RM = 1
TOTAL COUNT
10 cm = 1 VOLT AMPLITUDE
200
050
040
030
020
010
000
990
980
970
960
50 m
60 m
70 m
85 m
END OF TAPE
87.4 m
A
B
C
P
23 m/minute
Granite
basement

1980

1990

2000

2010

2020

2030

2040

2050

2060

2070

90

80

70m

LOST CORE
TO END OF HOLE

60m

LOST CORE

50

40

30m

SEXTANT

20m

15

QB. 244 m
BASEMENT - 1028 m
SEXTANT THICKNESS - 78 metres

CR: 78: 2
RM = 1
3 m/minute

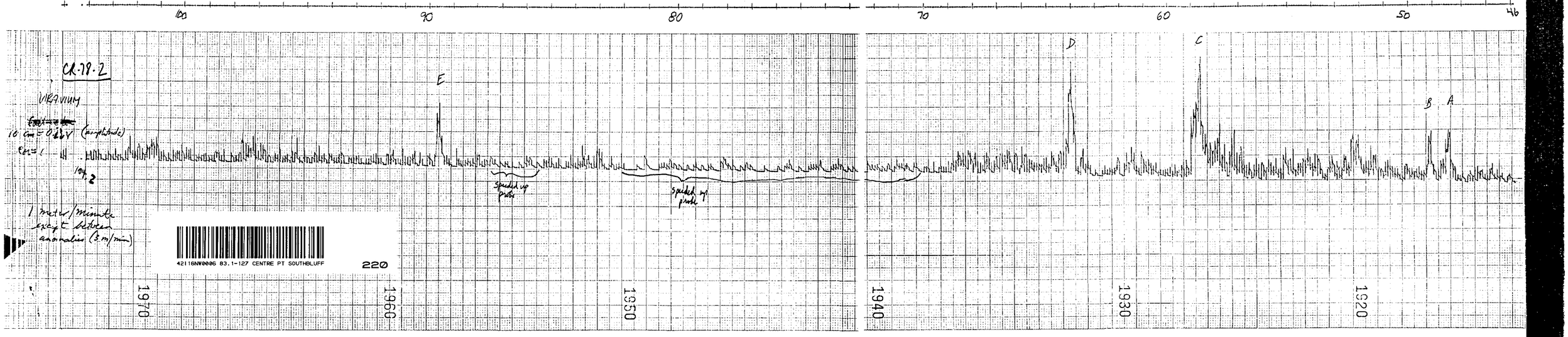
TRUE DEPTH 340'

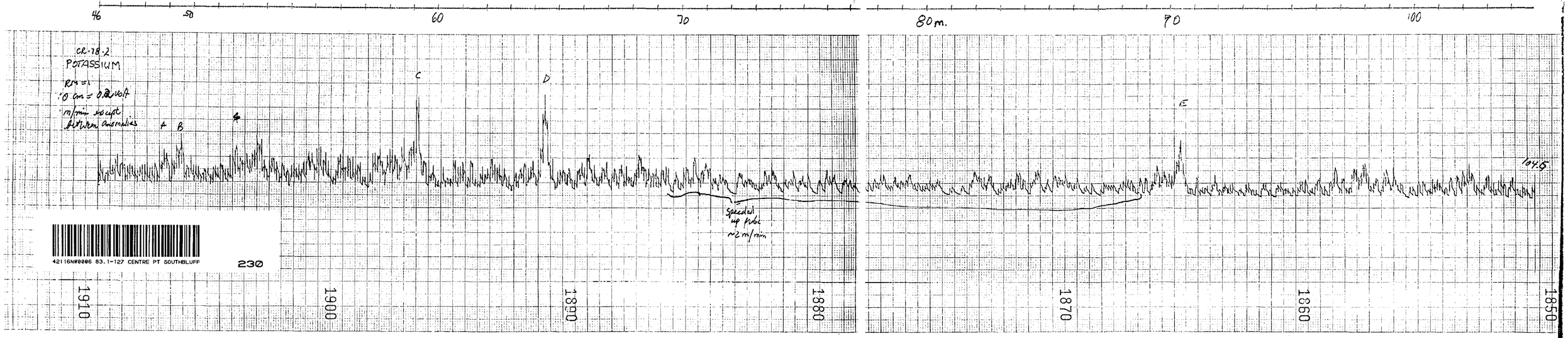
TOTAL COUNT

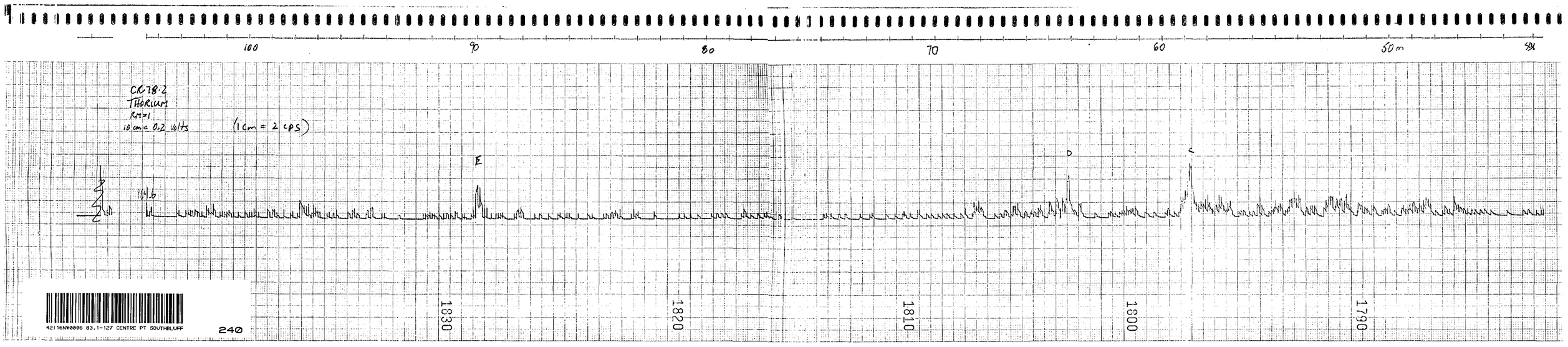
210

421 16NW0006 83.1-127 CENTRE PT SOUTHBLUFF

HEWLETT-PACKARD 9280-0278


CR-78-2
VIRAVIUM
16 cm = 0.62 V (amplitude)
1 meter/minute except between anomalies (3 m/min)
42116NW0006 83.1-127 CENTRE PT SOUTHBLUFF
220
E
Speeded up probe
Speeded up probe
D
C
B
A
1970
1960
1950
1940
1930
1920


46
50
60
70
80m.
90
100
CR-78-2
POTASSIUM
RM=1
10 cm = 0.2 mR/h
m/min as right
Airborne anomalies
A
B
C
D
E
speeded up pulse ~2 m/min
1910
1900
1890
1880
1870
1860
1850
1945
42116NW0006 83.1-127 CENTRE PT SOUTHBLUFF
230


100
90
80
70
60
50m
CR78-2
THORIUM
RM=1
10cm = 0.2 Volts
(1cm = 2 cps)
164.6
E
D
V
1830
1820
1810
1800
1790
42116NW0006 83.1-127 CENTRE PT SOUTHBLUFF
240

1630

1640

1650

1660

1670

1680

1690

1700

1710

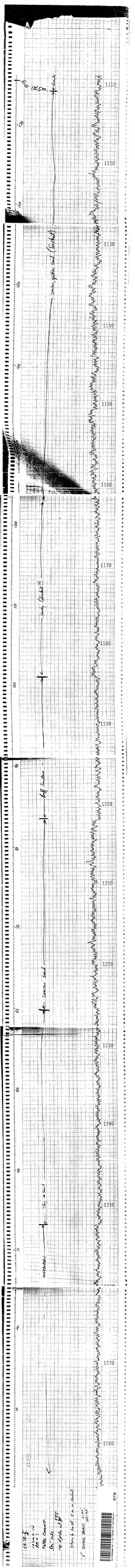
1720

1730

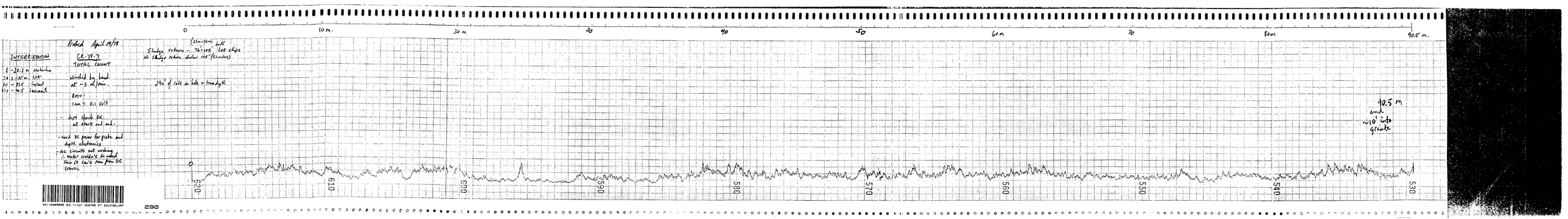
1740

1750

1320
1330
1340
1350
1360
1370
1380
1390
1400
1410
1420
1430
1440
1450
0m
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
1320
1330
1340
1350
1360
1370
1380
1390
1400
1410
1420
1430
1440
1450


Core
118.5m.
Coarse, pebbly sand (Gravel)
Silty (Gravel?)
Fine sand
Coarse Sand
Fine sand
Sandstone
1110
1120
1130
1140
1150
1160
1170
1180
1190
1200
1210
1220
1230
1240
1250
1260
1270
1280
Ch. 1 Ch. 2 Ch. 3 Ch. 4 m. marked
2" Scale 5mm. = 1m.
Ch. 1 Ch. 2 Ch. 3 Ch. 4 m. marked
2" Scale 5mm. = 1m.


810
820
830
840
850
860
870
880
890
900
910
920
930
940
950
960
GRANITE?
SEDIMENT
LST


0
10 m.
20 m
30
40
50
60 m
70
80m
90.5 m.
INTERPRETATION
0 – 20.2 m overburden
20.2 – 85 m Lst
85 – 87.5 m Intrusive
87.5 – 90.5 Volcanic
Probed April 29/78
CR-78-7
TOTAL COUNT
Winched by hand
at ~3 m/min
Rate:
1cm = 0.1 Volt
- Test Opacity OK
at start and end.
- need 3c power for probe and depth electronics
- AC circuits not working
∴ motor couldn't be used
Sonic to cable from DC source
(33m-72m) Lst
Sludge return — 76'-105' lost circ.
No Sludge return below 105' (32 meters)
360° of coils in hole = 1m depth
90.5 m
end
~10' into
granite
0
620
610
600
590
580
570
560
550
540
530
290